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CEO Dividend Protection

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Abstract: This paper studies CEO dividend protection, an important element in the executive compensation package that protect CEOs' compensation from stock price drops due to dividend payments. First, I show that there is large variation among S&P 500 firms in whether they provide dividend protections to their CEOs or not. Second, CEO dividend protection is positively associated with firms' dividend payout. Third, a time series analysis suggests that dividend protection is implemented prior to a firm increasing dividends. Finally, there is no evidence suggesting that CEO dividend protection affects other corporate policies, such as cash holdings and investment.

JEL Classifications: G30, M52

Keywords: Payout policy, Executive compensation, CEO dividend protection

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1 Introduction

This paper studies CEO dividend protection, the provisions protecting CEOs' compensation packages from stock price drops due to dividend payments. In a sample of S&P 500 CEOs during 2000-2009, about half received dividend protections on their equity-based compensation. Both the existence and the magnitude of the CEO dividend protections are positively associated with dividend payouts. Among the firms adopting CEO dividend protection for the first time, the subsequent increase in dividends provides evidence that changes in CEO dividend protection are ahead of changes in dividend policy.

The main contribution of this paper is to introduce an important element in the executive compensation package that we do not have deep understand of, namely CEO dividend protection, and study its relation with dividend policy. A large empirical literature has argued that one reason why dividends have disappeared over time is the introduction of executive stock options (Lambert, Lanen, and Larcker (1989), Bartov, Krinsky, and Lee (1998), Jolls (1998), Weisbenner (2000), Fenn and Liang (2001), and Cuny, Martin, and Puthenpurackal (2009)). The underline argument in these studies is that, without dividend protection, dividend payouts reduce the value of call options and thus CEOs have an incentive to not pay dividends. This paper flips around the idea by arguing that if this is true that the lack of dividend protection induces the reduction in dividends, then one should observe a higher dividend when a firm introduces dividend protection on CEO's compensation packages.

To examine the impact of CEO dividend protection on corporate payout policy, detailed data for dividend protection programs are manually collected from proxy filings for S&P 500 firms between 2000 and 2009. Specifically, the analysis focuses on adding dividend protection to two important components of executive compensation, restricted stock and stock options. The data shows that there is considerable cross-sectional variation among firms in whether they add dividend protection to the CEO's compensation package. About half of CEOs received

dividends or dividend equivalents on their equity-based compensation. A total of 46 observations receive dividend protection with estimated value exceeding \$1 million per year. However, in most cases the estimated payment on CEO dividend protection is modest, with a mean estimated payment of about \$200,000, which is about 10% of the value of total cash compensation for an average S&P 500 firm CEO. While there is variation among firms in how this is implemented, the basic idea of dividend protection is the same and straightforward: Equity-based compensation of the CEO is adjusted by the contract to let the CEO participate in dividends as if the CEO already owned the equity that she may receive in the future (from the unvested restricted stock or stock options). This paper analyzes cross-sectional variations among firms as well as time-series variations within firms and have the following interesting findings.

First, although the value of CEO dividend protection is not dramatic relative to total CEO compensation, its effect on corporate payouts is large. Overall, controlling for firm-, industry-, and CEO-specific characteristics, I find that CEO dividend protection is positively and significantly correlated with the level of dividend payouts. Dividend yields are 60 basis points higher for dividend-protected firms than for non-dividend-protected firms. A one-standard-deviation increase in dividend protection is associated with at least a 15% increase in annual dividend yield for a median S&P 500 firm. These findings are robust after accounting for different subsamples and alternative measures of dividend policies.

Second, a time series analysis shows that dividend protection is implemented prior to a firm increasing dividends. I analyze (i) changes in dividends following the initial use and abandonment of CEO dividend protection and (ii) changes in CEO dividend protection following dividend initiation. I find that prior to the initial use of CEO dividend protection, both industry-adjusted and matched-firm-adjusted percentage changes in dividend are close to zero and statistically insignificant. Following the adoption of CEO dividend protection, both

measures for the percentage change in dividends are positive and significant up to two years after the introduction of CEO dividend protection. In contrast, matched-firm-adjusted dividends decrease after the abandonment of CEO dividend protection. Using a subset of dividend initiations, I find a large dispersion on when firms adopt CEO dividend protection for the first time. Two-thirds of the firms that provided CEO dividend protection during our sample period adopted the policy before initiating dividends. Overall, these results suggest that changes in CEO dividend protection appears to happen before changes in corporate dividend payouts.

Finally, I test two hypotheses based on Chetty and Saez's (2010) model that studies the effect of dividend taxes on investment in cash-rich firms. As opposed to dividend taxes, dividend protection provides incentives for executives to pay out dividends. Applying the same mechanism of Chetty and Saez (2010), I expect dividend protection to reduce the incentive for managers to inefficiently over-invest in the pet project ("investment hypothesis"). In addition, managers may want to increase investment in productive projects for potentially higher dividends in the long-run. Thus, we expect long-term performance to improve. Otherwise, it indicates that dividend protection could be inefficient if managers sacrifice long-term growth for short-term cash payment ("firm performance hypothesis"). I run regression analyses on corporate policies, such as total payout, cash holdings, and investment. I also investigate the short-term and long-term performance by studying Tobin's Q, return on assets, and return to shareholders over one, three, and five years. In general, we do not find any support to "investment hypothesis" that dividend protection lowers total investment while some performance measures seem to indicate an improvement in long-term performance.

The remainder of this paper is organized as follows. Section 2 reviews research on managerial dividend-paying incentives and corporate payout policies. Section 3 presents the sample and the data. Section 4 provides the main results and Section 5 concludes the study.

2 Literature and hypotheses of CEO dividend protection

2.1 CEO equity-based compensation and corporate payout policy

If the capital market is perfect and managers acted as perfect agents of shareholders, the Miller-Modigliani (1961) dividend irrelevance theorem would hold. Then the dividend policy does not matter and thus CEO dividend protection is irrelevant. However, in practice, due to agency problems and managerial overconfidence, investors demand large, profitable and mature firms to make substantial ongoing distributions, since large-scale internal cash accumulations give managers the opportunity to waste corporate resources (Rozeff (1982), Easterbrook (1984)). Dividends can also force managers to commit future cash flows to maintain a certain level of dividend payments, because investors penalize dividend reductions or omissions (Jensen (1986), Healy and Palepu (1988), Kallapur (1994)). Thus, the payment of dividends provides an implicit mechanism for monitoring managers' actions.

Restricted stock and option grants are supposed to motivate managers to increase their efforts and to align their interests with those of shareholders. However, as shown in the literature, managerial incentives are not always fully aligned with shareholder interests in dividend payouts. Beginning with the work of Lambert, Larcker, and Larcker (1989), a vast literature examines executive stock option plans and corporate payout policies. Lambert et al. (1989) find a significant decrease in dividend levels after the initial adoption of executive stock option plans. Weisbenner (2000), Fenn and Liang (2001), and Cuny et al. (2009) provide further evidence on a strong negative relation between dividends and management stock options. Their findings follow from the observation that executive stock options are generally not dividend protected (Cook (1987), Murphy (1999), and Hall and Murphy (2003)). Without dividend protection, dividend payouts will reduce the value of restricted stock and options due

to their effects on the stock price¹. Therefore managers may have incentives to reduce dividends and substitute repurchases for future dividend increases², since repurchase does not adversely affect restricted stock or option values. Bartov et al. (1998) and Kahle (2002) show that executive stock options increase the likelihood that a firm will repurchase. However, according to Fenn and Liang (2001) and Cuny et al. (2009), such option-induced dividend reductions are only partly offset by repurchases, resulting in a lower total payout for firms with higher options usage. A causal link between executive option holding and dividend policy is established by Chetty and Saez (2005) by analyzing firms' responses to the large tax cut on individual dividend income enacted in 2003. The authors show that firms whose top executives held fewer unexercisable stock options were much more likely to initiate dividend payments in the year after the reform.

Although restricted stock has become one of the largest components of executive compensation, few studies examine its direct link with payout policy. Jolls (1998) finds a strong positive relation between executive stock option grants and share repurchases but no relation between repurchases and restricted stock grants. Aboody and Kasznik (2008) focus on the relation between dividends and both stock options and restricted stock grants after the 2003 dividend tax reform. They find that stock options deter executives from dividends use while restricted stock induces it. The authors speculate that it is because option grants are not dividend

¹ Stock prices usually drop on the ex-dividend date by approximately the amount of the dividend (Campbell and Berabek (1955) and Barclay (1987)). In addition to the direct effect of dividend payments on stock price, the payment of dividends may also have a signaling effect on stock price, because there is a tendency for stock prices to increase or decrease with dividends. However, Richardson (1986) and Lambert et al. (1989) suggest that the cumulative reduction in share price caused by the payment of dividends dominates any signaling effect on share price. Section 4.2.2 examines market reactions to dividend changes and provides evidence supporting Lambert et al. (1989).

² This argument assumes that the decrease in the value of options caused by the dividend payment is not compensated for via some other components of executive compensation. According to Lambert, Lanen, and Larcker (1989), for the compensation adjustment to be effective, it has to be made ex post. If managers received ex ante increases in remuneration to compensate for expected decreases in the value of options, they would still have incentives to decrease dividends ex post.

protected while restricted stock grants are; however, they provide no data or direct analysis on dividend protection.

Few studies show the effect of dividend protection on payout policies using international data, where dividend protection of options is more common than that in United States. Liljeblom and Pasternack (2006) show a positive correlation between dividend protected option programs and dividend distributions using a Finnish sample. Wu et al. (2008) find a positive relationship between cash dividends and executive options and argue that this relationship arises from the dividend protected characteristic of Taiwanese employee stock options. Burns et al. (2015) also show that the dividend protection reduces the negative association between incentive compensation and dividends.

In addition to using a U.S sample, there are several major characteristics that differentiate this study from other related papers. First, I construct several measures to capture the proportion of the CEO incentive compensation that are dividend (un)protected while others look at only whether there is a protection. This is important because I find that the majority of CEOs are partially dividend protected on their equity holdings. Second, unlike other studies that focus on the new equity grants, I consider the portfolio of all equity holdings because executives often hold more equities from previous years that are still under restriction than the new grants received this year. Considering only new grants will underestimate executives' potential losses in equity compensation from dividend payments. Third, I also explore the effect of dividend protection on long-term and short-term changes in other corporate policies and performance.

The only study that analyzes dividend protection theoretically is that of Arnold and Gillenkirch (2005), who provide a theoretical framework to address the importance of dividend protection in stock option programs. The authors conclude that neither financial investment opportunities in the firm nor share repurchases are satisfactory substitutes for dividend

protection. They further suggest that dividend protection should be included in the executive stock option program for the best interest of shareholders. My analysis is an empirical test of the Arnold and Gillenkirch (2005) framework that relates dividend protection to payout policies.

