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Corporate payout policy in dual-class firms☆

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ABSTRACT

We examine corporate payout policy in dual-class firms. The expropriation hypothesis predicts that dual-class firms pay out less to shareholders because entrenched managers want to maximize the value of assets under control and the associated private benefits. The pre-commitment hypothesis predicts that dual-class firms pay out more to shareholders because firms use corporate payouts as a pre-commitment device to mitigate agency costs. Our results support the pre-commitment hypothesis. Dual-class firms have higher cash dividend payments and total payouts, and they use more regular cash dividends rather than special dividends or repurchases, compared to their propensity-matched single-class firms. Dual-class firms with severe free cash flow-related agency problems and few growth opportunities rely even more on corporate payouts as a pre-commitment mechanism. We also rule out the alternative explanation that dual-class firms pay out more because super-voting shareholders lack the ability to generate home-made dividends by selling shares since super-voting shares are often non-tradable or very illiquid.

1. Introduction

Whether a dual-class share structure and other antitakeover mechanisms enhance or destroy shareholder value is an ongoing debate in the literature. Many recent studies find that dual-class share structures may exacerbate agency problems. Insiders of dual-class firms typically have voting rights that exceed their cash flow rights. Therefore, many researchers argue that this wedge between voting rights and cash flow rights makes it easier for firm insiders to expropriate value from outside investors. For example, Masulis et al. (2009) find that, in dual-class firms, as the wedge between insiders' voting rights and cash flow rights increases, corporate cash holdings are worth less, CEOs receive higher compensation, and managers make more value-destroying acquisitions. In a similar vein, Gompers et al. (2010) find that dual-class firms trade at lower valuations than single-class firms.

However, if the use of dual-class shares allows insiders to entrench themselves at the expense of outside shareholders, why do so many firms still adopt it, including many prestigious corporations (e.g., Google, Facebook, and Ford Motor)?[3] And why do

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[3] For example, Gompers et al. (2010) find that about 6% of all Compustat firms are dual class.

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investors and regulators not completely ban its use? Some researchers argue that dual-class shares may enhance shareholder value under certain scenarios. For example, Chemmanur and Jiao (2012) argue that dual-class shares may increase long-term firm value in the hands of high ability managers, even though it may increase agency costs and destroy firm value in the hands of low ability managers. They argue that the dual-class share structure allows high ability managers to create value for the firm by investing in risky, long-term projects. Such managers may not invest in long-term projects in the absence of dual-class shares due to the fear of losing control to rival management teams in a control contest under asymmetric information if the firm's project is in temporary difficulty. Similarly, Stein (1988) argues that antitakeover provisions (such as dual-class shares) may benefit shareholders by mitigating managerial myopia.

We shed light on the debate regarding how antitakeover provisions in general, and the dual-class share structure in particular, affect shareholder value by examining corporate payout policies in dual-class firms. On the one hand, if dual-class shares are used by insiders to entrench themselves and expropriate wealth from outsiders, then dual-class firms may be less willing to pay out cash dividends or buy back shares than single-class firms because paying cash dividends or buying back shares will reduce the value of assets under insider control and the associated private benefits. We call this hypothesis the expropriation hypothesis. Under this hypothesis, the total payout of the firm should decrease with the wedge between insiders' voting rights and cash flow rights. The greater disparity between insiders' voting rights and cash flow rights creates a greater conflict of interest between insiders and holders of inferior-voting shares, which gives insiders greater incentives to pay out less in order to expropriate value from minority shareholders.

Alternatively, dual-class shares may be used by high-ability managers to enhance shareholder value, as suggested by Chemmanur and Jiao (2012). In this case, insiders in dual-class firms may use different governance mechanisms to mitigate agency problems associated with the dual-class share structure. One approach is to use corporate payout policy as a pre-commitment device to reduce outsiders' concerns about expropriation. If so, dual-class firms may be more willing to pay out cash dividends or buy back shares than single-class firms. We call this alternative the pre-commitment hypothesis. Under this conjecture, the total payout of the firm will increase with the wedge between insiders' voting rights and cash flow rights because the greater the wedge, the more severe the potential agency problem and the greater the need for the firm to pre-commit to pay out to mitigate agency problems.

