

Managerial Ability and Dividend Policy*

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ABSTRACT: This study investigates the relationship between managerial ability and a firm's dividend policy in the Korean stock market. Korean firms have been criticized for low dividend payments. Foreign investors in Korean firms, taking a dramatically increasing portion of the ownership, are demanding management to raise dividends. However, dividend policy must involve not only the fair distribution of profits to shareholders but firm growth and investment opportunities. Also, in the recession period, managers should be able to evaluate the costs and benefits of paying dividends to decide an optimal size of distribution. Motivated by the fact that managers have discretion over the firm's payout policy, we examine how the firm's dividend payout and its performance depend upon the ability of management. Using Korean firms listed in KOSPI market during 2003-2013, we find the following results. First, high-ability managers show the higher propensity of paying dividends and the larger size of dividends than low-ability managers. Second, the positive relationship is more pronounced in the firms with higher information asymmetry and weaker corporate governance. Lastly, among the competent managers, the future performance is greater for managers who pay larger dividends than those who pay smaller dividends. This study

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contributes to the literature by providing evidence that high-ability managers are more willing to pay larger dividends to benefit shareholders, and the dividend payments do not harm future firm performance.

Keywords: managerial ability, dividend policy, information asymmetry, corporate governance, future firm performance.

I . Introduction

This study examines the association between managerial ability and the corporate dividend policy. Firms use dividends to return a company's profits to its shareholders. Miller and Modigliani (1961) show that dividends are irrelevant to corporate value, but many prior studies provide evidence that the stock price responds to the corporate dividend policy,¹⁾ and the media often reports that shareholders view the company's dividend payout positively. Exploring the significant effect of the dividend policy, prior studies examine the firm's dividend decisions from the perspectives of signaling mechanism and agency theory (Lintner 1956; Jensen 1986). Specifically, firms determine their dividend payouts to meet the customer's needs, to notify the market about future profits, or to reduce agency costs by eliminating unnecessary cash reserves.

Korean firms have a low tendency to pay dividends compared to firms in foreign countries. One reason stems from the fact that major industries establishing Korean capital market, such as IT, steel, and chemicals, require huge investments.²⁾ If high dividend payouts significantly limit the firm's future investment capacity, it may be appropriate to adopt a zero or low

1) Pettit (1972), Aharony and Swary (1980), Brickley (1983), Asquith and Mullins (1983), Woolridge (1983), Bajaj and Vih (1990), Michaely et al. (1995), Allen and Michaely (2003).

2) "According to NH Investment & Securities Co.,Ltd, Korea's listed companies' average dividend payout ratio was 16.02% last year, the lowest among 46 countries surveyed. It was below the U.S.(38.62%), Japan(34.08%), China (30.87%), and India (30.21%)."

(Hankyung, 2018-03-01, <http://news.hankyung.com/article/2018030133641>)

dividend policy. However, there have been intense debates about the fair size of dividend payouts due to the influx of foreign capital since the abolition of the foreign shareholding limit in 1998. Jeon et al. (2011) find that foreign investors prefer dividend-paying companies and press them to pay more dividends. In addition, the National Pension Service(NPS) is aiming to increase dividends through shareholder activities in July 2018 with the introduction of the Stewardship Code, which is expected to have a significant impact on corporate dividend policy in the future. While Korean companies have been concentrating on growth through investment rather than on returning profit to shareholders, they are under the pressure of high dividend requests as well. Thus, Korean companies need to find ways to adapt to the rising shareholder activities while continuing to grow.³⁾

This study investigates whether there are differences in the corporate dividend policy depending on the managers' ability. There are two theories to predict a significant relationship between managerial ability and dividend policy. The first is based on the signaling hypothesis of dividends. According to Lintner (1956), managers increase the dividend only if they believe that future profits will permanently increase because it is very difficult to reduce dividends once raised (i.e. dividends being "sticky"). A talented manager has a good understanding of the firm's financial and environmental circumstances and is expected to operate the firm better (Baik et al. 2011; Ko et al. 2013; Chung et al. 2017; Andreou et al. 2017; Cornaggia et al. 2017; Bonsall IV et al. 2016). We expect competent managers are more active and confident in paying dividends to deliver to the investors their information of positive future expectation.

The second theory supporting the association between managerial ability and dividend policy is the agency hypothesis. Easterbrook (1984) and Jensen

3) "The aggressive demands of foreign investors are already in progress. One of the representative things is to increase the dividend. Although Samsung Electronics has been criticized for being stingy with dividends, it has significantly expanded its dividend size in recent years. This year, the company announced its plan to purchase and reduce its shares worth 9.3 trillion won with cash dividends of 3.9919 trillion won in 2016. The total amount is 13 trillion won, which is more than half of Samsung Electronics' earnings of 22.73 trillion won last year. This is because Elliott, which owns only 0.62% of Samsung Electronics shares, pressured Samsung Electronics along with other foreign investors." (ChosunBiz, 2017-02-18, <https://goo.gl/SnceTP>)

(1986) propose that dividends to shareholders could regulate over investment by limiting the excess cash flows available to managers. According to prior research, a competent manager pursues less rent-seeking behavior to safeguard his or her reputation (Aier et al. 2005; Demerjian et al. 2013; Krishnan and Wang 2014; Cho et al. 2016; Kim et al. 2018). In this regard, we expect that more able managers will actively reduce market concerns about the agency problem through increased dividends.

Using firms listed in KOSPI market during the period from the year 2003 to 2013, we find the following results. First, the higher the managerial ability is, (a) the greater is the probability that the firm pays dividends and (b) the higher dividends is paid. Second, the larger the informational asymmetry is or the weaker the governance structure is, the greater is the phenomenon aforementioned. Third, when we double-sort the sample by managerial ability and dividend size, those firms with both high management ability and high dividend payouts show the best future performance compared to any other subsample groups. Our findings suggest that a competent manager actively engages in the shareholder return policy, and more importantly, the dividends distributed by the competent manager are related to expectations about positive future performance.

This study makes several contributions to the literature. First, this study introduces human resource capabilities into an empirical analysis as a major factor influencing a firm's dividend policy. Jiraporn et al. (2016) investigates the impact of management ability on dividends using the sample of U.S. companies and finds a positive association. Despite this fact, we focus on the sample of Korean companies and investigate the association between managers' ability and dividend policy, considering quite a different situation faced by companies in Korea compared to those in other nations. Korean firms' practice of low dividend payouts has raised concerns over time⁴⁾ and the Korean firms' dividend policy is being affected by external factors such as foreign investors. Considering the situation in Korea, this study provides the

4) In particular, Lee's (2012) report suggests that about 67.9% of Korean listed firms pay dividends but, in U.S., only 38.4% of firms pay dividends during 2005 to 2011. In terms of dividend payout ratio, measured by the ratio of cash dividend to net income, it is 22.4% for Korean firms and 37.8% for U.S. firms. This implies that, although many Korean listed firms do pay dividends, the payout ratio is lower than U.S. firms.

evidence of whether firms' dividend policy (in terms of both payout decision and payout ratio) can be explained by managers' ability as the managers are in charge of payout decision-making.

Second, and more importantly, this study provides additional evidence to prior research that good managers perform better and have a lower agency problem in the context of dividend policy: the relationship between management ability and dividends is greater for firms with high information asymmetry and firms with poor corporate governance. According to prior research, it is unclear whether able managers play a positive role in increasing firm value or increase agency costs in a way that undermines firm value by taking advantage of their power and/or overconfidence. For example, CEO power is negatively related to dividend payout and performance in European listed banks (Onali et al. 2016). In addition, companies operated by an overconfident CEO pay less dividends (Deshmukh et al. 2013, Hwang and Kim 2018). However, our findings suggest that more able managers operate better and have lower agent costs, unlike powerful or overconfident CEOs, consistent with a stream of literature on managerial ability.

This paper proceeds as follows. Chapter 2 reviews the prior studies and presents our hypotheses. Chapter 3 introduces the research methodology. Chapter 4 reports on the sample and empirical results. Chapter 5 discusses conclusions and limitations.