2.2 Hypotheses on the effects of CEO dividend protection

It is well established in empirical studies that the introduction of executive stock option grants induces a reduction in dividends, because stock options are usually not dividend protected. If this is true, we should expect dividend protection to be positively associated with dividend payment (“dividend hypothesis”).

In addition, it is interesting to investigate whether the effectiveness of CEO dividend protection goes beyond the payout policy. In Chetty and Saez (2010), they present a two-period agency model where dividend taxes affect investment in cash-rich firms through shifting the CEO’s choice between taxed dividend and untaxed empire-building which involves overinvesting. In this model, a dividend tax cut leads to an immediate increase in dividend payments because it increases the manager's preference for dividends relative to the pet projects. This mechanism has two implications on this paper's empirical setting of dividend protection. First, dividend protection reduces the incentive for cash-rich firms to inefficiently over-invest in the pet project. Thus we expect dividend protection weakly lowers *total* investment³ (“investment hypothesis”) and long-term performance to improve. Otherwise, it indicates that dividend protection could be inefficient if managers sacrifice long-term growth for short-term cash payment (“firm performance hypothesis”).

³ Chetty and Saez (2010) point out that it is typical in empirical work to measure total investment (the sum of productive project and pet project that gives managers private benefits) since it is difficult to distinguish the components of investment in existing datasets. Besides, Chetty and Saez (2010) focuses on cash-rich firms a dividend tax cut leads to a (efficiency increasing) reallocation of capital and investment across firms, but its effect on aggregate investment is ambiguous.

3 Sample and data description

3.1 Sample selection

To construct my sample, I begin with a panel of firms from the S&P 500 index at the beginning of 2005 and I manually collect their CEO dividend protection information for the period 2000-2009⁴. I start with the year 2000 because the use of restricted stock was not popular before then. More than half of the firms never granted restricted stock to their CEOs before 2000⁵. Frydman and Jenter (2010) show that restricted stock grants accounted for an average of 5% of total CEO compensation in the early 1990s and increased to 7% in 2000. However, after the stock market decline of 2000-2001, some firms started to replace option grants with restricted stock grants. In 2004, the Financial Accounting Standards Board (FASB) started requiring a charge for earnings firm stock option grants. Therefore, the previous accounting advantage of stock options was eliminated. Since the new rule, firms have tended to cut back on the number of stock options granted and have replaced them with restricted stock. According to Frydman and Jenter (2010), by 2006 restricted stock became the most popular form of equity-based compensation.

After merging the data from Compustat and ExecuComp, I obtained a sample of 4,258 observations for 482 firms. Following the literature, I further excluded financial firms (SIC codes 6000-6999), utilities (SIC codes 4900-4999), and phone companies (SIC code 4813), because their payout policies may be significantly affected by regulation (Smith and Watts

⁴ I focus on S&P 500 firms because they are more likely to be dividend payers and thus are more likely to consider CEO dividend protection. However, this may lead to a potential bias towards large-cap firms. Besides, while this paper focuses on the dividend protection for CEOs, other top executives usually have exactly the same arrangements. In addition, the boards of directors in my sample firms are always dividend protected if they are granted restricted stock.

⁵ This finding is consistent with Murphy (1999), who documents that only 28% of S&P 500 firms granted restricted stock to their CEOs in 1996 and those grants accounted for an average of 6.1% of total compensation. Blouin and Carter (2010) also show that 20% of ExecuComp firms granted restricted stock in 1992 and the value of these restricted stock grants accounted for 3% of total compensation.

(1992), Fenn and Liang (2001)). My final sample contains 3,527 observations for 372 firms across 10 years.

3.2 Measuring dividend protection

3.2.1 Data collection from proxy statements

Using the U.S. Securities and Exchange Commission's EDGAR system, I manually collected dividend provisions on restricted stock and option grants from firms' annual proxy statements⁶. Such information can usually be found in the following sections of the proxy statement: i) the compensation philosophy and elements of compensation for executive officers in the Compensation Discussion and Analysis; ii) the footnote of the Summary Compensation Table; iii) the footnote of the Outstanding Equity Awards at the Fiscal Year-End (only for proxy statements filed after 2006); iv) the Long-Term Incentive Plan in the Appendix⁷. I collected the information pertaining to the following issues for each individual grant held by CEOs during 2000-2009.

- Does the firm offer the CEO incentive compensation, such as restricted stocks, options, and long-term incentive equity plans?
- Does the firm provide dividends on stocks or options during the vesting period? For example, the following are some relevant quotes from proxy statements:
 - “Dividends on all restricted shares, [...], are paid at the same rate and at the same time as paid to all shareowners.” (Coca-Cola Co.)
 - “[...] dividend equivalents are accumulated and paid out only on shares actually received.” (General Electric Co.)

⁶ Proxy statements were not available or information on executive compensation was missing in less than 5% of observations. In most of these cases, I found the relevant information in the annual/quarter report, 10-K, 10-Q or other filings.

⁷ The full text of the Long-Term Incentive Plan is not available every year, but whenever the old plan is amended/restated or when a new plan is made, the full text is included in the Appendix. In my sample, on average firms amended their Long-Term Incentive Plan more than twice during the ten-year period.

- “BSUs [Boeing Stock Units] are stock units that earn the equivalent of dividends, which are accrued in the form of additional BSUs each quarter.” (Boeing Co.)
- “[...] the awards are not entitled to receive dividends prior to vesting.” (Microsoft Corp.)

I focus specifically on restricted stock and option grants rather than other compensation components that are insensitive to changes in dividend distribution. For example, executives who hold unrestricted stock are entitled to all shareholder rights, including the right to receive dividends, and thus do not suffer from paying out dividends⁸.

[Insert Table 1 about here]

Table 1 provides an overview of dividend protection on restricted stock and option grants⁹. Consistent with Frydman and Jenter (2010) and Blouin and Carter (2010), I find an upward trend for restricted stock grants compared to a downward trend for option grants, as shown in Table 1 Panel A. The percentage of firms that granted restricted stock to CEOs increased sharply from 22% (80 out of 369 firms) in 2000 to 68% (212 out of 314 firms) in 2009; however, the percentage of firms that use executive option grants decreases slightly, from 83% (308 out of 369 firms) to 73% (228 out of 314 firms). While a large majority of firms offered dividend protections on restricted stock grants, less than 1% of firms provided dividend protections on option grants. I find only four firms during 2000-2009 that provided dividend rights on options¹⁰. Another trend which is not tabulated in the table is that it was more popular to offer

⁸ Another explanation is “mental accounting”, which is a concept associated with the work of Thaler (1985, 1999). According to Thaler, people treat money differently, depending on factors such as the money’s origin and intended use. In the context of CEO compensation, it is likely that earned stock grants are treated as wealth since they are already owned by executives, while unearned restricted stock is treated as potential income. Another explanation may be associated with loss aversion.

⁹ More than 98% of my sample firms disclosed dividend arrangements on restricted stock and option grants in their EDGAR filings.

¹⁰ This number is consistent with prior research. Murphy (1999) finds that seven out of 618 firms in 1992 provided dividend protection on their executive stock options, while Weisbenner (2000) finds two out of 799 firms in 1994. Cuny, Martin, and Puthenpurackal (2009) report only one firm that explicitly mentions the use of a dividend-protected option plan, after searching all 10-K statements over the period 1992–2005 for the term *dividend protected* and variations thereof. One potential explanation for the CEO dividend protection to mainly targets restricted stocks rather than options could be that shares underlying options are usually viewed as unearned until being exercised whereas restricted stock or units are considered earned shares. Specifically, CEOs will only exercise options when the stock price is above the exercise price. In other words, executives need to achieve

immediate dividend protection payment (i.e., CEOs are paid at the same rate and at the same time as cash dividends paid to common stockholders; see, e.g., the quote above from Coca-Cola Co.) and now more and more firms offer dividend protections that accumulated dividend payments either as cash or as additional restricted stock subject to the same restrictions as restricted stock grants (see, e.g., quotes from General Electric Co. and Boeing Co.). In addition to dividend rights, some firms also provided voting rights on unvested restricted grants¹¹.

Panel B presents the dividend protection on restricted stock grants across industries, using the Fama-French 12-industry classification¹². Please note that the table only show results for 10 industries, because we exclude financial firms and utilities for our sample. On average, 45% of firms-year observations grant restricted stock to CEOs, ranging from 34% in business equipment to 61% in the energy sector. Of firms that use restricted stock grants, about 79% (35% out of 45%), on average, provide dividend protections, varying from 69% in the health sector to 89% in durables. In short, although there is some variation among different industries, CEO dividend protection appears in all industries.

In addition, I divide the sample into two subsamples based on whether the firm has paid out any dividend during the past 10 years. On average, 49% of dividend-paying firms grant restricted stock to CEOs, which is much higher than the 28% among non-dividend firms. Among those firms that use restricted stock grants, on average, 82% (41% out of 49%) of dividend-paying firms provide dividend protections, compared to 59% (17% out of 28%) of non-dividend firms that do so.

3.2.2 The dividend protection variable

specific results before the shares underlying options are earned. On the other hand, restricted shares usually only require executives to stay employed as a vesting condition. Of course, there are also restricted shares that carry specific performance criteria which are less likely to carry dividend protection.

¹¹ About 34% of firms that granted restricted stock in 2000 offer voting rights on those restricted stock and only 13% of firms provide voting rights on restricted stock grants in 2009.

¹² Due to their rarity, dividend rights on option grants are not shown here. Of those four firms that provide dividend protection on option grants, one is from manufacturing, one is from energy, and two are from “other” industries.

I construct several measures of CEO dividend protection. To begin with, we have a simple measure, “Dividend protection (dummy)”, that equals one if at least some parts of CEO restricted stock and/or option holdings are dividend protected. The underlying argument for the dividend protection dummy variable is that as long as there is dividend protection, no matter what proportion of compensation is protected, CEOs are less reluctant to pay out dividends. Table 1 Panel C shows that 49.8% of our sample firms provide dividend protection on CEO restricted stock and option holdings.