When we turn to the data, we find that dual-class firms are more likely to pay out than single-class firms. The propensity to pay out and the amount of the payout increase with the wedge between insiders' voting rights and cash flow rights. Further, conditional on a firm paying out to outsiders, the proportion of cash dividends (especially regular cash dividends) among total payouts (the sum of cash dividends and stock repurchases) is also greater among dual-class firms than single-class firms, and this proportion increases with the wedge between insiders' voting rights and cash flow rights. These results support the idea that dual-class firms use payout policy as a pre-commitment device to mitigate agency problems, especially by paying regular cash dividends, followed by special cash dividends, and finally stock repurchases. We recognize that dual-class firms are generally different from single-class firms. Therefore, for each dual-class firm in our sample, we use a propensity-score matching method to find a matching single-class firm that has the closest ex-ante propensity to be a dual-class firm as our sample firm. Our results hold for single-class firms in general and for matching single-class firms as well.

If dual-class firms pay out more to reduce agency costs, then we expect the effect to be more pronounced among low-growth firms and firms with more free cash flows. The cost of paying out cash to investors is high for high-growth firms because firms may have to forgo valuable investment opportunities. In contrast, the cost of paying out cash to investors is low in low-growth firms because these firms do not have many investment opportunities and paying out cash to investors is usually in shareholders' best interest. More generally, firms with greater free cash flow have more severe agency problems. Therefore, dual-class firms with greater free cash flows have a stronger need to use high payouts as a way to reduce the agency problem. Our results show that the difference in corporate payouts between dual-class and single-class firms is more pronounced among firms with low Tobin's Qs (i.e., low-growth firms) and firms with more free cash flow. Among dual-class firms, the positive relation between corporate payouts and the wedge between insiders' voting rights and cash flow rights is also more pronounced among firms with low Tobin's Qs and more free cash flow.

One potential alternative explanation for our results is the home-made dividend hypothesis. If a single-class firm pays little or no cash dividends, investors who need cash can sell some of their shares to generate a "home-made" dividend. In contrast, if the super-voting shares of a dual-class firm are non-tradable or very illiquid, then holders of super-voting shares have very little ability to generate home-made dividends. Therefore, dual-class firms may have to pay a sizeable cash dividend regularly to meet the cash demands of super-voting shareholders. We find no evidence for this alternative explanation. There is no significant difference in cash dividend yield or the ratio of cash dividends to total payouts between dual-class firms with tradable and non-tradable super-voting shares.

An alternative hypothesis for our result that dual-class firms buy back more shares than single-class firms is the "further entrenchment" hypothesis. The literature has documented that share repurchases can deter takeovers (Billett and Xue, 2007), and firms may do so especially when there is a takeover contest (Denis, 1990). Therefore, insiders in dual-class firms may buy back more shares to increase their voting power so that they can further entrench themselves or so that they can fend off takeover threats to stay in control.[4] However, under this hypothesis, dual-class firms will pay out less cash dividends than single-class firms because cash dividends will not increase insiders' voting power, and at the same time, it leaves insiders with less cash to buy back shares to further entrench themselves. Our result that dual-class firms pay out more cash dividends than single-class firms contradicts this prediction.

[4] We thank an anonymous referee for suggesting this alternative hypothesis.

Finally, we examine payout policy changes around share unifications. We find some evidence that firms decrease their total payouts after they change from dual-class to single-class firms. This is consistent with our result that dual-class firms pay out more to shareholders than single-class firms.