II. Related Literature and Hypotheses

2.1 Dividend Policy

There is a vast literature on why firms pay dividends. According to prior research, there are two primary reasons for paying dividends: signaling and agency explanations.

2.1.1 Signaling Explanation

The traditional view on dividend policy is that dividends serve to

communicate the firm's internal information to shareholders. Lintner (1956) is the first empirical study suggesting the signaling role of dividends. He finds that managers increase dividends only when they believe that future profits will increase. In other words, the change of dividend payout reflects the management's prospects of future earnings: an increase in dividends signals that the firm's situation will improve whereas a decrease indicates pessimistic view of business conditions. Bhattacharyya (1979) further suggests that dividends can convey information about future cash flows when the capital market is incomplete. Managers deliver their private knowledge about future cash flows to the market through the choice of dividend amounts. Miller and Rock (1985) and John and Williams (1985) also suggest that dividends are used by managers as a means to transmit information to the capital market.

Several studies further investigate whether future earnings indeed improve when firms have increased dividends. Healy and Palepu (1988) show that firms report better(worse) earnings afterward once having started (quit) paying dividends. Aharony and Dotan (1994) and Nissim and Ziv (2001) also find the significantly positive relation between the amounts of dividend and future earnings. However, some studies present counter empirical evidence. Benartzi et al. (1997) find that the change of dividend payments reflects earnings performance of the prior and current periods but doesn't entail unexpected earnings growth subsequently. In a similar vein, Koch and Sun (2004) argue that a change in dividends serves only to convince investors of past changes in earnings, but that there is no reason to expect that past and future earnings will change in the same direction. While extant research provides inconclusive results, Brav et al. (2005) interview 384 financial executives and find that 80% of them believe dividends do provide information to investors and that nearly 40% of them believe dividend payment conveys information more helpful in reducing future earnings uncertainty than stock repurchase does, sustaining the signaling role of dividend.

Regarding the related research in Korea, Lee et al. (2005) show that companies paying dividends have greater earnings persistence than those paying no dividend. To further extent, Nam (2016) investigates loss firms and finds that dividend-paying loss firms exhibit higher earnings quality

than zero-dividend loss firms. This finding sustains the signaling role of dividend as whether paying dividends or not can beacon sound earnings quality and future prospects even in adverse circumstances.

2.1.2 Agency Explanation

According to the agency theory, dividends can alleviate agency problem. Managers have an incentive to engage in private rent-seeking behaviors that go against the shareholders' interests (Jensen and Meckling 1976). The agency theory posits that dividends could restrict excess investment by limiting the excess cash flows available to managers (Eastbrook 1984; Jensen 1986). Paying larger dividends limits managerial discretion over cash and also leads firms to rely more on external financing which subjects to the high scrutiny of the capital market. Thus, monitoring by outside suppliers of capital reduces the possibility of suboptimal investment (DeAngelo and DeAngelo 2006). Rozeff (1982) examines minority-controlled firms and finds that higher dividends are associated with a lower percentage of insiders. Other studies show that firms under surveillance by a higher portion of institutional investors pay more dividends (Grinstein and Michaely 2005; Short et al. 2002; Jeon et al. 2011).

Prior research in Korea also addresses the impact of foreign investors on a firm's dividend policy. In particular, after the abolition of the foreign shareholding limit in 1998, foreign investors' shares in the domestic capital market increased significantly.⁵⁾ Jeon et al. (2011) find that foreign investors prefer a company that pays a high dividend as well as demand the company they invest in to pay more dividends observing the fact that most foreign investors in Korea are institutional.⁶⁾

5) As of January 2017 foreign investors' ownership accounts for 32.0% of the market capitalization (Finance Supervisor Service)

6) Foreign investors are large professional institutions that can influence management through large-scale transactions. Many studies report that foreign investors play a monitoring role. Ahn et al. (2005) report that foreign investors prefer companies with low information asymmetry while mitigating the information asymmetry of the companies in which they invest according to analyst coverage, forecast error, and accrual earnings management. Others find a negative relationship between foreign ownership and real earnings management (Kim et al. 2012) and tax avoidance (Koh and Seo 2014), and a positive relationship to investment efficiency (Park and Kwon 2012). In sum, the prior research suggests that foreign investors not only play role

2.2 Hypotheses Development

2.2.1 Managerial Ability and A Firm's Dividend Policy

The first hypothesis examines the link between management ability and dividends based on the above two explanations: signaling and agency explanation.

First, the signaling perspective predicts that paying dividend comes at the cost of obtaining outside funding (Bhattacharya 1979), the cost of forgoing valuable investment (Miller and Rock 1985), and higher taxes (John and Williams 1985). Dividend payout is also considered sticky: once a firm starts paying dividends, it is difficult for the firm to reduce the amount or stop the payment (Lintner 1956). Therefore, firms must be very cautious before they decide to start paying dividend or increase the payment size. The effectiveness of signaling through paying/raising dividend should be maximized only when it is accompanied by actual earnings growth in future.

According to prior research on management ability, more competent managers have a superior knowledge of the firms' operational prospects and business environments and thus achieve better performance (Demerjian et al. 2012, 2013). An increasing number of studies document that management ability is important in various aspects such as frequency and accuracy of the management's earnings forecast (Baik et al. 2011), investment efficiency (Chung et al. 2017; Andreou et al. 2017), and credit ratings (Cornaggia et al. 2017; Bonsall IV et al. 2016), not to mention corporate performance (Ko et al. 2013). Extending the literature on managerial ability, we expect that more capable managers are more likely to explore dividend policies to resolve the information asymmetry and more confident to execute dividend payment upon their ability to enhance firm performance, bringing about a positive relationship between management ability and dividends payout.

Second, the agency explanation suggests that dividend mechanism provides an incentive for managers to reduce the costs in the principal-agent relationship. Prior studies on management ability document evidence of lower agency concerns from high ability managers. For instance, they find that

in reducing information asymmetry, but also affect various other aspects of the firm.

competent managers are less likely to engage in rent-seeking behaviors: firms run by talented managers are associated with lower earnings manipulation (Aier et al. 2005; Demerjian et al. 2013) and lower audit fees (Krishnan and Wang 2014). Kim et al. (2018) show that firms managed by more capable managers are less likely to hire industry-expert auditors for they don't need strong monitoring for the management's rent-seeking decisions. Since high-ability managers have better understanding of their business and firms' prospects, they will make rational decisions considering their firms' circumstances. Likewise, we expect that competent managers would not consume excessive perquisites out of undistributed corporate earnings but choose to increase the firm's dividends while protecting their reputation from value-destroying decisions.

In short, we expect that more competent managers will pay larger dividends because (i) they appreciate the signaling mechanism through dividends and (ii) do not misappropriate distributable cash in pursuit of private interests. Thus, Hypothesis 1 is set as follows.

Hypothesis 1: Managerial ability is positively related to dividends.

2.2.2 Cross-sectional Analyses

Next, we build up hypotheses by applying signaling and agency theories onto the relationship between management ability and the dividend policy. First, from a signaling theory perspective, paying dividends can reduce the information asymmetry between the entity and its shareholders. The higher the information asymmetry is, the greater will be the effect of the information conveyed to shareholders through the dividend payout. In other words, the signaling effect of dividends would be more effective for firms with a high degree of information asymmetry. Since more able managers have a better understanding of their business (Demerjian et al. 2013), competent managers' exploration of dividend policy will be materialized to a greater extent in those firms suffering from higher information asymmetry.⁷⁾

7) However, several studies do not support the signaling theory of dividends, and report a negative relationship between informational asymmetry and dividends (Khang and King 2006; Li and Zhao 2008). If other factors affect the dividend policy (e.g. agency problems, customer clientele) besides signaling, then the

Therefore, we expect that the degree of information asymmetry moderates our first hypothesis, the positive association between managerial ability and dividend payout.

Hypothesis 2a: The positive association between managerial ability and dividends is more pronounced in firms with high information asymmetry.