Next, we have scale variables that measure the extent to which the CEO restricted stock and option holdings are protected against potential loss from dividend payments. There two alternative ways to measure the percentage here. The first variable “equal-weighted dividend protection” or “Dividend protection (EW)” is calculated as the *number* of protected unvested shares and options divided by the total *number* of all unvested shares and options. The other variable “value-weighted dividend protection” or “Dividend protection (VW)” is estimated as the *value* of protected unvested shares and options divided by the total *value* of all unvested shares and options. Specifically, the value of restricted stock holdings is the sum of the values of all restricted stock grants, calculated as the number of restricted stock holding multiplied by the stock price at the fiscal year-end. The value of option holdings is the sum of the Black-Scholes values of all option grants held by the CEO. When these two variables equal one, it means that the CEO is fully protected and thus neutral about dividend payment; when they are zero, the CEO is not entitled to the dividends on any restricted stock or option holdings¹³. In Table 1 Panel C, I consider only those firms that provide CEO dividend protection and find,

¹³ When a CEO holds no restricted stock and no stock options, which occurs in less than 2% of the sample observations, the CEO's compensation is not subject to potential loss from dividend payment. In such a case, I set both “Dividend protection (EW)” and “Dividend protection (VW)” variables equal to one. In an untabulated results, I also show that the main results are very similar if I do not reset these two variables when a CEO hold no restricted stock or options.

on average, 15% (or 41%) of CEO restricted stock and option holdings in numbers (or value) are protected against potential loss from dividend payments.

Finally, I construct “Protected shares%”, defined as the number of protected shares divided by the number of common shares outstanding, where protected shares include both vested shares and unvested but protected shares¹⁴. This variable has a natural interpretation: it tells us how many cents the CEO receives from a one-dollar increase in total dividends. Similarly, I construct “Unprotected shares%”, because early research argue that it is the *lack of dividend protection* that induces the reduction in dividends (Lambert, Lanen, and Larcker (1989), Weisbenner (2000), Fenn and Liang (2001), and Cuny, Martin, and Puthenpurackal (2009)). “Unprotected shares%” is defined as the number of unprotected unvested shares divided by the number of shares outstanding. I refer to “Protected shares%” and “Unprotected shares%” as decomposed measures. Table 1 Panel C shows that, for the subsample where “Dividend protection (dummy)” equals one, an average CEO owns 1.8% of the firm (via both vested and unvested shares), of which 0.7% is dividend protected. In other words, the average CEO receives 0.7 cents from a one-dollar increase in total dividends and loses 1.1 out of 1.8 cents of the dividends.

The five variables mentioned focus on the different aspects of the dividend (dis)incentives, but together they provide a full picture of the variation in dividend protection (dis)incentives. While the dummy variable capture the major switch in the policy, “Protected shares%” and “Unprotected shares%” measure the absolute value of dividend protection, e.g. how many cents a CEO receives or loses from a one-dollar increase in total dividends. “Dividend protection (EW)” and “Dividend protection (VW)” consider the relative importance of dividend protection, e.g. how much a CEO's equity holdings is protected against potential loss from

¹⁴ Vested shares are included in this measure because they could potentially influence payout policy in the following way. A larger number of vested shares could result in a higher payout due to greater alignment of management-shareholder interests that helps mitigate agency problems (Berger et al., 1997).

dividend payments. One caveat is that “Dividend protection (VW)” may potentially correlated to dividend yield through market prices, although stock price goes into both the nominator and denominator of the measure¹⁵. “Dividend protection (EW)”, on the other hand, is free from this concern. However, one drawback of “Dividend protection (EW)” is that by taking the numbers we simply treat all the restricted shares and option grants the same, whereas CEOs are likely to view restricted shares and stock options differently and attach different values to different option grants (which is captured by “Dividend protection (VW)”). Finally, for all the dividend protection measures I consider CEOs' portfolio holdings rather than new grants awarded in a specific year because executives often held more than one grant from previous years that is still under restriction. Taking only new grants will underestimate the executives' potential losses in equity compensation from dividend payments¹⁶.

In addition, I estimate the value paid as dividend protection insurance for all the dividend-paying firms. The estimated value is calculated as the number of restricted stock and options that are dividend protected multiplied by the dividend per share for the particular firm in a particular year¹⁷. The results are shown in the lower part of Table 1 Panel C. The average estimated value as dividend protection is \$207,000 per year, which is about 10% of the annual cash compensation (\$2.08 million in Table 2). On one hand, the amount of money paid as dividend protection is not too large so that shareholders can easily afford to provide it to CEOs if the dividend protection indeed turns out to align the incentives of CEOs on dividend policy. On the other hand, it is still large enough for the CEOs to care about it, especially when it pays

¹⁵ I use dividend yield as the dependent variable in the main analysis, because it is the most commonly used measure in the literature. In Table 8, I also provide results using earnings and free cash flow as alternative scalars. These measures are not mechanical correlated with “Dividend protection (VW)”. All the results still hold.

¹⁶ For my sample, on average, a CEO holds \$27 million of restricted stock and options, of which \$8.6 million are for new grants. It is plausible to assume that CEOs care about all the grants they currently hold rather than just new grants awarded in the current year.

¹⁷ To calculate the estimated value of CEO dividend protection, I assume that no grants are forfeited. This is a strong assumption, especially for restricted stock grants that are performance-based and accumulate dividends to be paid only upon vesting. Therefore, these numbers should be interpreted as the upper bound of actual dividend payments on unvested equity grants.

out every quarter with a certainty compared to some other compensation that may have large uncertainty involved.

3.3 Measuring corporate policies and performance

Following the literature, I use dividend yield to study dividend policy. For the main results reported in this paper, dividend yield is measured as dividend divided by the market value of the common stock at year-end [Compustat Item 21/(Compustat Item 24 × Compustat Item 25)]¹⁸. I further check all annual dividend payments that exceed 5% of the market value to ensure they reflect normal payouts and not events such as leveraged recapitalizations or liquidations. I find five such special dividends out of 3,527 observations. This small number is consistent with Fenn and Liang (2001) who find four similar cases out of 4,663 observations during the period 1993-1997.

In addition to dividend policy, I also study total payout, investment, and R&D expenditures. The total payout is defined as the sum of dividends and repurchases scaled by the market value of equity [(Compustat Item 115 + min(0, Compustat Item 56_t – Compustat Item 56_{t-1})) / (Compustat Item 24 × Compustat Item 25)]. I follow Malmendier and Tate (2005) to measure investment as capital expenditures divided by property, plants, and equipment at the beginning of the year (Compustat Item 128_t / Compustat Item 8_{t-1}). Similarly, cash holding is defined as the book value of cash and short-term investments scaled by property, plants, and equipment at the beginning of the year (Compustat Item 1_t / Compustat Item 8_{t-1}).

Regarding to performance, I use three different measures: a proxy for Tobin's Q and stock returns as market-based measures and return on assets (ROA) as an accounting measure. My proxy for Tobin's Q is the ratio of the firm's market value to its book value where the market value is calculated as the book value of assets minus the book value of equity (Compustat Item

¹⁸ For robustness checks, dividend is also normalized by earnings and free cash flow, respectively. Doing so yields qualitatively similar results (see Section 4.4.2).

60) plus the market value of equity [(Compustat Item 6 – Compustat Item 60) / (Compustat Item 24 × Compustat Item 25)]. Return to shareholders is total return to shareholders, including the monthly reinvestment of dividends (Execucomp Item TRS1YR, TRS3YR, or TRS5YR for one-, three-, or five-year return). ROA is the ratio of operating income before depreciation to its book value of assets (Compustat Item 13 / Compustat Item 6).

[Insert Table 2 about here]

To deal with potential outliers due to very low value in scalars, the measures are further winsorized at the 99% level. Summary statistics for the corporate policy and performance variables are provided in the first section of Table 2. All the numbers show in the table are similar to the values reported in related studies, such as those of Fenn and Liang (2001) and Grullon and Michaely (2002).

Prior to investigating the relation between dividend protections and payout policy in a regression framework, it is useful to look for a relation in the raw data. Figure 1 depicts such an effort. First, I compare firms that provided dividend protections to their CEOs with those that did not. In plot (a), firms are partitioned into two groups within each year, depending on whether dividend protection (VW), denoted DP , was larger than zero the previous year. The firms in each group are then aggregated across years. As mentioned earlier, 49.8% of firms provide dividend protection while 50.2% of firms did not. The average dividend protection (VW) is presented in the text box below each group. The dividend-protected group had, on average, 41% of their CEO restricted stock and option holdings protected against potential loss from dividend payments. The other group, by construction, has zero dividend protection (%). On average, the annual dividend yield was 1.76% for the dividend-protected group and 1.03% for non-dividend-protected group.

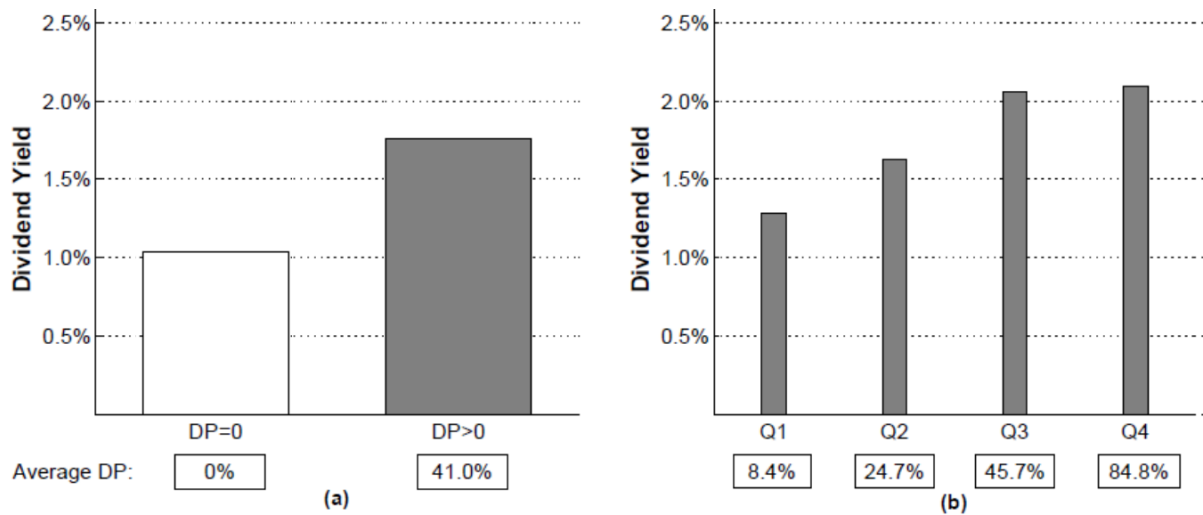


Figure 1: Dividend yield and dividend protection

Dividend protection (VW), denoted as DP , is the value of CEO restricted stock and option holdings that are dividend-protected divided by the total value of restricted stock and option holdings. Plot (a) compares the dividend yield of firms that provided dividend protections to their CEOs the previous year ($DP_{t-1} > 0$) with those of firms that did not ($DP_{t-1} = 0$). Plot (b) focuses on dividend-protected firms and sorts them into four quartiles according to DP_{t-1} . The bars present the average dividend yield for each group. The average DP_{t-1} is presented in the text box below each group. The quartiles are sorted within each year and then aggregated across years.