Our study contributes to the literature in several ways. First, our results shed light on the effect of antitakeover provisions in general, and the dual-class share structure in particular, on shareholder value. Since dual-class firms pay out more than single-class firms, we show there is more to the use of antitakeover provisions than managerial entrenchment. Dual-class shares may indeed enhance shareholder value for firms under certain scenarios (Chemmanur and Jiao, 2012). Second, our result that dual-class firms pay more and prefer regular cash dividends is consistent with the model in Myers (2000), who proposes that managers may use dividend policy to convince outside investors to invest in the firm's equity. Third, we provide new evidence regarding the effect of corporate governance on dividend policy. There have been debates regarding such effects in recent years, and the empirical evidence is mixed. On the one hand, some studies support the expropriation hypothesis, showing that entrenched insiders prefer to keep cash within the firm to pursue private benefits (e.g., La Porta et al., 2000). On the other hand, insiders may prefer to distribute cash to mitigate the concerns from outsiders (e.g., Faccio et al., 2001; John et al., 2011). Our results add to the evidence that dividends can be used to mitigate agency problems.[5] While the mixed evidence in the literature might be due to the mixing of two effects: the degree of agency problems and investor protection laws, our study potentially provides a clean test on how agency problems affect dividend policies because we examine U.S. firms only and the investor protection is held constant. Finally, our study contributes to the literature on dual-class share structure. While existing studies on dual-class firms examine firm value (Gompers et al., 2010), managerial compensation and investment behavior (Masulis et al., 2009), mispricing of dual-class shares (Schulz and Shive, 2010), capital structure (Dey et al., 2009), board structure (Jiang, 2010), earning management activities (Nguyen and Xu, 2010), and stock issuance (Gokkaya, 2011), corporate payout polices in dual-class firms have not been examined in depth. Our study attempts to fill this gap.[6]

The remainder of the paper is organized as follows. We discuss the related literature in Section 2. Our methods are detailed in Section 3. Sections 4 and 5 provide our main results and additional results, respectively. We test the home-made dividend hypothesis in Section 6 and use alternative measures of corporate payouts in Section 7. Results based on share unifications are provided in Section 8. We conclude the paper in Section 9.

2. Related literature

Our study is related to two strands of literature. The first is research on dual-class share structure and other antitakeover provisions. Some studies suggest that a dual-class share structure can potentially enhance shareholder value. For example, Chemmanur and Jiao (2012) argue that dual-class shares may increase long-term firm value in the hands of high ability managers. Stein (1988) argues that the dual-class share structure and other antitakeover provisions may mitigate managerial myopia. Consistent with theories above, Chemmanur and Tian (2012) show empirical evidence that antitakeover provisions are positively related to firm innovations, especially for firms with high information asymmetry, in industries with competitive product markets and industries where innovations are more difficult to achieve. However, other studies associate dual-class share structure with lower firm values and higher agency problems (Gompers et al., 2010; Masulis et al., 2009). Most studies in the literature find that various antitakeover provisions have a negative effect on shareholder value (e.g., Gompers et al., 2003; Karpoff and Malatesta, 1989; Malatesta and Walkling, 1988). Bebchuk and Weisbach (2010) suggest that the main governance problem for firms with controlling shareholders (which is the case for most dual-class firms; e.g., Gompers et al., 2010, find that insiders in dual-class firms have on average 60% of voting rights) is the expropriation of wealth by controlling shareholders at the expense of minority shareholders.

The second strand of literature concerns corporate payout policy. In a survey of academic research on payout policy, DeAngelo et al. (2008) conclude that an agency framework, including agency costs associated with free cash flow problem and controlling insiders, plays a major role in explaining payout policy.[7] Under the agency framework, firms' payouts may reduce firms' free cash flow at the expense of insiders' private benefits of control and thus mitigate agency problems. However, under the agency framework, there has been some debate regarding the effect of governance and the empirical evidence using different data (U.S. vs. international) and different measures for governance is mixed thus far. Consistent with the expropriation hypothesis, La Porta et al. (2000) examine corporate payout policies across different countries and show that weaker minority shareholder rights are associated with lower payouts. In a comparison study of firms' payout policies in Western Europe versus East Asia, Faccio et al. (2001) show that firms with entrenched insiders pay higher dividends to offset investors' concerns, which is consistent with the pre-commitment hypothesis. A more recent paper by John et al. (2011) examines how firm locations within the U.S. affect corporate payout policies. The authors argue that remote firm locations increase agency problems because

[5] One may wonder why firms do not use other ways such as debt, institutional monitoring, or analyst monitoring to reduce agency costs. We do not exclude other means of reducing agency costs, and we consider payout policy as one of the many tools firms can potentially use in this regard. In our regression analyses, we control for other means of corporate governance such as debt, institutional ownership, and the number of analyst following the firm.