Next, we anticipate that the impact of managerial ability in dividend policy will be moderated by the strength of corporate governance as follows. Under a good governance structure, the monitoring mechanism with respect to the dividend policy will work well regardless of managerial ability; otherwise, the managerial prudent judgment should be critical in dividend payout decisions. According to prior studies, managerial ability and corporate governance play as a substitutive monitoring mechanism to each other. Thus, we expect that competent managers will actively engage in a firm's dividend policy particularly when firms have weak governance structure.

Hypothesis 2b: The positive association between managerial ability and dividends is more pronounced in firms with poor corporate governance.

III. Research Design

3.1 Measurement of managerial ability

We measure management ability following Demerjian et al. (2012) as follows. First, we obtain each firm's efficiency score by using the Data Envelopment Analysis (DEA), which computes relative efficiency of firms in an industry in terms of input resources (COGS, SG&A costs, PPE, intangible assets) to output (sales). Equation (1) provides the first stage estimation

relationship between managerial ability and dividend payments may not be significantly different depending on the degree of information asymmetry.

model.

$$man_v\theta = \frac{SALE}{v_1COGS + v_2SGA + v_3PPE + v_4INTG} \quad (1)$$

where,

<i>SALE</i>	= sales revenues;
<i>COGS</i>	= cost of goods sold;
<i>SGA</i>	= selling general, and administrative expense;
<i>PPE</i>	= property, plant, and equipment(=PP&E-land-construction work-in-progress);
<i>INTG</i>	= intangible assets.

Next, we decompose the firm efficiency score (θ) into two components: one that reflects firm-specific characteristics and one that attributes to the management ability. In the second stage estimation using a Tobit regression as in Equation (2), we take out the firm-specific characteristics and define the residual as management ability.⁸⁾

$$Efficiency(\theta)_t = a_0 + a_1SIZE_t + a_2MSHARE_t + a_3FCF_t + a_4FIRMAGE_t + a_5BUSEG_t + a_6FOREIGN_t + Year FE + \varepsilon_t \quad (2)$$

where,

<i>Efficiency(θ)</i>	= firm efficiency calculated by Equation (1);
<i>SIZE</i>	= the natural logarithm of total assets;
<i>MSHARE</i>	= market share (=firm <i>i</i> 's sales revenues divided by the total sales revenues of the same industry);
<i>FCF</i>	= 1 if free cash flow (=net income before depreciation - change in operating capital - capital expenditure) is greater than zero, 0 otherwise;
<i>FIRMAGE</i>	= the natural logarithm of (the number of years the firm has been listed +1);
<i>BUSEG</i>	= number of business departments ⁹⁾ ;
<i>FOREIGN</i>	= the absolute magnitude of foreign currency translation accounts (foreign currency gain, foreign currency translation loss, gain on foreign currency transactions, loss on foreign currency transaction / total revenue);
<i>Year FE</i>	= Year fixed effect.

8) This study refers to Ko et al. (2013), who measure managerial ability by modifying the variables used in Demerjian et al. (2012).

9) Following Ban(2013), the business departments with their sales exceeding 10% of the firm's total sales revenues are counted to estimate the number of departments

3.2 Research design

We test Hypothesis 1—the association between managerial ability and dividends—by Equation (3) where our key explanatory variable *ABILITY* is obtained by the two-stage estimation as explained in Section 3.1.

$$\begin{aligned}
 & DIVdummy(DIV_book)_{it} \\
 & = a + \beta_1 ABILITY_{it} + \beta_2 SIZE_{it} + \beta_3 ROA_{it} + \beta_4 LEVERAGE_{it} \\
 & \quad + \beta_5 MTB_{it} + \beta_6 CASH_{it} + \beta_7 CFO_{it} + \beta_8 STD_SALES_{it} \\
 & \quad + \beta_9 FOREIGN_{it} + \beta_{10} LARGE_{it} + \beta_{11} SRdummy(SR_book)_{it-1} \\
 & \quad + \beta_{12} DIVdummy(DIV_book)_{it-1} + Year\ FE + Industry(or\ Firm)\ FE + \varepsilon_t
 \end{aligned}
 \tag{3}$$

where,

<i>DIVdummy</i>	= 1 if a firm pays dividends, 0 otherwise;
<i>DIV_book</i>	= the ratio of dividends to total equity;
<i>ABILITY</i>	= managerial ability as defined in Demerjian et al. (2012) and Ko et al. (2013);
<i>SIZE</i>	= the natural logarithm of total assets;
<i>ROA</i>	= the ratio of net income to total assets;
<i>LEVERAGE</i>	= the ratio of total debts to total assets;
<i>MTB</i>	= market value of equity divided by the book value of equity;
<i>CASH</i>	= cash and cash equivalents divided by total assets;
<i>CFO</i>	= cash flow from operations divided by total assets;
<i>STD_SALES</i>	= the standard deviation of the ratios of sales revenue to total assets over the prior three years;
<i>FOREIGN</i>	= foreign ownership;
<i>LARGE</i>	= the ownership of the largest shareholder;
<i>SRdummy</i>	= 1 if a firm repurchases shares, 0 otherwise;
<i>SR_book</i>	= the annual amount of shares repurchases to total equity;
<i>Year FE</i>	= Year fixed effect;
<i>Industry FE</i>	= Industry fixed effect;
<i>Firm FE</i>	= Firm fixed effects.

As a dependent variable, our first proxy for dividend policy *DIVdummy* takes the value of 1 if a firm pays dividends, and 0 otherwise. The second proxy *DIV_book* is the ratio of dividends to total equity. Hypothesis 1 expects the coefficient on *ABILITY* (β_1) to be positive if a competent manager pays

more dividends.

We include control variables that are related to a firm's dividend policy as shown in prior research (Jeon et al. 2011; Kim and Jang 2012; Nam 2016). First, we include a set of financial condition variables: firm size (*SIZE*), profitability (*ROA*), leverage (*LEVERAGE*), growth (*MTB*), cash holding (*CASH*), cash flow from operations (*CFO*), sales volatility (*STD_SALES*). The severer agency problem in larger firms may demand larger dividends, and thus, the coefficient of *SIZE* expects to be positive. We expect a positive relationship between *ROA* and dividends because a profitable firm has a large capability to pay dividends. *LEVERAGE* is a variable that reflects the agency cost along with the size of the firm. From an agency cost perspective, higher *LEVERAGE* may increase the demand for dividends. On the other hand, higher *LEVERAGE* can make it difficult to pay dividends. Therefore, the relationship between *LEVERAGE* and dividends is not decisive. We include *MTB* in the model because the firm needs to reserve cash when growth potential is high and we expect a negative relationship between *MTB* and dividends. *CASH* and *CFO* represent the ability to pay dividends, and we expect these two variables to have a positive relationship with dividends. Finally, considering that dividends are rigid, firms with high sales volatility will be cautious about dividends. Thus, we control for *STD_SALES*, which is measured as the standard deviation over the past three years of sales, and we expect a negative relationship between *STD_SALES* and dividends.

Second, we include ownership variables, foreign ownership (*FOREIGN*) and the ownership of the largest shareholder (*LARGE*), to control for the effect of ownership structure on a firm's dividend policy. According to prior research, the coefficients on these two variables expect to be positive.

Lastly, firms can make payouts to stockholders through share repurchase. Therefore, we control for share repurchases using a dummy variable (*SRdummy*) or the annual amount of share repurchases (*SR_book*). The relationship between *SRdummy* (or *SR_book*) and dividends will be negative if a firm selects either a dividend payout or a share repurchase as a payout method. However, if a firm uses both methods together, then the relationship between *SRdummy* (or *SR_book*) and dividends will be positive. Therefore, the relationship between *SRdummy* (or *SR_book*) and dividends is not certain. Finally, we control for year and industry (or firm) fixed effects.