Second, for the dividend-protected group, I further sort firms into four quartiles according to the proportion of CEO restricted stock and option holdings that is dividend protected. Again, the quartiles are sorted within each year and then aggregated across years within each quartile. The mean dividend yield is calculated for each quartile and shown in the text box below each quartile numbers. By construction, each quartile has an equal number of firms in each quartile. Plot (b) presents the mean dividend yield against the quartile's average level of DP . The plot shows a positive relation between CEO dividend protection and the dividend yields of the firm in raw data. The highest proportion of dividend protection corresponds to an average dividend yield of 2.09%, and the lowest corresponds to an average of 1.28%.

3.4 Other explanatory variables

Table 2 also provides summary statistics for other variables that are known to affect corporate payout policy. To control for the CEO equity-based incentive, I include the value of CEO restricted shares, the value of CEO options, the proportion of CEO vested shares, and CEO

cash compensation in the analysis. CEO restricted shares (ln\$) is defined as the natural logarithm of the value of CEO restricted stock holdings ($\ln[\text{MAX}(\text{Execucomp Item STOCK_UNVEST_VAL}, 0.001)]$).¹⁹ CEO options (ln\$) is measured as the natural logarithm of the estimated value of unexercised in-the-money options ($\ln[\text{max}(\text{Execucomp Item OPT_UNEX_EXER_EST_VAL} + \text{Execucomp Item STOCK_UNVEST_VAL}, 0.001)]$). CEO vested shares% is defined as the number of vested shares held by the CEO as a percentage of total shares outstanding ($\text{Execucomp Item SHROWN_TOT} / \text{Compustat Item 25}$). CEO cash compensation is the sum of salary and cash bonus ($\text{Execucomp Item SALARY} + \text{Execucomp Item BONUS}$). Prior research shows that restricted stock holdings is positively related with dividend payouts, while option holdings are negatively related. The findings on the relation between CEO stock ownership and dividends are mixed. Fenn and Liang (2001) find no effect of share ownership on payouts. Brown et al. (2007) find that executives with higher ownership were more likely to increase dividends after the tax cut in 2003, but no relation is found in the period when the dividend tax rate was higher. Cuny et al. (2009) find a negative relation between executive stock ownership and total payout.

The prior literature also suggests that firms are likely to have higher payouts if they are large, mature, and profitable firms, with a lot of cash flow. Following Fenn and Liang (2001), Brown et al. (2007), and Cuny et al. (2009), I calculate free cash flow ratio as operating income before depreciation minus capital expenditure divided by total assets [$(\text{Compustat Item 13} - \text{Compustat Item 128}) / \text{Compustat Item 6}$]. I use the lagged Tobin's Q (defined above) as a proxy for investment opportunities or market-to-book ratio. To control for external financing costs, I use firm size, measured as the natural logarithm of total assets (Compustat Item 6). I also control for leverage, measure by total long-term debt divided by total assets (Compustat

¹⁹ It is common to take $\ln(\text{Value} + 1)$. However, since the compensation variables in Execucomp are presented in the unit of thousand dollars, I take $\ln(\text{Value} + 0.001)$.

Item 9/Compustat Item 6), and earnings volatility, measured as the standard deviation of net operating cash flow scaled by assets [std.dev.(Compustat Item 13 / Compustat Item 6)]. To account for past performance and growth, I construct the past three-year averages EPS (earnings per share) [(Compustat Item 53_{t-3} + Compustat Item 53_{t-2} + Compustat Item 53_{t-1}) / 3] and the lagged return on assets (defined above). All the numbers in Table 2 are similar to the values presented in related studies, such as those of Fenn and Liang (2001), Brown et al. (2007), Aboody and Kasznik (2008), and Cuny et al. (2009).

4 Empirical Results

4.1 CEO dividend protection and corporate payouts

In this section, I examine the relation between the dividend protection of CEO compensation and dividend yield. To test the hypothesis that CEO dividend protection is associated with higher dividend payouts, I use the following regression specifications:

$$PayoutPolicy_{i,t} = \alpha + \beta' DP_{i,t-1} + \gamma' X_{i,t-1} + \lambda' Year_t + \mu' Industry_i + \epsilon_{i,t},$$

where $PayoutPolicy_{i,t}$ is dividend yield; $DP_{i,t-1}$ is a set of dividend protection measures; and $X_{i,t-1}$ is a vector of control variables previously shown to affect payout that include the log value of CEO restricted stock holdings, the log value of option holdings, CEO vested stock holdings, cash compensation, free cash flow, the market-to-book ratio, firm size, leverage, earnings volatility, past three-year earnings per share (EPS), and return on assets. All explanatory variables are measured at the end of the previous fiscal year. $\epsilon_{i,t}$ is the error term. The null hypothesis is that β , the coefficient of CEO dividend protection, is equal to zero.

[Insert Table 3 about here]

To account for the possibility of correlations across observations of the same firm in different years, standard errors are clustered at the firm level. In Table 3, I report the marginal effects computed at the means of the explanatory variables using four alternative dividend

protection measures. To see how results vary with the introduction of specific controls, I run regressions with different set of controls. The odd columns show estimation results with firm characteristics and the even columns show results with the full set of controls. The first principal finding is that CEO dividend protection is an important determinant of dividend policy. As shown in columns (1) to (6), the marginal effects on dividend protection (either measured as dummy, equal-weighted, or value-weighted) is positive and highly significant. The coefficient of 0.62 for dividend protection (dummy) shows that dividend yield is 62 basis points higher in dividend-protected firms than in non-dividend-protected firms. The marginal effect of 0.42 on dividend protection (equal-weighted) indicates that a one-standard-deviation increase in dividend protection (EW) is associated with a 15-basis-point ($0.42 \times 19\%$) increase in dividend yield, about a 16% increase in annual dividend yield for a median S&P 500 firm which is 0.9% for year 2001-2010. Similarly, a one-standard-deviation increase in dividend protection (VW) is associated with a 26-basis-point ($0.97 \times 27\%$) increase in dividend yield, which is about a 28% increase in dividend yield for a median S&P 500 firm. Column (7) and (8) show that “unprotected shares%” is negatively correlated with dividend yield while “protected share%” is not significant. This finding supports the argument in early research that emphasizes on the lack of dividend protection as a cause for the reduction in dividends (Lambert, Lanen, and Larcker (1989), Weisbenner (2000), Fenn and Liang (2001), and Cuny, Martin, and Puthenpurackal (2009)). The marginal effect of 8.58 on unprotected shares% indicates that a one-standard-deviation increase in the measure is associated with a 14-basis-point ($8.58 \times 1.65\%$) decrease in dividend yield, about a 15% reduction in dividend yield for a median S&P 500 firm.

Consistent with the literature, the value of CEO option holdings is strongly and negatively related to dividend yield. Interestingly, the coefficient on the value of restricted stock holdings is also negative. This finding differs from Aboody and Kasznik's (2008) positive relation

between restricted stock grants and dividend yield. However, if we exclude the dividend protection variables, we would also get positive coefficients for restricted stock holdings (coefficients of 0.017 and t -statistics of 2.51; not tabulated). This result suggests that the finding of prior research of a positive relation between restricted stock and dividends may be due to the dividend protection and not to the granting of restricted stock itself. Besides, most of the control variables in the model specifications have the expected signs. Dividend yield is highly related to the lagged free cash flow, Tobin's Q (the market-to-book ratio), firm size, earnings volatility, and past performance (*ROA*), suggesting that large firms with relatively stable profits and lower investment opportunities pay out more dividends.

To sum up, the findings support the “dividend hypothesis” that dividend protection is positively associated with dividend yield.

4.2 The timing of dividend protection and dividend changes

To investigate the dynamics and interactions between dividend policy and CEO dividend protection, I focus on two significant changes in these two policies. First, I look at dividend changes around the time CEO dividend protection is adopted or abandoned. Then I study firms that initiated dividends and examine when they provided CEO dividend protection for the first time.

4.2.1 Dividend changes around adoptions and abandonments of dividend protection

There are 65 cases of CEO dividend protection adoption and 39 cases of abandonment. Five adoption and four abandonment cases are excluded because they occurred simultaneously with either a merger, an acquisition, restructuring, or bankruptcy (Chapter 11 filing). Firms that do not pay dividends are excluded, leaving us with 45 cases of adoption and 26 cases of abandonment.

Table 4 reports *median* dividend changes from three years before to three years after the adoption or abandonment of CEO dividend protection. Dividend changes are measured in two alternative ways, namely as industry-adjusted changes or matched-firm-adjusted changes. Year 0 is the year CEO dividend protection was adopted or abandoned. Change in dividend is calculated as the percentage change in dividend per share from year i to year j . Industry-adjusted change subtracts the median for firms in the same industry based on the Fama-French 12-industry classification. Matched-firm-adjusted change matches on firm size, firm age, return on assets, dividend per share, CEO stock ownership, and industry dummies measured at year $t - 1$, using the propensity score matching (PSM) method.

[Insert Table 4 about here]

Prior to the adoption of CEO dividend protection, the median percentage changes in dividend are close to zero and statistically insignificant. Following the adoption of CEO dividend protection, both measures for the percentage change in dividend are positive and significant up to two years after the introduction of CEO dividend protection. Comparing to their matched firms from the PSM method, the median dividend protection adopter pays 3.1% higher dividend per share in the year after the adoption and 4.4% more two years later. Therefore, the evidence suggests that CEO dividend protection is adopted before increasing dividend.

The evidence from abandoning CEO dividend protection is relatively weak partly due to the small sample. None of the industry-adjusted measure is statistically significant. However, using the matched-firm-adjusted measure, dividend decreases sharply after abandoning CEO dividend protection from year 0 to year 1 and continues to decrease from year 2 to year 3. Specifically, among firms that terminate CEO dividend protection, the median dividend per share is 6.7% lower than that of their matched firms in the first year and 4.6% lower in the third

year after the abandonment. This is again consistent with the pattern that changes in CEO dividend protection occur before changes in firm dividends.

I also check if firms pay out special dividends as a response to the adoption of dividend protection. I follow DeAngelo, DeAngelo, and Skinner (2000) to classify a cash distribution as a special if it carries distribution code 1262 or 1272 in CRSP and I further exclude ten cases in connection with mergers or spinoffs. In total, we have 23 firms that have paid special dividends during the period 2000-2014. This is consistent with the finding of DeAngelo, DeAngelo, and Skinner (2000) that special dividends are now rarely paid. Among those 23 firms, only four paid special dividends within the seven-year window around the adoption of dividend protection and one firm paid a year after dividend protection was abandoned. Given such a rare incidence, firms do not seem to use special dividends as a response to the adoption of dividend protection.