[6] Moyer et al. (1992) use 114 dual-class recapitalizations to examine whether dual-class firms use other mechanisms such as board composition, leverage, and dividends to offset entrenchment. They find a slightly positive but statistically insignificant change in dividends around dual-class recapitalizations. The difference in results may be due to the fact that while we study the sample of all dual-class and single-class firms and examine dual-class unifications, they focus on dual-class recapitalizations.

[7] According to the same survey, managerial signaling motives, clientele demands, tax deferral benefits, investors' behavioral heuristics, and investor sentiment at best have some secondary effects on payout policy.

of the long distance from individual and institutional investors, and remote firms pre-commit to higher dividends to mitigate the agency problem.

3. Data and methods

3.1. Data and sample selection

We use a comprehensive dual-class dataset constructed by Gompers et al. (2010).[8] The dataset provides information on the voting rights per share, cash flow rights per share, and the number of shares held by officers and directors (i.e., insider holdings) as a group. Following the related literature (e.g., Gompers et al., 2010), all financial firms (Fama and French, 1997, industries #44, #45, and #47) and regulated firms (Fama and French, 1997, industry #31) are removed from our sample. Firms without positive equity values or with no insider holdings are removed. Our final dual-class sample contains 2641 firm-year observations for the period 1995 to 2002.[9] We obtain cash dividends on common stocks and other accounting information from Compustat. Tests of dividend type are based on CRSP data on dividend distributions. We follow previous studies (e.g., Harvey et al., 2004; Masulis et al., 2009) and define the wedge variable (*VOratio*) as the ratio of the percentage of a firm's voting rights controlled by insiders to the percentage of cash flow rights controlled by insiders.[10] Similar to previous studies, in our dual-class sample, insiders' percentage of voting rights has a mean (median) of 60.95% (64.75%) and insiders' percentage of cash flow rights has a mean (median) of 38.96% (36.51%).

3.2. Empirical methods

We first compare dual-class firms with all single-class firms in the Compustat universe in terms of their cash dividend yields and total payout yields via univariate tests and multivariate regression tests.[11]

After the initial examination, we examine the payout policy of dual-class firms and propensity-matched single-class firms. While a direct comparison of payout policy between dual-class and single-class firms shows that dual-class firms pay out more to shareholders, the results could be driven by certain firm characteristics. Specifically, firms do not choose the dual-class share structure randomly. Firms with certain characteristics optimally choose the dual-class share structure, and these same characteristics may also lead to higher payouts. To address this concern, we use a propensity score matching method.[12]

Similar to Armstrong et al. (2010), we find a matching single-class firm for each dual-class firm. Specifically, we follow Gompers et al. (2010) and Dey et al. (2009) and estimate the following logistic model for all firms in the year of their IPO:

$$\begin{aligned} Prob(Dual = 1) = \alpha_0 + \beta_1 Name + \beta_2 Media + \beta_3 StateLaw + \beta_4 SalesRank + \beta_5 ProfitRank + \beta_6 \%Firms + \beta_7 \%Sales \\ + \beta_8 \%RegionSales + \beta_9 Lgsz + IndustryDummies + IPOYearDummies + \mu_{it}. \end{aligned} \tag{1}$$