To investigate the effect of information asymmetry in Hypothesis 2a, we divide the sample into two groups based on the median value of analyst coverage (or trading volume) and estimate Equation (3) for each group. Likewise, we examine the effect of corporate governance in Hypothesis 2b, by dividing the sample into two groups based on the median value of the Corporate Governance Index(CGI) and analyze Equation (3) separately for each group. The Korea Corporate Governance Service (KCGS) provides the CGI, which is determined based on the extent of shareholder rights protection, the independence of board of directors, the excellence in market transparency, audit function, and dividends policy. The higher the value is, the better is the firm's governance structure.

IV. Sample and Empirical Results

4.1 Sample

We use a sample of Korean firms listed in KOSPI market for the sample period from 2003 to 2013. We extracted the data required for the analysis from the DataGuide of the FnGuide. Following the sample selection process of prior research, we exclude firms in the financial industry, firms with fiscal years ending at any time besides the end of December, and firms that experience capital erosion from the sample. Finally, we winsorize the top and bottom 1% of all the continuous variables used in the analyses to mitigate the effect of outliers. Consequently, the final sample consists of 3,962 firm-year observations.

〈Table 1〉 Sample selection

Sample selection	<i>N</i>
Firms listed in KOSPI market, 2000-2016	19,363
Delete firms in financial industry	15,345
Delete if firm's fiscal year end is other than December 31	14,476
Delete if book value is missing or less than or equal to zero.	11,630
Delete firms without data for analysis	3,962

1) This table reports the sample selection procedure.

- 2) Data extracted for the analysis are from 2000 to 2016. However, there has been a significant decrease in observations in the calculation of *STD_SALES* for the past three years in model (3) and *Future_adjROA* for the next three years in model (4).

4.2 Empirical results

4.2.1 Descriptive statistics and correlations

⟨Table 2⟩ provides the descriptive statistics of the variables used in the empirical analyses. First, the statistics related to a firm's dividend policy are as follows. The mean value of *DIVdummy*, which is a binary variable that indicates whether the firm pays dividends, is 0.745, indicating that approximately 74.5% of firms in our sample pay dividends. The mean value of *DIV_book*, which is the ratio of the amount of dividend payment to total book equity, is 0.013, meaning that the dividends are 1.3% of shareholder's equity on average. The mean value of *ABILITY*, which measures managerial ability, is 0.002.

⟨Table 2⟩ Descriptive statistics of variables used in the empirical analyses

<i>Variables</i>	<i>Mean</i>	<i>Std</i>	<i>Median</i>	<i>Min</i>	<i>Max</i>
<i>DIVdummy</i>	0.745	0.436	1.000	0.000	1.000
<i>DIV_book</i>	0.013	0.014	0.010	0.000	0.066
<i>ABILITY</i>	0.002	0.086	0.004	-0.298	0.228
<i>SIZE</i>	19.813	1.544	19.555	17.089	24.279
<i>ROA</i>	0.026	0.073	0.033	-0.319	0.174
<i>LEVERAGE</i>	0.464	0.187	0.468	0.086	0.880
<i>MTB</i>	1.018	0.851	0.754	0.160	4.985
<i>CASH</i>	0.057	0.054	0.041	0.000	0.260
<i>CFO</i>	0.046	0.072	0.046	-0.168	0.242
<i>STD_SALES</i>	0.131	0.133	0.092	0.006	0.833
<i>FOREIGN</i>	0.110	0.150	0.042	0.000	0.679
<i>LARGE</i>	0.431	0.166	0.427	0.100	0.838
<i>SRdummy_{t-1}</i>	0.140	0.347	0.000	0.000	1.000
<i>SR_book_{t-1}</i>	0.002	0.008	0.000	0.000	0.056
<i>FOLLOWING</i>	4.567	8.009	0.000	0.000	33.000
<i>TRADING</i>	11.251	2.051	9.843	11.362	12.760
<i>CGI</i>	110.158	24.150	105.000	67.000	191.000
<i>Future_adjROA</i>	0.003	0.066	0.007	-0.279	0.165
<i>N</i>	3,962				

1) This table presents the descriptive statistics for variables used in the empirical tests.

2) Variable definitions are as follows: *DIVdummy* = 1 if a firm pays dividends, =0 otherwise;

DIV_book = the ratio of dividends to total equity; *ABILITY* = managerial ability as defined in Demerjian et al. (2012) and Ko et al. (2013); *SIZE* is the natural logarithm of total assets; *ROA* = the ratio of net income to total assets; *LEVERAGE* = the ratio of total debts to total assets; *MTB* = market value of equity divided by the book value of equity; *CASH* = cash and cash equivalents divided by total assets; *CFO* = cash flow from operations divided by total assets; *STD_SALES* = the standard deviation of the ratios of sales revenue to total assets over prior three years; *FOREIGN* = foreign ownership; *LARGE* = the ownership of the largest shareholder; *SRdummy_{t-1}* = 1 if a firm repurchases shares in the previous year, = 0 otherwise; *SR_book_{t-1}* = the annual amount of shares repurchases to total equity; *FOLLOWING* = the number of analysts' following. *TRADING* = the log of average daily trading volume during fiscal year. *CGI* = Corporate Governance Index provided by Korea Corporate Governance Service (KCGS). *Future_adjROA* = the average industry-adjusted ROA for the future three years.

- 3) Continuous variables are winsorized at the 1st and 99th percentiles to reduce the effect of extreme observations.
- 4) *CGI* is only available from 2005 to 2013. Thus, the observations used in the Hypothesis 2b are 3,322.

Table 3 reports the correlation of key variables. For Hypothesis 1, there is a significant positive correlation between management ability (*ABILITY*) and dividend payout (*DIVdummy* and *DIV_book*). The other variables introduced in model (3) as determinants of dividend payments are largely consistent with the predictions. First, with respect to firm characteristics, *DIVdummy* is positively related to *SIZE*, *ROA*, *CASH*, and *CFO*, and negatively related to *LEVERAGE*, *MTB*, and *STD_SALES*. This means that dividends are likely to be paid if the firm is large, profitable, and has good cash-payment capabilities, whereas dividends may be burdensome if the firm has high leverage or high volatility in its past sales. In addition, if growth is high, the incentive to withhold dividend payments and to grow through investment may be greater. Second, for ownership structure, *DIVdummy* is positively related to *FOREIGN* and *LARGE*, suggesting that ownership structure is a significant factor in a firm's dividend policy. Next, *DIVdummy* is positively related to *SRdummy* in the previous period, meaning that share repurchases and dividends are complement as in Nam (2016), rather than a substitute. Finally, *Future_adjROA* appears to have a significant positive correlation with *DIVdummy*, consistent with Lintner (1956), who suggests that managers increase dividends only if they believe that future earnings will permanently increase. When we use the amount of dividend payment (*DIV_book*), the correlations with the determinants are mostly consistent except for *MTB*, *STD_SALES* and *SRdummy*.

<Table 3> Pearson Correlations

<i>Variables</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<i>DIVdummy</i>	1													
<i>DIV_book</i>	0.559***	1												
<i>ABILITY</i>	0.213***	0.217***	1											
<i>SIZE</i>	0.213***	0.034**	0.015	1										
<i>ROA</i>	0.498***	0.455***	0.354***	0.169***	1									
<i>LEVERAGE</i>	-0.307***	-0.198***	-0.131***	0.238***	-0.338***	1								
<i>MTB</i>	-0.105***	0.206***	0.036**	0.101***	0.043***	0.134***	1							
<i>CASH</i>	0.041**	0.100***	0.120***	-0.018	0.129***	-0.184***	0.095***	1						
<i>CFO</i>	0.276***	0.335***	0.181***	0.136***	0.459***	-0.217***	0.091***	0.167***	1					
<i>STD_SALES</i>	-0.092***	0.021	0.003	-0.053***	-0.040**	0.128***	0.106***	0.092***	-0.060***	1				
<i>FOREIGN</i>	0.205***	0.255***	0.089***	0.444***	0.219***	-0.138***	0.201***	0.146***	0.207***	-0.039**	1			
<i>LARGE</i>	0.112***	0.073***	0.040**	-0.067***	0.109***	-0.121***	-0.131***	-0.020	0.037**	0.025	-0.097***	1		
<i>SRdummy_{t-1}</i>	0.043**	-0.010	-0.012	0.068**	0.009	-0.006	0.034**	0.021	-0.019	0.052***	0.020	-0.060*	1	
<i>Future_adjROA</i>	0.309***	0.314***	0.255***	0.114***	0.476***	-0.230***	0.068***	0.115***	0.356***	-0.008	0.171***	0.069***	0.044**	1

1) This table report Pearson correlations among variables used in the analyses.
 2) ***, **, * represent 1%, 5% and 10% significance level, respectively.
 3) Variable definitions are provided in the footnote of Table 2.