4.2.2 Stock market reactions at announcements of CEO dividend protection

To evaluate shareholder reactions to CEO dividend protection, I calculate abnormal stock returns upon the introduction or termination of CEO dividend protection in the sample. In the event study analysis, the event date is the earliest of the filings of the proxy statement, Form 10-K, and 10-Q and of any other filing that describes the terms of the CEO dividend protection. Five adoption and four termination events are dropped because the event was announced simultaneously with a merger or acquisition, restructuring, or bankruptcy (Chapter 11 filing). However, since most of the event dates are proxy statement filing dates in which other information is disclosed, the results of this event study should be interpreted with caution due to the potential confounding effect. Abnormal stock returns are calculated over three different event windows, using a standard market model methodology with the Center for Research in Security Prices (CRSP) value-weighted index as the market portfolio.

[Insert Table 5 about here]

The results in Table 5 indicate that shareholders have positive reactions to the adoption of CEO dividend protection. Abnormal returns for the [-1, +1] window have a mean value of 0.45%, with statistical significance at the 8% level. In contrast, the termination of CEO dividend protection is accompanied by negative stock reactions, with mean and median abnormal returns of about 0.5% for the [-1, 0] and [-1, +1] event windows, statistically significant below the 10% level. Please note that the relatively weak announcement returns may be due to the small sample. In short, investors seem to favor the introduction of CEO dividend protection and dislike the termination of it. This observation may suggest that dividend protection itself already conveys some positive news to the market, either on future dividend increase or on the long-term profitability.

4.2.3 Changes in dividend protection around dividend initiation

In total, 49 firms in our sample initiated dividends during 2000-2009, 24 of which did not provide any dividend protection on their CEO restricted stock and option grants. Of the other 25 firms that did provide dividend protections during 2000-2009, 11 (44%) were already providing dividend protection to CEOs three years before the dividend initiation. Three firms provided CEO dividend protection two years prior to the year when dividends were initiated, while two did so one year before. One firm granted dividend protection in the same year when dividend was initiated while no firm did so the year after. Four firms introduced CEO dividend protection two years after dividend initiation and other four took more than two years. Figure 2 plots dividend yield and CEO dividend protection (*DP*) around the year of dividend initiation. The portion of CEO equity-based compensation that is dividend-protected shows an increasing trend. However, given the small sample, none of the changes from one year to the next are statistically significant.

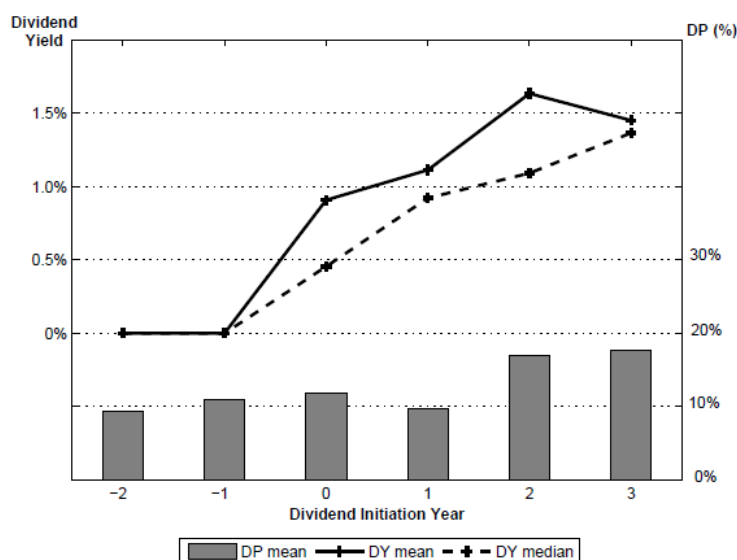


Figure 2: Dividend yield and dividend protection around the year of dividend initiation

Dividend protection (VW), denoted as DP , is the value of CEO restricted stock and option holdings that are dividend-protected divided by the total value of restricted stock and option holdings. The solid (dashed) line shows the mean (median) dividend yield (DY). The bars present the average DP for each group. Year 0 is the year of dividend initiation.

Overall, these results suggest wide dispersion on when firms provide dividend protection to CEOs. For firms that did provide CEO dividend protection during our sample period, about two-thirds (16 out of 25) had adopted CEO dividend protection before initiating dividends. However, the results should be interpreted with caution for two reasons. First, the sample of dividend initiation firms is quite small, with only 49 firms. Only about half of these firms provided CEO dividend protection during the sample period. As for the other half, if they provided CEO dividend protection after the sample period, they will be counted as providing dividend protection after $T+2$ years. Second, even if we find most of firms already had CEO dividend protection before initiating dividends, we cannot determine causality because one can argue that firms already took into account the possibility of dividend initiation in the near future when they designed their CEO compensation.

4.3 Changes in other corporate policies and performance

In Table 6, I test if CEO dividend protection has any short-term or long-term effect on other corporate policies (“investment hypothesis”) and performance (“firm performance

hypothesis”). Regarding corporate policies, I study total payout which is the sum of dividend and share repurchases. I also look into cash holdings and investment to see if dividend protection induces firm to payout more cash or to increase investment. I use three different measures to study firm performance: market-based measures (Tobin's Q and return to shareholders) and an accounting measure (return on assets). To capture the dynamics of both short-term and long-term, I measure all the policies and performance over one, three, and five years by taking the average over these window, except for return to shareholders which is one-, three-, or five-year total return with the monthly reinvestment of dividends). I repeat the same analysis as in Table 3 by replacing the dependent variable with total payout, cash holdings, and investment (Panel A) and Tobin's Q, ROA, and stock returns (Panel B) over the one to five years. The full set of control variables as well as industry- and year-fixed effects shown in Table 3 are included in the regression, but only the coefficient estimates and t-statistics of dividend protection measures are report in the table. Again, in both panels, standard errors are clustered at the firm level.

[Insert Table 6 about here]

The results in Table 6 Panel A suggest that dividend protection does not seem to have any effect on total payout or cash holdings. If anything, there is a weak evidence of increase in investment in both short-term and long-term when using equal-weighted dividend protection measure. In Panel B, the equal-weighted dividend protection seems to be positively related to short-term and long-term firm performance for all three measures. However, we do not see such a pattern in other dividend protection measures.

[Insert Table 7 about here]

Next, in Table 7, I repeat the same exercise as in Table 6 on a subgroup of cash-rich firms for two reasons. First, Chetty and Saez's (2010) model, of which my hypotheses are built on, focuses on cash-rich firms to study CEO's choice between dividend and empire-building.

Second, managers in cash-rich firms are likely to face higher pressure from investors to accelerate cash payouts, thus are more responsive to the changes in dividend protection. I define cash-rich firms as those whose free cash flow is above 75th percentile of the industry. Panel A of Table 7 shows that there is no significant effect of dividend protection on cash-rich firms' cash holding and investment. In Table 7 Panel B, there seems to be an improvement in Tobin's Q after introduction or increase in dividend protection. However, we should be careful interpreting this relation. It can be that dividend protection incentivizes managers to invest efficiently rather than to over-invest in pet projects and therefore increases firm value. It can also be that dividend protection was introduced or increased in anticipation of increasing Tobin's Q. Besides, there are many factors that may contribute to changes in Tobin's Q and performance in general. We cannot infer from this table that the increase in Tobin's Q is indeed due to the change in dividend protection. In Panel B, we also find higher three-year and five-year returns to shareholders when dividend protection (EW and VW) increases.

To summarize, we do not find any support to “investment hypothesis” that dividend protection lowers total investment. However, since we can only measure total investment which includes both productive project and pet project, we cannot exclude the possibility that inefficient over-investment on pet project has reduces. We do find some evidence of improvement in long-term performance, supporting “firm performance hypothesis”. In Section 4.2.2, we also find, on average, a positive reaction to the announcement of adopting dividend protection. However, we should also bear in mind that more dividend payment is not necessarily always optimal.

4.4 Robustness checks

In this section, I re-run the main analysis shown in Table 3 for various subsamples to rule out the possibilities that the findings on the positive relation between CEO dividend protection and dividend yields may just be picking up the difference between some subgroups that are not

captured by the control variables. I also show that the main results are robust to alternative measures for corporate payout policies.

4.4.1 Subsamples

First, to make sure that the positive relation found in Table 3 is not driven by the unobserved difference between firms with and without CEO dividend protections, I repeat the same analysis for dividend-protected firms only, which comprises about 49.8% of the sample. By construction, this robustness check can be done only for equal-weighted, value-weighted, and decomposed dividend protection measures and not for dividend protection (dummy). The results are summarized in the first row of Table 8 Panel A. In this table, each number represents the marginal effect of dividend protection measures on dividend yield from a separate Tobit model. Each regression includes the full set of control variables from Table 3, including year and industry fixed-effects, but I do not report the individual coefficients of those controls in the interest of brevity. The results suggest that our previous finding of positive relation between dividend protection and dividend yield still holds.

[Insert Table 8 about here]

Similarly, to show that dividend protection captures cross-sectional variations in CEO dividend protection, rather than other factors, such as different payout policies and compensation structures across firms, I repeat the analyses in Table 3 for several subsamples, based on whether firms paid dividends in the past 10 years and whether their CEOs had restricted stock holdings and option holdings. The robustness analyses are done using all four measures of dividend protection.

First, I create a subsample of dividend payers by excluding all firms that did not pay out dividends in the past 10 years. Second, I look at only those firms whose CEOs have positive restricted stock holdings, about half the sample. Then I focus on firms whose CEOs have positive option holdings, which comprise more than 90% of the sample. The second row of

Table 8 shows that the signs and magnitudes of the coefficients are similar to those in Table 3. In the third and fourth rows, I look at the subsamples of firms whose CEOs had positive restricted stock holdings and positive option holdings, respectively. All these results suggest that CEO dividend protection is positively related to dividend yield.

Finally, since dividend protection measures are constructed at the end of the previous fiscal year (with a one-year lag relative to dividend yield), there is a concern that it does not accurately capture CEO dividend protection when there is CEO turnover. To address this concern, I repeat the above analysis for a subsample of firm-year observations with no CEO turnover. Again, the results show that both the sign and the magnitude of marginal effects on dividend protection are similar to previous findings.

4.4.2 Alternative measures for payout policy

Until now, we have scaled all payout measures with the market value of equity. However, there is a concern that variations in payout policy measures are due to changes in market value rather than in the payout policy itself. To address this concern, I use different scalars such as earnings and free cash flow. Panel B of Table 8 summarizes the Tobit regression results following all specifications in Table 3, with alternative measures of payout policies. Only the marginal effects and t -statistics of the dividend protection variables are reported in the table. Again, we find a strong and positive relation between CEO dividend protection and dividend payouts.