Dual is equal to 1 if firm *i* is a dual-class firm at IPO; 0 otherwise. *Name* is a dummy variable with value 1 if the firm's name at IPO contains a person's name; 0 otherwise. *Media* equals 1 if the firm is a media company, and 0 otherwise.[13] *StateLaw* is the state law antitakeover index from Gompers et al. (2003). *SalesRank* is the percentile ranking of the IPO-year sales of the firm relative to other firms with the same IPO year. *ProfitRank* is the percentile ranking of the IPO-year profits of the firm relative to other firms with the same IPO year. *%Firms* is the percentage of all Compustat firms located in the same metropolitan or metropolitan statistical area (MSA) as firm *i* in the year before the firm's IPO. *%Sales* is the percentage of sales from firms in the same MSA as firm *i* in the year before the firm's IPO. *%RegionSales* is the ratio of firm *i*'s sales to the sales of all firms in the same MSA. *Lgsz* is the log of the firm's total assets. The above control variables are used by previous studies to find firms' propensity to use dual-class share structures (Dey et al., 2009; Gompers et al., 2010). For each dual-class firm, we find a single-class firm with the closest propensity score. This way, any observed difference in payout policy between dual-class firms and their matching firms is less likely to be driven by firm characteristics that affect a firm's decision to be a dual-class firm. The procedure yields 2333 pairs of dual-class and single-class firm-year observations.

We also look into results from within the sample of dual-class firms. For the within sample tests, our variable of interest is the wedge variable (*VOratio*). Because agency problems become more severe with the increase in the divergence between insiders' voting rights and cash-flow rights, *VOratio* should have a positive effect on corporate payouts if the pre-commitment hypothesis holds. The effect should be negative if the expropriation hypothesis holds.

[8] We thank Andrew Metrick for providing the data. For details regarding the dataset, see Gompers et al. (2010).

[9] The number of observations in our study is very close to that documented in the literature. For example, Li et al. (2008) have 2694 firm-year observations dual-class firms in the same period.

[10] Another wedge measure, defined as the difference between the insider controlled percentage of voting rights and cash flow rights, is also used for robustness tests. Our conclusions hold for the different wedge measures. We also use a dummy variable for the insiders' voting rights percentage being larger than 50% and our conclusions remain the same.

[11] When we examine single-class firms in the Compustat universe, we remove financial firms and regulated firms and firms without positive equity value to be consistent with the dual-class sample.

[12] In unreported results, we create another group of matching firms based on industry, firm size, and profitability and find qualitatively similar results.

[13] Media companies have SIC Codes 2710–11, 2720–21, 2730–31, 4830, 4832–33, 4840–41, 7810, 7812, and 7820.

4. Main results

In this section, we present our main results regarding cash dividend yields and total payout yields. We report results based on the comparison of dual-class firms with single-class firms in the Compustat universe, followed by the comparison of dual-class firms with propensity-matched single-class firms. Finally we report results from within the sample of dual-class firms.

4.1. Tests for dual-class firms and single-class firms (the Compustat universe)

To compare the payout policies of dual-class firms with those of single-class firms, we consider cash dividend yields and total corporate payout yields. The cash dividend yield is defined as the ratio of cash dividends on the common stock (Compustat item #21) to the total market value of the stock. The total payout yield is the ratio of the sum of cash dividends and stock repurchases to the total market value of the stock.[14] One concern regarding the use of cash dividend yields and total payout yields is that these measures are affected by the firm's market capitalization. That is, the difference in these measures between two firms can be driven by either different dollar amounts of cash dividends and total payouts (i.e., the numerator) or different market capitalizations (i.e., the denominator). To ensure our results are not driven by the "denominator effect," we look at the proportion of firms with positive cash dividends and total payouts (which does not depend on the firm's market capitalization). Further, in supplemental analyses, we reexamine our regression results using corporate payout measures that are not affected by market capitalizations (cash dividends over earnings and total payouts over earnings) and see if our results are consistent.