4.2.2 The Association between Managerial Ability and Dividend Policy

〈Table 4〉 presents the result of Hypothesis 1, which investigates the relationship between management ability and a firm's dividend policy. Specifically, Model 1 reports the logit regression results using the dividend payout (*DIVdummy*) as the dependent variable.¹¹⁾ Model 2 presents the results of the ordinary least squares (OLS) regression using the dividend to book ratio (*DIV_book*) as the dependent variable. In Column (1) and (3), we control for industry and year effects, while Column (2) and (4) control for firm and year fixed effects. The standard errors are clustered at the firm-level to adjust the serial correlation within a firm (Petersen 2009).

Model 1 Column (1) shows a statistically significant positive relationship between *ABILITY* and *DIVdummy* (coefficient=4.007, *z*-stat=4.35). This implies that it is more likely that firms will pay dividends as managers' ability increases. Including firm fixed effects in Column (2) also yields the same results (coefficient=8.739, *z*-stat=3.72). These results further provide evidence that managers' ability does matter in a firm's dividend policy.¹²⁾ Firm fixed effects model controls for unobservable time-invariant firm characteristics and increases the validity of managerial ability measure (*ABILITY*) as the proxy of managers' traits.

In Model 2, we find a statistically significant positive relationship between *ABILITY* and *DIV_book*. The results hold for both industry and year fixed effects model, and firm and year fixed effects model (coefficient=0.004, *t*-stat=2.16 for Column (3); coefficient=0.009, *t*-stat=2.76 for Column (4)). Thus, dividends increase when managers' ability increases. Collectively, the results support Hypothesis 1 by providing evidence of the positive relationship between management ability and dividends.

The model includes several factors that affect managers' decisions on dividend policy, with results largely consistent with prior research. Additionally, because dividends are sticky in its nature, meaning that it is difficult to omit or reduce dividend payments. Thus, we control for the firm's

11) Inferences do not change when using probit estimation.

12) We find that high-ability managers do not pay dividends when their firms have high growth potential (measured by high market-to-book ratio) since cash flows should be kept within the firm to make timely investments (*untabulated*). We appreciate the suggestion from the anonymous reviewer.

prior dividend propensity ($DIVdummy_{t-1}$, DIV_book_{t-1}) and they are positively related to the current dividend propensity, supporting the sticky nature of dividend policy.

<Table 4> Managerial ability and dividend policy

Variable	Model 1		Model 2	
	Dep. = $DIVdummy$		Dep. = DIV_book	
	(1)	(2)	(3)	(4)
<i>ABILITY</i>	4.007*** (4.35)	8.739*** (3.72)	0.004** (2.16)	0.009*** (2.76)
<i>SIZE</i>	0.200** (2.38)	1.727*** (3.43)	-0.001*** (-5.22)	-0.003*** (-3.56)
<i>ROA</i>	19.372*** (9.67)	31.843*** (7.52)	0.030*** (8.81)	0.038*** (8.19)
<i>LEVERAGE</i>	-1.664*** (-3.23)	-7.232*** (-4.69)	0.002 (1.59)	0.002 (0.84)
<i>MTB</i>	-0.328*** (-3.26)	-0.645** (-2.32)	0.001*** (4.58)	0.002*** (4.51)
<i>CASH</i>	-3.256** (-2.22)	1.298 (0.39)	0.000 (0.11)	-0.001 (-0.21)
<i>CFO</i>	3.601*** (2.98)	2.828 (1.48)	0.016*** (6.54)	0.013*** (4.51)
<i>STD_SALES</i>	-0.114 (-0.26)	-0.129 (-0.13)	0.003** (2.00)	0.003 (1.33)
<i>FOREIGN</i>	1.053 (1.23)	1.594 (0.56)	0.004*** (2.86)	0.010*** (3.34)
<i>LARGE</i>	0.690 (1.46)	2.504 (1.38)	0.002** (2.27)	0.002 (0.90)
<i>SRdummy_{t-1}</i>	0.152 (0.83)	0.360 (0.95)		
<i>DIVdummy_{t-1}</i>	4.302*** (22.63)	2.111*** (8.32)		
<i>SR_book_{t-1}</i>			0.013 (0.75)	0.015 (0.74)
<i>DIV_book_{t-1}</i>			0.668*** (31.35)	0.389*** (11.45)
<i>Constant</i>			0.013*** (5.94)	
Year FE	Included	Included	Included	Included
Industry FE	Included	Excluded	Included	Excluded
Firm FE	Excluded	Included	Excluded	Included
Firm Clustering	Included	Included	Included	Included
Observations	3,962	3,962	3,962	3,962
Pseudo(Adjusted) R ²	0.633	0.565	0.685	0.729

- 1) This table presents the regression results for relation between managerial ability and a firm's dividend policy using Eq. (3).
- 2) All regressions include both industry and year fixed effects and standard errors are clustered at the firm-level.
- 3) Robust $t(z)$ -statistics are reported in parentheses below the coefficients.
- 4) ***, **, * represent 1%, 5% and 10% significance level, respectively(two-tailed).
- 5) Continuous variables are winsorized at 1st and 99th percentiles.
- 6) Variable definitions are provided in the footnote of Table 2.

4.2.2 Cross-sectional analyses: The Effect of Information Asymmetry and Corporate Governance

〈Table 5〉 presents the results investigating whether the relationship between managers' ability and dividend policy differs depending on the degree of information asymmetry under Hypothesis 2a. As the proxy of information asymmetry, we use two different measures: analyst coverage and earnings quality. In testing the hypothesis, we use a firm and year fixed effects model, which controls for unobservable time-invariance factors.

In Panel A, we report the results using analyst coverage. In general, analysts help to mitigate the information asymmetry that exists between firms and investors in the capital market (Healy and Palpu 2001). Accordingly, we measure a firm's information asymmetry as an analyst coverage (*FOLLOWING*), which indicates the degree of an analyst's information supply. Higher analyst coverage represents a lower degree of information asymmetry. To test Hypothesis H2a, we divide the sample into two based on the median value of *FOLLOWING* and, the relationship between managerial ability and dividend policy is analyzed for each group. Model 1 and Model 2 use *DIVdummy* and *DIV_book* as dependent variables, respectively. Model 1 shows that the positive relationship between *ABILITY* and *DIVdummy* remains in both the high and low information asymmetry group, but the difference in coefficients on *ABILITY* between two groups is significant. Model 2 shows that the positive relationship between *ABILITY* and *DIV_book* is significant only in the high information asymmetry group (coefficient=0.010; t -stat=2.59). This suggests that an able manager provides positive information to investors through more dividends under high information asymmetry.

In Panel B of 〈Table 5〉, we use trading volume as the proxy of high degree of information asymmetry. Prior research shows that trading volume captures

the degree of information asymmetry in the capital market (Leuz and Verrecchia 2000; Lo et al. 2004). We measure trading volume (*TRADING*) as the log of average daily trading volume during the fiscal year. To test, we divide the sample into two based on the median value of *TRADING* and separately examine the relation between manager's ability and dividend payout. In Model 1, we find the positive relationship between *ABILITY* and *DIVdummy* remains in both the high and low information asymmetry group, indicating that the degree of information asymmetry does not determine the decision of whether to pay dividends or not. On the other hand, Model 2 shows that the positive relationship between *ABILITY* and *DIV_book* is significant only in firms with low trading volume (coefficient=0.007; *t*-stat=1.99), suggesting that high ability managers attempt to mitigate high information asymmetry by paying a large amount of dividends.