Overall, the main finding of a positive association between CEO dividend protection and dividend payout is robust to various subsamples and alternative measures of payout policies.

5 Conclusions

This paper studies dividend arrangements of CEO restricted stock and option grants, commonly known as CEO dividend protection. About half of CEOs in S&P 500 firms receive dividend protection on their equity-based compensation. CEO dividend protection is positively related

to firms' dividend payouts. Using the dividend change after the adoption or abandonment of CEO dividend protection, I find that changes in CEO dividend protection appears to happen before changes in dividend payouts. Please notice that it is plausible that both the dividend policy and the compensation policy to provide CEO dividend protection are jointly determined. Therefore, although I do find a positive link between CEO dividend protection and dividend yield, I do not claim any causal effect. It is unlikely that firms decide on dividend protections and then leave the decision to initiate dividends to CEOs. Similarly, it is also unlikely that dividend protections are considered only after dividends payments are already under way. There could be a hidden economic factor that drive both the use of CEO dividend protection and paying dividends.

This study has at least two implications. First, investors who care about dividends should check CEO dividend protection, because changes in CEO dividend protection are usually implemented prior to changes in dividend payouts. Second, boards of directors and compensation committees should take into account CEO personal financial incentives when designing a CEO pay package. CEO dividend protection can be provided to align managers' incentives with shareholder interests in payout policy.

Appendix: Variable List

Cash holding: the book value of cash and short-term investments scaled by property, plants, and equipment at the beginning of the year ($\text{Compustat Item } 1_t / \text{Compustat Item } 8_{t-1}$).

CEO cash compensation: the sum of salary and cash bonus ($\text{Execucomp Item SALARY} + \text{Execucomp Item BONUS}$).

CEO options(ln\$): the natural logarithm of the estimated value of unexercised in-the-money options ($\ln[\max(\text{Execucomp Item OPT_UNEX_EXER_EST_VAL} + \text{Execucomp Item STOCK_UNVEST_VAL}, 0.001)]$).

CEO restricted shares(ln\$): the natural logarithm of the value of CEO restricted stock holdings ($\ln[\max(\text{Execucomp Item STOCK_UNVEST_VAL}, 0.001)]$).

CEO vested shares%: number of vested shares held by the CEO as a percentage of total shares outstanding ($\text{Execucomp Item SHROWN_TOT} / \text{Compustat Item } 25$).

Dividend protection (dummy): equals one if at least some parts of CEO restricted stock and/or option holdings are dividend protected.

Dividend yield: dividend divided by the market value of the common stock at year-end [$\text{Compustat Item } 21 / (\text{Compustat Item } 24 \times \text{Compustat Item } 25)$].

Earnings volatility: the standard deviation of net operating cash flow scaled by assets [$\text{std.dev.} (\text{Compustat Item } 13 / \text{Compustat Item } 6)$].

Equal-weighted dividend protection (“dividend protection (EW)”): the number of protected unvested shares and options divided by the total number of all unvested shares and options.

Firm size: the natural logarithm of total assets [$\ln(\text{Compustat Item } 6)$].

Free cash flow: operating income before depreciation minus capital expenditure divided by total assets [$(\text{Compustat Item } 13 - \text{Compustat Item } 128) / \text{Compustat Item } 6$].

Investment: capital expenditures divided by property, plants, and equipment at the beginning of the year ($\text{Compustat Item } 128_t / \text{Compustat Item } 8_{t-1}$).

Leverage: total long-term debt divided by total assets ($\text{Compustat Item } 9 / \text{Compustat Item } 6$).

Past three-year average EPS: past three-year average earnings per share [$(\text{Compustat Item } 53_{t-3} + \text{Compustat Item } 53_{t-2} + \text{Compustat Item } 53_{t-1}) / 3$].

Protected shares%: the number of protected shares divided by the number of common shares outstanding, where protected shares include both vested shares and unvested but protected shares.

Return on assets (ROA): the ratio of operating income before depreciation to its book value of assets (Compustat Item 13 / Compustat Item 6).

Return to shareholders: total return to shareholders, including the monthly reinvestment of dividends (Execucomp Item TRS1YR, TRS3YR, or TRS5YR for one-, three-, or five-year return).

Tobin's Q: the ratio of the firm's market value to its book value where the market value is calculated as the book value of assets minus the book value of equity (Compustat Item 60) plus the market value of equity $[(\text{Compustat Item 6} - \text{Compustat Item 60}) / (\text{Compustat Item 24} \times \text{Compustat Item 25})]$.

Total payout: the sum of dividends and repurchases scaled by the market value of equity $[(\text{Compustat Item 115} + \min(0, \text{Compustat Item 56}_{t-1} - \text{Compustat Item 56}_{t-1})) / (\text{Compustat Item 24} \times \text{Compustat Item 25})]$.

Un protected shares%: the number of unprotected unvested shares divided by the number of shares outstanding.

Value-weighted dividend protection (“Dividend protection (VW)”): the value of protected unvested shares and options divided by the total value of all unvested shares and options.

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Table 1

Dividend protections of CEO restricted stock and option grants

Panel A provides summary statistics of CEO dividend protections (*DP*) for S&P 500 firms during 2000-2009. Panel B provides an overview of dividend protections on restricted stock grants (*RSG*) across industries classified based on the Fama-French 12-industry classification. If firms paid out cash dividends at least once in the past 10 years, they are classified as dividend firms; otherwise, non-dividend firms. Panel C presents four dividend protection measures and the estimated value of dividend protections that is calculated by the multiple of the amount of restricted stock/options that are entitled to dividend protections and the dividend per share of the fiscal year.

Panel A: Dividend protection on restricted stock and option grants

Year	Full Sample	Restricted Stock Grants > 0		Stock Option Grants > 0	
		Total	DP > 0	Total	DP > 0
2000	369	80	73	308	2
2001	370	87	79	319	2
2002	372	95	85	304	2
2003	372	128	116	306	1
2004	372	163	148	299	3
2005	361	173	153	276	2
2006	347	204	146	245	1
2007	330	214	150	228	1
2008	320	222	153	222	1
2009	314	212	143	228	1

Panel B: Dividend protection on restricted stock grants across industries

	Full sample			Dividend Firms			Non-Dividend Firms		
	N	RSG>0	DP>0	N	RSG>0	DP>0	N	RSG>0	DP>0
All	3,527	45%	35%	2,725	49%	41%	802	28%	17%
NonDurables	334	53%	47%	321	53%	46%	13	54%	54%
Durables	105	42%	37%	95	45%	40%	10	10%	10%
Manufacture	514	50%	43%	465	51%	45%	49	37%	24%
Energy	187	61%	50%	171	65%	53%	16	19%	19%
Chemicals	158	47%	40%	158	47%	40%	0	0%	0%
Business Equip.	826	34%	23%	419	38%	27%	407	29%	19%
Telecom	150	47%	39%	127	53%	44%	23	13%	13%
Shops	494	43%	31%	385	51%	37%	109	16%	11%
Health	375	44%	30%	238	52%	43%	137	31%	7%
Others	384	48%	40%	346	48%	41%	38	47%	26%

Panel C: Estimated value of dividend protections paid to CEOs

	Mean	Std. Dev.	10th Pctl	Median	90th Pctl	N
<i>Dividend protection measures</i>						
Dividend protection (dummy)	49.8%	49.8%	0%	0%	100%	3,527
Dividend protection (EW) dummy=1	15%	19%	0%	8%	34%	1,756
Dividend protection (VW) dummy=1	41%	33%	7%	41%	100%	1,756
Protected shares% dummy=1	0.7%	2.5%	0.0%	0.2%	0.9%	1,756
Protected shares% dummy=1	1.1%	1.3%	0.1%	0.7%	2.5%	1,756
<i>Estimated value paid as dividend protection (dividend-paying firms)</i>						
Estimated value of all <i>DP</i> (\$'000)	207	468	11	80	442	1,353
<i>DP</i> on restricted stock (\$'000)	180	377	10	78	389	1,350
<i>DP</i> on stock option (\$'000)	1,617	1,593	303	943	4,164	23

Table 2

Summary statistics

This table provides summary statistics on all the variables used in the main analyses. Mean, standard deviation, 10th percentile, median, and 90th percentile of the distribution are shown in the table, as well as the number of observations. Definitions of all the variables are listed in Appendix. The variables related to long-term corporate policies and performance are shown for 2001-2014 while other variables are shown for the period 2000-2009.

	Mean	Std Dev	10th Pctl	Median	90th Pctl	N
<i>Firm policies and performance (372 firms for year 2001-2014)</i>						
Dividend yield	0.5%	1.4%	0%	0.0%	2.0%	4,558
Total payouts	1.3%	3.6%	0%	0.0%	5.4%	4,558
Cash holding	0.45	0.96	0.02	0.19	1.10	4,190
Investment	0.10	0.08	0.04	0.08	0.18	4,259
R&D	0.05	0.06	0.00	0.03	0.12	3,293
Tobin's Q	2.09	1.20	1.11	1.73	3.47	4,569
Return on assets (ROA)	0.05	0.13	-0.02	0.06	0.14	4,652
Return to shareholders	0.12	0.37	-0.32	0.10	0.53	4,574
<i>CEO and firm characteristics (A panel of 372 firms during year 2000-2009)</i>						
Restricted stock holdings (\$million)	4.55	12.55	0.00	0.66	11.48	3,500
Option holdings (\$million)	26.31	72.07	0.00	7.08	61.18	3,527
CEO vested shares (%)	0.8%	2.8%	0.0%	0.1%	1.3%	3,527
CEO cash compensation (\$million)	2.08	2.27	0.75	1.49	3.87	3,527
CEO total compensation (\$million)	25.0	30.1	5.7	17.9	48.8	3,527
Free cash flow/assets	0.11	0.09	0.02	0.10	0.20	3,527
Firm size (log total assets)	9.01	1.20	7.57	8.95	10.50	3,527
Leverage	0.20	0.16	0.00	0.19	0.40	3,527
Earnings volatility	0.05	0.07	0.01	0.03	0.11	3,439
Past 3-year average EPS	1.60	2.76	-0.22	1.49	3.93	3,527

Table 3

Cross-sectional analysis in dividend protections and dividend yield

This table provides Tobit estimates of dividend yield on four dividend protection measures using the following regression specifications,

$$DividendPolicy_{i,t} = \alpha_i + \beta' DP_{i,t-1} + \gamma' X_{i,t-1} + \lambda' Y_t + \mu' I_i + \varepsilon_{i,t},$$

where $DividendPolicy_{i,t}$ is dividend yield; $DP_{i,t-1}$ are measured in four alternative ways; $X_{i,t-1}$ is a vector of control variables previously shown to affect payout; Y_t and I_i are vectors of year and industry dummies, respectively, and $\varepsilon_{i,t}$ is the error term. The marginal effect and t -statistics (in parentheses) are reported. Standard errors are clustered at the firm level. ***, **, and * denote significance at the 1%, 5%, and 10% levels.