We use two different definitions of stock repurchase. The first one is based on Fama and French (2001), who define repurchases as net repurchases: i.e., after removing shares issued for employee stock option programs and shares issued to fund acquisitions or other corporate purposes. We follow their approach of using the increase in common treasury stock (item #226) if the firm uses the treasury stock method for repurchases. If the firm uses the 'retirement' method instead (which is inferred from the fact that treasury stock is zero in the current year and the previous year), repurchases are calculated as the difference between stock purchases (item #115) and stock issuances (item #108) from the statement of cash flows. If either of these amounts (the change in treasury stock or the difference between item #115 and item #108) is negative, repurchases are set to zero. Total Yield (I) is the ratio of total payout to the market value of the firm based on Fama and French's (2001) definition of stock repurchases.

The second definition of a stock repurchase is based on Grullon and Michaely (2002), who define repurchases as the difference between stock purchases (#115) and stock issuances (#108) from the statement of cash flows. Total Yield (II) is the ratio of total payout to the market value of the firm based on Grullon and Michaely's (2002) definition of stock repurchases.

Panel A of Table 1 compares the proportion of firms paying dividends to shareholders in dual-class and single-class firms each year from 1995 to 2002. In 1995, 42.90% of dual-class firms paid cash dividends (i.e., have a cash dividend yield > 0), whereas only 27.31% of single-class firms do so. The difference in the proportions is 15.59% and is statistically significant at the 1% level. In other years, we have similar results and find that a greater proportion of dual-class firms pay cash dividends. In the last column, we pool all firm-years together. Dual-class firms have 2641 firm-year observations, and 38.43% of them pay cash dividends. For single-class firms, we have 52,340 firm-year observations, and only 23.06% of them pay cash dividends. The difference is 15.37% and is statistically significant at the 1% confidence level.[15]

We then compare the proportion of firms with positive total payouts in dual-class and single-class firms. In 1995, 54.57% of dual-class firms have a positive Total Yield (I) based on Fama and French's (2001) definition of stock repurchases, versus 38.26% for single-class firms. The difference is statistically significant at the 1% confidence level. In each year from 1996 to 2002, a significantly greater proportion of dual-class firms than single-class firms have a positive Total Yield (I). When we use the total yield based on Grullon and Michaely's (2002) definition of stock repurchases, results are similar. From 1995 to 2002, the difference in the proportion of firms with a positive Total Yield (II) between dual-class and single-class firms ranges from 14.15% to 21.58%.

Panel B of Table 1 compares cash dividend yields and total payout yields between dual-class and single-class firms. In 1995, dual-class firms have a cash dividend yield of 0.98%, whereas single-class firms have a cash dividend yield of 0.58%. The difference is statistically significant at the 1% level. From 1996 to 2002, the difference in cash dividend yield between dual-class and single-class firms ranges from 0.18% to 0.25%. In the last column, we pool all firm-years together, and find that dual-class firms have a 0.25% higher cash dividend yield than single-class firms. We also test the difference in means and medians between the two groups of firms. The difference in cash dividend yields between dual-class and single-class firms is statistically significant each year from 1995 to 2002 using either measure.

Dual-class firms also have higher total payout yields than single-class firms. From 1995 to 2002, the difference in Total Yield (I) between dual-class and single-class firms ranges from 0.17% in 2001 to 2.00% in 1995, and the difference is statistically significant in all years except 2001 based on means tests. The difference is statistically significant at the 1% level in all years based on median tests. The difference in Total Yield (II) between the two types of firms is statistically significant in most years based on mean tests and in all years based on median tests.

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[14] For dual-class firms, the total market value of the stock is defined as the price of the inferior-voting shares multiplied by the total number of shares outstanding (i.e. the sum of the number of inferior-voting shares and super-voting shares). Ideally, the total market value of the stock should be the sum of the market value of inferior-voting shares and the market value of the superior-voting shares. However, about 73% of dual-class firms in our sample have nontradeable super-voting shares and we do not have a market price for these super-voting shares, which makes the calculation impossible. The cash dividend is the total amount of dividends paid to all common stock holders.

[15] The significance level in the pooled test in the last column is potentially unreliable since a firm's payout policy is highly positively correlated over time. That is why we report the comparison year by year.