〈Table 5〉 The effect of information asymmetry on the relation between managerial ability and dividend policy

Panel A. Analyst coverage as a proxy for information asymmetry

Variable	Model 1		Model 2	
	Dep. = <i>DIVdummy</i>		Dep. = <i>DIV_book</i>	
	Low analyst coverage	High analyst coverage	Low analyst coverage	High analyst coverage
<i>ABILITY</i>	15.862*** (4.13)	5.933** (2.22)	0.010*** (2.59)	0.009 (1.46)
<i>SIZE</i>	2.060** (2.54)	2.967** (2.32)	-0.002 (-1.47)	-0.004*** (-2.92)
<i>ROA</i>	26.305*** (4.96)	62.076*** (4.98)	0.027*** (4.79)	0.067*** (5.06)
<i>LEVERAGE</i>	-10.024*** (-3.68)	-5.474 (-1.22)	0.000 (0.04)	0.007 (1.57)
<i>MTB</i>	0.040 (0.09)	-1.459*** (-3.20)	0.001 (1.47)	0.002** (2.50)
<i>CASH</i>	1.112 (0.25)	7.087 (0.67)	0.003 (0.43)	-0.003 (-0.32)
<i>CFO</i>	4.792* (1.83)	1.590 (0.37)	0.013*** (3.05)	0.011** (2.44)
<i>STD_SALES</i>	-0.660 (-0.40)	-2.216 (-1.06)	0.006* (1.70)	0.000 (0.02)
<i>FOREIGN</i>	7.894 (1.07)	6.475 (1.56)	0.006 (1.03)	0.010** (2.42)
<i>LARGE</i>	7.370*** (2.94)	-2.190 (-0.44)	0.002 (0.65)	0.006 (1.04)

<i>SRdummy_{t-1}</i>	0.646 (1.31)	1.084 (1.04)		
<i>DIVdummy_{t-1}</i>	1.439*** (4.06)	3.363*** (4.81)		
<i>SR_book_{t-1}</i>			0.011 (0.43)	0.031 (0.98)
<i>DIV_book_{t-1}</i>			0.317*** (5.06)	0.376*** (7.51)
Year FE	Included	Included	Included	Included
Firm FE	Included	Included	Included	Included
Firm Clustering	Included	Included	Included	Included
Observations	2,112	1,850	2,112	1,850
Pseudo(Adjusted) R ²	0.843	0.854	0.661	0.761

Panel B. Trading volume as a proxy for information asymmetry

Variable	Model 1		Model 2	
	Dep. = <i>DIVdummy</i>		Dep. = <i>DIV_book</i>	
	High trading volume	Low trading volume	High trading volume	Low trading volume
<i>ABILITY</i>	10.499*** (2.65)	9.653** (2.00)	0.008 (1.55)	0.007** (1.99)
<i>SIZE</i>	2.487** (2.31)	2.473** (2.53)	-0.002** (-2.02)	-0.004*** (-3.74)
<i>ROA</i>	37.323*** (4.73)	37.689*** (5.41)	0.034*** (5.04)	0.044*** (6.08)
<i>LEVERAGE</i>	-7.138** (-2.43)	-9.709*** (-3.17)	0.003 (0.64)	0.002 (0.85)
<i>MTB</i>	-0.655 (-1.45)	-1.407*** (-2.69)	0.002*** (3.98)	0.002*** (3.13)
<i>CASH</i>	5.726 (1.00)	-3.577 (-0.61)	0.003 (0.39)	-0.005 (-0.94)
<i>CFO</i>	0.312 (0.09)	5.390* (1.86)	0.014*** (3.30)	0.010** (2.54)
<i>STD_SALES</i>	-0.016 (-0.01)	0.798 (0.30)	0.001 (0.49)	0.003 (0.90)
<i>FOREIGN</i>	2.904 (0.99)	7.154* (1.82)	0.009 (1.57)	0.007* (1.66)
<i>LARGE</i>	1.343 (0.34)	1.783 (0.77)	0.003 (0.64)	-0.001 (-0.22)
<i>SRdummy_{t-1}</i>	0.294 (0.50)	0.785 (1.06)		
<i>DIVdummy_{t-1}</i>	2.676*** (6.37)	1.519*** (3.63)		
<i>SR_book_{t-1}</i>			0.005 (0.19)	0.038 (1.56)

<i>DIV_book_{t-1}</i>			0.403*** (9.80)	0.390*** (7.98)
Year FE	Included	Included	Included	Included
Firm FE	Included	Included	Included	Included
Firm Clustering	Included	Included	Included	Included
Observations	1,970	1,941	1,970	1,941
Pseudo(Adjusted) R ²	0.855	0.828	0.703	0.792

- 1) This table presents the regression results for relation between managerial ability and a firm's dividend policy based on the extent of information asymmetry using Eq. (3).
- 2) All regressions include both industry and year fixed effects and standard errors are clustered at the firm-level.
- 3) Robust t - (z -) statistics are reported in parentheses below the coefficients.
- 4) ***, **, * represent 1%, 5% and 10% significance level, respectively (two-tailed).
- 5) Continuous variables are winsorized at 1st and 99th percentiles.
- 6) Variable definitions are provided in the footnote of Table 2.

<Table 6> presents the analysis of whether the relationship between managerial ability and dividend policy differs depending on the firm's corporate governance under Hypothesis 2b. A higher value the CGI indicates a better corporate governance structure. To test, we partition the sample into two groups based on the median value of CGI and analyze the association between managerial ability and dividend policy for each group. Model 1 and Model 2 use *DIVdummy* and *DIV_book* as dependent variables, respectively. Model 1 shows that the positive association between *ABILITY* and *DIVdummy* only appears in firms with weak corporate governance (coefficient=10.037; z -stat=2.72). Model 2 also shows that the positive relationship between *ABILITY* and *DIV_book* is significant only in weak corporate governance (coefficient=0.013; t -stat=2.28). This suggests that an able manager alleviates the agency problem through more dividends when corporate governance is poor.

<Table 6> The effect of corporate governance on the relation between managerial ability and dividend policy

Variable	Model 1		Model 2	
	Dep. = <i>DIVdummy</i>		Dep. = <i>DIV_book</i>	
	Strong corporate governance	Weak corporate governance	Strong corporate governance	Weak corporate governance
<i>ABILITY</i>	11.725 (1.26)	10.037*** (2.72)	0.009 (1.65)	0.013** (2.28)

<i>SIZE</i>	4.105** (2.09)	2.782*** (2.91)	-0.003*** (-3.09)	-0.001 (-0.60)
<i>ROA</i>	107.629*** (4.80)	28.265*** (4.83)	0.042*** (4.84)	0.028*** (4.38)
<i>LEVERAGE</i>	-5.216 (-0.74)	-6.683*** (-2.76)	0.003 (0.90)	0.001 (0.19)
<i>MTB</i>	-1.344** (-2.43)	-0.160 (-0.32)	0.002*** (3.88)	0.002** (2.23)
<i>CASH</i>	-19.349 (-1.56)	1.712 (0.37)	-0.001 (-0.13)	0.002 (0.25)
<i>CFO</i>	11.705 (1.46)	2.153 (0.76)	0.018*** (3.74)	0.014*** (2.64)
<i>STD_SALES</i>	-0.964 (-0.36)	0.496 (0.37)	0.000 (0.17)	0.005 (1.21)
<i>FOREIGN</i>	2.841 (0.71)	-0.507 (-0.12)	0.013*** (3.40)	-0.000 (-0.03)
<i>LARGE</i>	12.836** (2.24)	2.969 (0.96)	0.001 (0.15)	0.001 (0.12)
<i>SRdummy_{t-1}</i>	0.652 (0.38)	0.077 (0.16)		
<i>DIVdummy_{t-1}</i>	3.468*** (4.50)	1.163*** (3.31)		
<i>SR_book_{t-1}</i>			0.026 (0.78)	-0.023 (-0.82)
<i>DIV_book_{t-1}</i>			0.360*** (7.12)	0.361*** (5.46)
Year FE	Included	Included	Included	Included
Firm FE	Included	Included	Included	Included
Firm Clustering	Included	Included	Included	Included
Observations	1,656	1,666	1,656	1,666
Pseudo(Adjusted) R ²	0.915	0.823	0.799	0.663

1) This table presents the regression results for relation between managerial ability and a firm's dividend policy based on corporate governance using Eq. (3).