	Dividend protection measured as:							
	Dummy		Equal-weighted		Value-weighted		Decomposed	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dividend protection	0.41*** (3.73)	0.62*** (2.58)	0.78** (2.05)	0.42* (1.95)	1.02*** (4.59)	0.97*** (3.68)		
Unprotected shares%							-11.32** (-2.50)	-8.58* (-1.93)
Protected shares%							-2.71 (-0.97)	25.72 (0.48)
CEO restricted shares (ln\$)		-0.02 (-1.22)		0.01** (2.02)		-0.003 (-0.32)		0.01** (1.98)
CEO options (ln\$)		-0.03*** (-3.17)		-0.29*** (-2.78)		-0.021** (-2.00)		-0.03*** (-2.69)
CEO vested shares%		-2.64 (-0.89)		-3.72 (-1.24)		-3.87 (-1.24)		-28.60 (-0.53)
CEO cash compensation		0.024 (0.20)		0.002 (0.02)		0.037 (0.31)		0.076 (0.62)
Free cash flow	5.15*** (5.58)	5.21*** (5.64)	5.19*** (5.62)	5.14*** (5.52)	5.00*** (5.40)	5.02*** (5.41)	5.15*** (5.63)	5.12*** (5.55)
Tobin's Q	-0.30*** (-4.77)	-0.27*** (-4.37)	-0.31*** (-4.93)	-0.30*** (-4.78)	-0.29*** (-4.77)	-0.27*** (-4.42)	-0.32*** (-5.00)	-0.28*** (-4.43)
Firm size	0.41*** (5.99)	0.42*** (6.36)	0.42*** (6.16)	0.42*** (6.04)	0.40*** (5.78)	0.40*** (5.92)	0.37*** (4.97)	0.38*** (5.21)
Leverage	0.82 (1.31)	0.77 (1.26)	0.87 (1.40)	0.85 (1.36)	0.90 (1.49)	0.84 (1.39)	0.89 (1.40)	0.83 (1.34)
Earnings volatility	-3.74** (-2.07)	-4.04** (-2.19)	-4.11** (-2.33)	-4.01** (-2.20)	-3.79** (-2.08)	-4.00** (-2.17)	-3.91** (-2.21)	-3.99** (-2.18)
Past 3-year average EPS	0.07* (1.75)	0.08** (2.03)	0.07* (1.92)	0.07* (1.78)	0.07** (1.98)	0.08** (2.11)	0.07* (1.89)	0.08** (2.07)
Return on assets	2.81*** (3.74)	2.83*** (3.69)	2.85*** (3.90)	2.88*** (3.85)	2.73*** (3.75)	2.78*** (3.73)	2.82*** (3.79)	2.82*** (3.69)
Intercept	-2.09*** (-3.30)	-1.92*** (-1.88)	-1.95*** (-3.09)	-1.95*** (-3.09)	-1.98*** (-3.13)	-1.60 (-1.58)	-1.37** (-1.98)	-0.86 (-0.79)
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,161	3,161	3,161	3,161	3,161	3,161	3,161	3,161
Pseudo R ²	0.140	0.143	0.138	0.141	0.144	0.147	0.139	0.142

Table 4

Dividend changes around the adoption and abandonment of CEO dividend protection

This table reports median changes in dividend per share around the adoption and abandonment of CEO dividend protection. Year 0 is the year when CEO dividend protection was adopted or abandoned. Dividend change is calculated as the percentage change in dividend per share from year i to year j . Industry-adjusted change subtracts the median for firms in the same industry based on the Fama-French 12 industry classification. Matched-firm-adjusted change matches on firm size, firm age, one-year-lagged ROA, one-year-lagged dividend per share, CEO stock ownership, and industry dummies at year -1 , using propensity score matching method (PSM). The first row shows the *median* changes while the second row shows [total number of observations; number of positive observations]. The significance levels of the medians are based on a two-tailed Wilcoxon rank test. ***, **, * denote significance at the 1%, 5%, and 10% levels, respectively.

	CEO Dividend Protection Adoption		CEO Dividend Protection Abandonment	
	Industry -adjusted	Matched-firm -adjusted	Industry -adjusted	Matched-firm -adjusted
-3 to -2	0.0 % [45;19]	0.0 % [45;19]	0.0 % [26;11]	0.0 % [26;11]
-2 to -1	0.0 % [45;22]	0.0 % [45;18]	0.0 % [26;12]	0.0 % [26;10]
-1 to 0	1.7 % [45;23]	0.0 % [45;20]	0.0 % [26;12]	0.0 % [26;11]
0 to +1	6.5 % *** [45;25]	3.1 % ** [45;24]	0.0 % [25;11]	-6.7 % * [25; 8]
+1 to +2	6.7 % *** [44;29]	4.4 % ** [44;28]	0.7 % [24;12]	0.6 % [24;13]
+2 to +3	3.5 % [43;23]	0.0 % [43;22]	0.0 % [20; 9]	-4.6 % * [20; 7]

Table 5

Abnormal stock returns at the announcement of CEO dividend protection

This table shows cumulative abnormal stock returns around the disclosure of change in CEO dividend protection. Abnormal returns are calculated for three different event windows, using standard market model methodology. The disclosure date is the first proxy statement filing that describes details of introducing or terminating CEO dividend protection. Panel A summarizes abnormal stock returns at the announcement of CEO dividend protection adoption, excluding five disclosure events that took place simultaneously with the announcement of a merger or acquisition or restructuring plans. Panel B shows the results for market reactions on the CEO dividend protection abandonment. Four cases are excluded because the events happened around the date when restructuring or a Chapter 11 filing were announced. The p -values are reported based upon t -tests and Wilcoxon rank sum tests. * denotes significance at the 10% level.

	[-1, 0]	[-1,+1]	[-2,+2]
Panel A: The announcement of CEO dividend protection adoption			
Observations	60	60	60
Mean cumulative abnormal return	0.37%	0.45% *	0.70%
T-statistic p -value	(0.16)	(0.08)	(0.15)
Median cumulative abnormal return	0.48%	0.29%	0.43%
Wilcoxon statistic p -value	(0.15)	(0.15)	(0.18)
Positive:negative	35:25	34:26	35:25
Panel B: The announcement of CEO dividend protection abandonment			
Observations	35	35	35
Mean cumulative abnormal return	-0.57% *	-1.15%	-0.88%
T-statistic p -value	(0.09)	(0.15)	(0.10)
Median cumulative abnormal return	-0.49% *	-0.63% *	-0.10%
Wilcoxon statistic p -value	(0.09)	(0.10)	(0.19)
Positive:negative	12:23	10:25	14:20

Table 6

Dividend protections, corporate policies, and performance

This table summarizes the regression results following specifications (2), (4), (6), (8) in Table 3 but carried out for different dependent variables: total payout, cash holdings, and investment (Panel A) and Tobin's Q, ROA, and return to shareholders (Panel B) over 1-, 3-, and 5-year period. Only the coefficient of dividend protection and *t*-statistics (in parentheses) are shown. All other variables, including industry and year dummies, shown in Table 3 are included in the regression, but not reported. In both Panels A and B, standard errors are clustered at the firm level. ***, **, * denote significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Corporate policies

	Total Payout			Cash Holdings			Investment		
	1 Year (1)	3 Year (2)	5 Year (3)	1 Year (4)	3 Year (5)	5 Year (6)	1 Year (7)	3 Year (8)	5 Year (9)
Dividend protection (dummy)	0.46 (1.06)	0.35 (0.84)	0.43 (0.99)	0.09 (1.27)	0.04 (0.46)	0.04 (0.45)	-0.001 (-0.24)	0.000 (0.01)	-0.002 (-0.48)
Controls & F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,161	2,978	2,778	2,814	2,646	2,474	2,861	2,716	2,567
Pseudo R-squared	0.062	0.063	0.060	0.259	0.222	0.202	0.282	0.346	0.336
Dividend protection (EW)	-0.53 (-0.90)	-0.31 (-0.60)	-0.11 (-0.22)	0.05 (0.51)	-0.03 (-0.31)	-0.09 (-0.92)	0.02* (1.66)	0.02* (1.79)	0.02* (1.81)
Controls & F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,161	2,978	2,778	2,814	2,646	2,474	2,861	2,716	2,567
Pseudo R-squared	0.062	0.062	0.059	0.258	0.222	0.202	0.286	0.349	0.336
Dividend protection (VW)	-0.15 (-0.35)	-0.06 (-0.15)	-0.05 (-0.15)	0.05 (0.71)	-0.01 (-0.08)	-0.04 (-0.56)	0.01 (0.77)	0.01 (0.93)	0.01 (0.90)
Controls & F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,161	2,978	2,778	2,814	2,646	2,474	2,861	2,716	2,567
Pseudo R-squared	0.062	0.062	0.059	0.258	0.222	0.202	0.282	0.346	0.337
Unprotected shares%	11.72 (0.54)	19.30 (0.97)	17.23 (1.61)	8.97* (1.72)	10.73 (0.97)	12.75 (0.72)	0.05 (0.34)	-0.07 (-0.49)	-0.06 (-0.39)
Protected shares%	-13.31 (-0.11)	-16.93 (-0.69)	-68.69 (-0.80)	4.30 (0.02)	0.71 (0.04)	-11.69 (0.58)	-0.18 (-0.11)	0.07 (0.05)	-0.07 (-0.05)
Controls & F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,161	2,978	2,778	2,814	2,646	2,474	2,861	2,716	2,567
Pseudo R-squared	0.062	0.064	0.060	0.285	0.253	0.240	0.282	0.346	0.336

Panel B: Corporate performance

	Tobin's Q			Return on Assets			Return to Shareholders		
	1 Year (1)	3 Year (2)	5 Year (3)	1 Year (4)	3 Year (5)	5 Year (6)	1 Year (7)	3 Year (8)	5 Year (9)
Dividend protection (dummy)	0.05 (1.44)	0.02 (0.56)	-0.01 (-0.13)	0.003 (0.64)	-0.001 (-0.12)	-0.002 (-0.47)	3.56* (1.73)	0.01 (1.04)	0.01 (0.85)
Controls & F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,172	3,011	2,832	3,177	3,035	2,874	3,181	3,180	3,158
Adjusted R-squared	0.747	0.697	0.661	0.451	0.452	0.463	0.333	0.316	0.376
Dividend protection (EW)	0.14** (2.00)	0.17** (2.11)	0.17* (1.86)	0.02*** (3.18)	0.02** (2.55)	0.02** (2.25)	-5.04 (-1.36)	0.11*** (4.69)	0.11*** (5.08)
Controls & F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,172	3,011	2,832	3,177	3,035	2,874	3,181	3,180	3,158
Adjusted R-squared	0.747	0.697	0.662	0.453	0.454	0.465	0.333	0.323	0.389
Dividend protection (VW)	0.05 (0.99)	0.06 (1.14)	0.07 (1.18)	0.009* (1.67)	0.002 (0.29)	0.004 (0.81)	-5.43 (-1.20)	0.03* (1.68)	0.02* (1.65)
Controls & F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,172	3,011	2,832	3,177	3,035	2,874	3,181	3,180	3,158
Adjusted R-squared	0.747	0.697	0.661	0.452	0.452	0.463	0.334	0.317	0.377
Unprotected shares%	-3.13 (-1.41)	-3.69 (-1.27)	-2.30 (-0.83)	-0.23* (-1.65)	-0.22 (-1.07)	-0.21 (-0.91)	43.21 (0.98)	-0.86*** (-3.13)	-0.22 (-1.07)
Protected shares%	-1.60 (-0.12)	-1.04 (-0.06)	1.09 (0.06)	-1.03 (-0.92)	-0.28 (-0.25)	-0.26 (-0.20)	94.80 (0.11)	3.07 (0.75)	2.67 (0.89)
Controls & F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,172	3,011	2,832	3,177	3,035	2,874	3,181	3,180	3,158
Adjusted R-squared	0.748	0.699	0.662	0.452	0.453	0.465	0.333	0.319	0.376

Table 7

Analysis for cash-rich firms

This table replicates Table 5 for a cash-rich subgroup whose free cash flow is above 75th percentile of the industry. Only the coefficient of dividend protection and t -statistics (in parentheses) are shown. All other variables, including industry and year dummies, shown in Table 3 are included in the regression, but not reported. In both Panels A and B, standard errors are clustered at the firm level. ***, **, * denote significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Corporate policies

	Total Payout			Cash Holdings			Investment		
	1 Year (1)	3 Year (2)	5 Year (3)	1 Year (4)	3 Year (5)	5 Year (6)	1 Year (7)	3 Year (8)	5 Year (9)
Dividend protection (dummy)	-4.03 (-0.65)	0.117 (0.16)	0.45 (0.62)	-0.102 (-0.48)	-0.24 (-0.78)	-0.33 (-0.99)	-0.008 (-0.66)	0.000 (-0.01)	-0.008 (-0.76)
Controls & F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	802	768	720	732	703	665	737	714	680
Pseudo R-squared	0.068	0.067	0.062	0.377	0.355	0.304	0.335	0.369	0.347
Dividend protection (EW)	-1.76 (-1.57)	-1.057 (-1.11)	-1.03 (-1.25)	-0.038 (-0.20)	-0.05 (-0.30)	-0.16 (-0.93)	0.021 (0.90)	0.042* (1.76)	0.051** (2.12)
Controls & F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	802	768	720	732	703	665	737	714	680
Pseudo R-squared	0.069	0.067	0.062	0.376	0.351	0.297	0.337	0.379	0.363
Dividend protection (VW)	-1.81 (-1.47)	-1.26 (-0.76)	-1.13 (-0.77)	-0.051 (-0.34)	-0.09 (-0.53)	-0.18 (-1.02)	0.013 (0.91)	0.0237 (1.44)	0.029* (1.69)
Controls & F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	802	768	720	732	703	665	737	714	680
Pseudo R-squared	0.069	0.069	0.062	0.376	0.351	0.299	0.336	0.374	0.356
Unprotected shares%	25.13 (0.79)	31.58 (1.59)	21.85 (1.22)	6.17 (1.39)	9.55 (1.63)	15.33 (1.61)	0.03 (0.11)	-0.20 (-0.85)	-0.214 (-0.93)
Protected shares%	-15.96 (-1.02)	-69.99 (-0.73)	-14.24 (-1.18)	4.50 (0.07)	-59.70 (-0.80)	-95.22* (-1.90)	1.20 (0.20)	4.16 (0.74)	2.320 (0.41)
Controls & F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	802	768	720	732	703	665	737	714	680
Pseudo R-squared	0.067	0.071	0.063	0.385	0.370	0.342	0.334	0.370	0.347

Panel B: Corporate performance

	Tobin's Q			Return on Assets			Return to Shareholders		
	1 Year (1)	3 Year (2)	5 Year (3)	1 Year (4)	3 Year (5)	5 Year (6)	1 Year (7)	3 Year (8)	5 Year (9)
Dividend protection (dummy)	0.17** (2.12)	0.189** (1.98)	0.19* (1.80)	0.003 (0.41)	0.002 (0.32)	0.001 (0.02)	3.81 (0.96)	-0.01 (-0.43)	-0.01 (-0.74)
Controls & F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	807	782	741	807	784	749	807	807	800
Pseudo R-squared	0.783	0.722	0.677	0.399	0.448	0.448	0.344	0.322	0.327
Dividend protection (EW)	0.34** (2.48)	0.457*** (2.92)	0.56*** (3.36)	0.021** (2.21)	0.02* (1.88)	0.02* (1.66)	-1.71 (-0.27)	0.14*** (4.12)	0.13*** (3.81)
Controls & F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	807	782	741	807	784	749	807	807	800
Pseudo R-squared	0.784	0.725	0.682	0.403	0.452	0.451	0.343	0.337	0.350
Dividend protection (VW)	0.23** (2.27)	0.36*** (3.09)	0.47*** (3.73)	0.008 (1.05)	0.006 (0.77)	0.011 (1.57)	-1.44 (-0.30)	0.06** (2.19)	0.04* (1.71)
Controls & F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	807	782	741	807	784	749	807	807	800
Pseudo R-squared	0.784	0.725	0.683	0.400	0.448	0.450	0.343	0.326	0.331
Unprotected shares%	-0.92 (-0.47)	-2.96 (-1.28)	-5.14** (-2.05)	-0.14 (-1.02)	-0.08 (-0.51)	-0.25 (-1.30)	51.95 (0.60)	-0.45 (-0.98)	-0.21 (-0.57)
Protected shares%	64.47 (1.46)	35.88 (0.68)	89.72* (1.78)	3.33 (1.40)	2.09 (1.10)	3.69 (1.63)	3007 (1.20)	9.96 (0.92)	7.70 (1.16)
Controls & F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	807	782	741	807	784	749	807	807	800
Pseudo R-squared	0.783	0.722	0.680	0.401	0.448	0.452	0.347	0.323	0.327

Table 8

Robustness checks

The table reports the results of various robustness checks. Panel A summarizes the Tobit regression results following specifications (2), (4), (6), (8) in Table 3 but carried out for several subsamples. Panel B replicates specifications in Table 3 with alternative payout policy measures. In Panel A, each row summarizes the results for a specific subsample. Only the marginal effect of dividend protection and *t*-statistics (in parentheses) are shown. *Dividend protection (dummy)* equals one if there is dividend protection and zero otherwise. *Dividend protection (%)* measures the value of CEO restricted stock and option holdings that are dividend protected divided by the total value of restricted stock and option holdings. All other variables shown in Table 3 are included in the regression, but not reported. The term *dividend payers* refers to firms that paid out a cash dividend at least once in the past five years. *RS* stands for restricted stock. *Non-CEO-turnover* refers to firms that have no CEO turnover in a particular year. Panel B replicates Table 3 and summarizes the marginal effect of dividend protection and *t*-statistics (in parentheses) for two alternative dividend measures, namely, dividends scaled by earnings and dividend scaled by free cash flow (*FCF*). CEO controls include CEO restricted shares (ln\$), CEO options (ln\$), CEO vested shares%, and CEO cash compensation. Firm controls are Free cash flow, Market-to-Book, Firm size, Debt/assets, Earnings volatility, Past 3-year, average EPS, and Return on assets. In both Panels A and B, standard errors are clustered at the firm level. ***, **, * denote significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Dividend protections and corporate payouts (subsamples)

	N	Dividend protection (dummy)	Dividend protection (EW)	Dividend protection (VW)	Unprotected shares%	Protected shares%
Dividend protection>0	1,517	-	0.47* (1.84)	0.97*** (3.72)	-6.82* (-1.93)	-44.36 (-0.81)
Dividend payers	2,510	0.17* (1.77)	0.47* (1.91)	0.62** (2.50)	-3.17* (-1.82)	11.97 (0.20)
RS holdings>0	1,763	0.72*** (2.76)	0.95* (1.65)	1.27*** (4.63)	-11.08* (-1.73)	58.37 (0.85)
Option holdings>0	3,075	0.61** (2.57)	0.85** (2.29)	1.14*** (4.70)	-8.65** (-1.97)	8.76 (0.17)
No CEO-turnover	2,762	0.59** (2.44)	0.90** (2.06)	0.95*** (3.56)	-10.50** (-2.25)	53.90 (0.90)

Panel B: Alternative measures of payout policies

	Dividend protection measured as:							
	Dummy		Equal-weighted		Value-weighted		Decomposed	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Dependent variable: Dividend/Earnings</i>								
Dividend protection	0.05**	0.12***	0.15*	0.15*	0.12**	0.14**		
	(1.99)	(3.55)	(1.82)	(1.69)	(2.45)	(2.45)		
Unprotected shares%							-1.76***	-1.48**
							(-2.89)	(-2.47)
Protected shares%							-0.27	-2.70
							(0.79)	(-0.33)
CEO controls	No	Yes	No	Yes	No	Yes	No	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year & industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,155	3,155	3,155	3,155	3,155	3,155	3,155	3,155
Pseudo R-squared	0.050	0.053	0.050	0.051	0.052	0.053	0.050	0.051
<i>Dependent variable: Dividend/FCF</i>								
Dividend protection	0.03**	0.02*	0.02*	0.03*	0.06***	0.07***		
	(2.33)	(1.87)	(1.88)	(1.66)	(3.00)	(3.19)		
Unprotected shares%							-1.25***	-1.69***
							(-3.72)	(-5.13)
Protected shares%							-0.15	-0.17
							(-0.67)	(-0.81)
CEO controls	No	Yes	No	Yes	No	Yes	No	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year & industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,132	3,132	3,132	3,132	3,132	3,132	3,132	3,132
Pseudo R-squared	0.500	0.502	0.489	0.500	0.511	0.514	0.517	0.282