2) All regressions include both industry and year fixed effects and standard errors are clustered at the firm-level.

3) Robust t-(z-) statistics are reported in parentheses below the coefficients.

4) ***, **, * represent 1%, 5% and 10% significance level, respectively (two-tailed).

5) Continuous variables are winsorized at 1st and 99th percentiles.

6) Variable definitions are provided in the footnote of Table 2.

4.3 Additional Analysis: The Relationship between Managerial Ability, Dividend Policy, and Long-term Performance

The results of Hypothesis 1 show that firms with high ability managers are more likely to pay dividends, and they also pay a larger amount of dividends than firms with low ability managers. Meanwhile, dividends can operate as a signal of positive future prospects and a monitoring tool that regulates over-investment. Despite the positive role of dividends, paying dividends can be thought of as the firm giving up profitable investment opportunities. It could be possible that highly capable managers decide to pay dividends to increase shareholder value immediately through the shareholder return, ignoring the possibility of lower firm performance and firm value in the subsequent periods. Therefore, we further examine whether high ability managers make decisions on their firm's dividend policy based on the rational expectations about future firm performance.

To execute an empirical analysis, we double sort the sample by the manager's ability (*ABILITY*) and dividend payment (*DIV_book*). Specifically, we divide the sample based on the median value of *ABILITY* and *DIV_book* as in Figure 1 below. This leads to four subgroups: *High ABILITY_High DIVIDEND*, *Low ABILITY_High DIVIDEND*, *High ABILITY_Low DIVIDEND*, and *Low ABILITY_Low DIVIDEND*.

〈Figure 1〉 Subgroups by managerial ability and dividend payout

	High ability (<i>ABILITY</i> ≥ median)	Low ability (<i>ABILITY</i> < median)
High dividend payment (<i>DIV_book</i> ≥ median)	<i>High ABILITY_</i> <i>High DIVIDEND</i>	<i>Low ABILITY_</i> <i>High DIVIDEND</i>
Low dividend payment (<i>DIV_book</i> < median)	<i>High ABILITY_</i> <i>Low DIVIDEND</i>	<i>Low ABILITY_</i> <i>Low DIVIDEND</i>

We define each group variables to takes the value of one if the observations are included in each group and, zero otherwise. Thus, for example, *HighABILITY_HighDIVIDEND* equals to one for the observations when both *ABILITY* and *DIV_book* are above or equal to the median values.

HighABILITY_LowDIVIDEND takes the value of one if *ABILITY* is above or equal to the median value and *DIV_book* is below the median and, zero otherwise. *LowABILITY_HighDIVIDEND* takes the value of one if *ABILITY* is below the median value and *DIV_book* is above or equal to the median and, zero otherwise. *LowABILITY_LowDIVIDEND* is one if both *ABILITY* and *DIV_book* are below the median values.

Equation (4) provides the model for the analyses.

$$\begin{aligned}
 Future_adjROA_{i,t+1\sim t+3} = & a + \beta_1 HighABILITY_HighDIVIDEND_{it} \\
 & + \beta_2 LowABILITY_HighDIVIDEND_{it} \\
 & + \beta_3 HighABILITY_LowDIVIDEND_{it} \\
 & + \beta_4 SIZE_{it} + \beta_5 ROA_{it} \\
 & + \beta_6 LEVERAGE_{it} + \beta_7 MTB_{it} + Year\ FE \\
 & + Industry\ (or\ Firm)\ FE + \varepsilon_t
 \end{aligned} \tag{4}$$

where,

<i>Future_adjROA</i>	= the average industry-adjusted ROA for the future three years.
<i>HighABILITY_HighDIVIDEND</i>	= 1 if both <i>ABILITY</i> and <i>DIV_book</i> is greater than or equal to median value, 0 otherwise;
<i>LowABILITY_HighDIVIDEND</i>	= 1 if <i>ABILITY</i> is less than median value and <i>DIV_book</i> is greater or equal to median value, 0 otherwise;
<i>HighABILITY_LowDIVIDEND</i>	= 1 if <i>ABILITY</i> is greater than or equal to median value and <i>DIV_book</i> is less median value, 0 otherwise;
<i>SIZE</i>	= the natural logarithm of total assets;
<i>ROA</i>	= the ratio of net income to total assets;
<i>LEVERAGE</i>	= the ratio of total debts to total assets;
<i>MTB</i>	= market value of equity divided by the book value of equity;
<i>Year FE</i>	= Year fixed effect;
<i>Industry(or Firm) FE</i>	= Industry(or firm) fixed effect.

In Equation (4), the dependent variable is future long-term performance. *Future_adjROA_{i,t+1~t+3}*, which we measure as the average industry-adjusted ROA for the future three years (Kim et al. 2009; Koh and Park 2014). In the regression, *Low ABILITY_Low DIVIDEND* operates as the benchmark

group thus, it is subsumed in the intercept.

In the model, we include several firm characteristics that are known to affect future firm performance. The larger the size of a company (*SIZE*), the bigger we expect the economy to be. Additionally, there may be a link between current profitability (*ROA*) and future performance. We include leverage (*LEVERAGE*) to control the financial structure of the firm. Growth (*MTB*) measures the current expectations of future performance.

Prior to regressing Equation (4), <Table 7> reports the mean (median) future ROA performance ($Future_adjROA_{i,t+1\sim t+3}$) of each group. Future ROA performance is the highest in *High ABILITY_High DIVIDEND* (G1), followed by *Low ABILITY_High DIVIDEND* (G2), *High ABILITY_Low DIVIDEND* (G3), and *Low ABILITY_Low DIVIDEND* (G4). The statistical tests show that the difference in the mean(median) between a particular group and the remaining three groups is statistically significant. In particular, regarding concerns that a reduction in investment could hamper future performance, the future performance of *High ABILITY_High DIVIDEND* (G1) is higher than that of *High ABILITY_Low DIVIDEND* (G3). The difference in the mean(median) between G1 and G3 is statistically significant at the 1% level. This suggests that dividends from able managers are based on a reasonable belief that future earnings will continue to increase.¹³⁾ In addition, *High ABILITY_High DIVIDEND* (G1) is also higher than that of *Low ABILITY_High DIVIDEND* (G2). This further implies that high dividend payments decided by high ability managers lead to better future performance than higher dividends by low ability managers.

<Table 7> Future ROA performance based on managerial ability and dividend policy

Panel A. Mean/Median by groups		
<i>Group</i>	<i>Future_adjROA_{it+1~t+3}</i>	
(G1) <i>High ABILITY_High DIVIDEND</i> (N= 1,143)	Mean	0.028***
	Median	0.023***
(G2) <i>Low ABILITY_High DIVIDEND</i> (N= 836)	Mean	0.015***
	Median	0.012***
(G3) <i>High ABILITY_Low DIVIDEND</i> (N= 839)	Mean	-0.001**
	Median	0.003*

13) Observations belonging to groups G1 and G4 were the largest in the sample, with 1,143 and 1,144, respectively. This confirms Hypothesis 1 that the higher the managers' ability is, the greater the firm's dividends are.

(G4) <i>LowABILITY_LowDIVIDEND</i> (N= 1,144)	Mean	-0.028***
	Median	-0.018***
Panel B. Mean/Median difference by groups		
	Mean Diff. (<i>t</i> -statistics)	Median Diff. (<i>z</i> -statistics)
(G1) <i>HighABILITY_HighDIVIDEND</i> =	0.012***	0.011***
(G2) <i>LowABILITY_HighDIVIDEND</i>	(5.21)	(6.03)
(G1) <i>HighABILITY_HighDIVIDEND</i> =	0.029***	0.020***
(G3) <i>HighABILITY_LowDIVIDEND</i>	(10.85)	(10.01)
(G1) <i>HighABILITY_HighDIVIDEND</i> =	0.056***	0.041***
(G4) <i>LowABILITY_LowDIVIDEND</i>	(20.49)	(20.21)

- 1) This table reports the mean(median) future industry-adjusted ROA for the groups divided by two criteria, namely managerial ability and dividend payout. Specifically, G1 (*HighABILITY_HighDIVIDEND*) refers to the subsample both *ABILITY* and *DIV_book* above the sample median; G2 (*LowABILITY_HighDIVIDEND*) refers to the subsample of *ABILITY* below the sample median and *ABILITY* above the sample median; G3 (*HighABILITY_LowDIVIDEND*) refers to the subsample of *ABILITY* above the sample median and *ABILITY* below the sample median; G4 (*LowABILITY_LowDIVIDEND*) refers to the subsample both *ABILITY* and *DIV_book* below the sample median.
- 2) The statistical tests represent the difference in the mean(median) between observations in the category and the observations included in the remaining three categories. ***, **, * represent 1%, 5% and 10% significance level, respectively (two-tailed).

〈Table 8〉 reports the regression results of Equation (4). Column (1) reports the results using industry and year fixed effects while Column (2) using firm and year fixed effects. In both Column (1) and (2), the coefficients on *HighABILITY_HighDIVIDEND* (G1) is greater than other groups (G2 and G3). The results indicate that firms do generate better future ROA performance in cases where able managers pay high dividends (G1) than in any other case. In sum, we expect that able managers pay higher dividends with confidence in their future performance; in fact, they show good future ROA performance.

〈Table 8〉 The effect of managerial ability and dividend payout on future ROA performance

Dep. =Future_adjROA	(1)	(2)
(G1) <i>HighABILITY_HighDIVIDEND</i>	0.024*** (6.52)	0.009** (2.47)
(G2) <i>LowABILITY_HighDIVIDEND</i>	0.019*** (5.42)	0.001 (0.35)
(G3) <i>HighABILITY_LowDIVIDEND</i>	0.011*** (2.91)	0.005 (1.48)

<i>SIZE</i>	0.003** (2.13)	-0.029*** (-4.32)
<i>ROA</i>	0.337*** (9.81)	0.082*** (2.67)
<i>LEVERAGE</i>	-0.034*** (-3.28)	0.059*** (3.22)
<i>MTB</i>	0.003 (1.53)	0.006* (1.86)
<i>Constant</i>	-0.065*** (-2.59)	0.530*** (4.39)
Year FE	Included	Included
Industry FE	Included	Excluded
Firm FE	Excluded	Included
Firm Clustering	Included	Included
<i>F</i> -statistics $G1 = G2$	2.55	6.18**
<i>F</i> -statistics $G1 = G3$	12.16***	0.67
<i>F</i> -statistics $G2 = G3$	3.87**	0.96
Observations	3,962	3,962
Adjusted R^2	0.271	0.631

- 1) This table reports the regression results on the effect of managerial ability and dividend policy on the firm's future long-term performance using Eq. (4).
- 2) All regressions include both industry and year fixed effects and standard errors are clustered at the firm-level.
- 3) Robust t-statistics are reported in parentheses below the coefficients.
- 4) ***, **, * represent 1%, 5% and 10% significance level, respectively (two-tailed).
- 5) Continuous variables are winsorized at 1st and 99th percentiles.
- 6) Variable definitions are provided in the footnote of Table 2.

4.4 Robustness Tests

4.4.1 Alternative measures of managerial ability

To mitigate the concern of measurement error in Demerjian et al.'s (2012) measure of managerial ability, we conduct several robustness tests. First, instead of using raw estimated value, we rank *ABILITY* in deciles by year and industry to make the measure more comparable across time and industries and to mitigate the effect of extreme observations (Demerjian et al. 2013). Using the decile-ranked *ABILITY*, we still find a positive association with both *DIVdummy* and *DIV_book*, suggesting a more active dividend payout policy for firms with more able managers (*untabulated*).

Second, we use alternative measures of managerial ability, which are historical ROA and historical returns, following Demerjian et al. (2012, 2013) and Fee and Hadlock (2003). We measure historical ROA (returns) by the five-year past industry adjusted ROA (returns). We start by examining the correlations between variables. Managerial ability (*ABILITY*) and historical ROA (returns) are correlated at 0.21 (0.11), consistent with these two variables estimating different aspects of “ability.”¹⁴⁾ We next estimate the regression model and find that the greater the historical performance (ROA and returns), the greater the probability of paying dividends (*DIVdummy*), but the association between historical performance and *DIV_book* is not significant (*untabulated*).

4.4.2 Firm efficiency as an additional control variable

Although we tease out various firm-specific factors from firm efficiency scores using Equation (2) and take the residual as the measure of managers’ efficiency following the procedure introduced in Demerjian et al. (2012)¹⁵⁾, one may raise a concern about managerial ability still capturing firm efficiency, rather than managers’ efficiency. To mitigate the concern, we include firm efficiency scores, which estimated from Equation (1), as an additional control variable when investigating the relation between managerial ability and dividend payout using Equation (3). The results are robust even after controlling for firm efficiency scores (*untabulated*).

V. Conclusion

In this study, we investigate the association between managerial ability and corporate dividend policy.

Korean companies maintained a low dividend policy. In response to a growing demand for dividends, most Korean companies start to pay dividends

14) The low correlation between *ABILITY* and historical performance (ROA and returns) is also observed using U.S. firms (Demerjian et al. 2012, 2013), suggesting that the above variables measure different aspects of managers’ ability.

15) See Section 3.1.

in recent years but, the payout ratio is still lower than other countries (Kim 2013; Sohn 2011). Thus, it is important to examine not only whether managers pay dividends but also the payout ratio. We investigate whether a firm's dividend policy (in terms of both payout decision and payout ratio) can differ by managers' ability, considering that managers are in charge of payout decision-making. Since a dividend policy is a difficult task for companies that need to think about long-term growth, we expect that capable managers would make rational decisions on dividend policy with a reasonable expectation about future performance.

According to the empirical analyses, we find that more able managers are more likely to pay dividends and are more likely to pay higher dividends than less able managers. In addition, a cross-sectional analysis based on information asymmetry shows that the effect of managerial ability on the amount of dividends is significant only under conditions of high information asymmetry. This implies that competent managers pay dividends more actively when it is necessary to resolve information asymmetry.

Another cross-sectional analysis based on corporate governance shows that the effect of management ability on the amount of dividends is significant only under conditions of poor corporate governance. This implies that in firms with poor governance structures, competent managers strive to alleviate the agency problem through an active dividend policy. Finally, we show that future ROA performance is higher when both managerial ability and dividends are high, which alleviates the concern that dividends could reduce future performance. This finding suggests that managers increase dividends only if they believe that future earnings will continue to increase.

Since managers have the discretion to decide a firm's dividend policy, it is important to analyze whether managers influence dividend policy in addition to firm characteristics and the ownership structure. Despite the contributions, this study has some limitations. First, firms can make payouts through alternative channels such as share repurchases. We control for this factor in the research model, but subsequent research may adopt a more extensive empirical analyses that consider the various options a firm has to enhance shareholder value. Second, although we employ fixed effects models, the results should be interpreted with caution due to the effect of omitted variables. Finally, we consider only information asymmetry and corporate

governance based on signaling and agency theory as factors that could affect managers' decision to pay dividends. However, managers may consider more complex and comprehensive factors, which also require full consideration.

"This manuscript has not been published previously and is not under consideration by another publisher or journal, and the study in this manuscript has been conducted in accordance with the Ethical Guidelines set forth by the Korean Accounting Association."

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