Table 1
Univariate tests for dual-class firms and single-class firms (Compustat sample). This table compares the payout policies between dual-class firms and all single-class firms in Compustat each year from 1995 to 2002. Panel A provides results on the proportion of firms with positive payouts, and Panel B provides results on payout yields. Variable definitions are provided in the appendix.

	1995	1996	1997	1998	1999	2000	2001	2002	Total
# of dual-class firms	317	338	361	348	348	344	311	274	2,641
# of single-class firms	6,881	7,175	6,921	6,780	6,777	6,516	5,836	5,454	52,340
Panel A: comparison of proportion of firms with positive payouts between dual-class and single-class firms (Compustat sample)									
Pay cash (dual-class)	0.4290	0.4083	0.3850	0.4080	0.3851	0.3517	0.3441	0.3577	0.3843
Pay cash (single-class)	0.2731	0.2581	0.2436	0.2311	0.2088	0.2020	0.2082	0.2087	0.2306
Difference	0.1559	0.1502	0.1414	0.1769	0.1763	0.1497	0.1359	0.1490	0.1537
(*p*-Value from *t*-test)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Pay cash or repurchase or both (I) Dual-class	0.5457	0.5621	0.5596	0.6236	0.6264	0.5698	0.5305	0.5620	0.5736
Pay cash or repurchase or both (I) Single-class	0.3826	0.3686	0.3761	0.4134	0.3925	0.3752	0.3890	0.3913	0.3858
Difference	0.1631	0.1934	0.1835	0.2102	0.2339	0.1946	0.1415	0.1707	0.1878
(*p*-Value from *t*-test)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Pay cash or repurchase or both (II) Dual-class	0.5804	0.6154	0.5983	0.6695	0.6868	0.6483	0.5981	0.6204	0.6282
Pay cash or repurchase or both (II) Single-class	0.4353	0.4295	0.4388	0.4735	0.4710	0.4500	0.4566	0.4523	0.4505
Difference	0.1451	0.1859	0.1595	0.1960	0.2158	0.1983	0.1415	0.1681	0.1777
(*p*-Value from *t*-test)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.0000)	(0.000)	(0.000)
Panel B: comparison of payout yields between dual-class and single-class firms (Compustat sample)									
Cash Yield (dual-class)	0.0098	0.0082	0.0073	0.0063	0.0066	0.0067	0.0072	0.0064	0.0073
Cash Yield (single-class)	0.0058	0.0057	0.0049	0.0041	0.0043	0.0044	0.0049	0.0044	0.0048
Difference	0.0040	0.0025	0.0024	0.0018	0.0023	0.0023	0.0023	0.0020	0.0025
(*p*-Value from *t*-test)	(0.000)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.004)	(0.007)	(0.000)
p-Value from Wilcoxon rank test	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Yield (I) Dual-class	0.0338	0.0185	0.0196	0.0187	0.0227	0.0197	0.0141	0.0134	0.0183
Total Yield (I) Single-class	0.0138	0.0144	0.0112	0.0132	0.0141	0.0145	0.0124	0.0106	0.0123
Difference	0.0200	0.0041	0.0084	0.0055	0.0086	0.0052	0.0017	0.0028	0.0060
(*p*-Value from *t*-test)	(0.000)	(0.067)	(0.000)	(0.001)	(0.000)	(0.003)	(0.272)	(0.069)	(0.000)
p-Value from Wilcoxon rank test	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Yield (II) Dual-class	0.0364	0.0257	0.0295	0.0267	0.0334	0.0298	0.0204	0.0194	0.0279
Total Yield (II) Single-class	0.0188	0.0193	0.0196	0.0217	0.0246	0.0231	0.0223	0.0170	0.0208
Difference	0.0176	0.0064	0.0099	0.0050	0.0088	0.0067	−0.0019	0.0024	0.0071
(*p*-Value from *t*-test)	(0.001)	(0.032)	(0.002)	(0.069)	(0.015)	(0.031)	(0.605)	(0.394)	(0.000)
p-Value from Wilcoxon rank test	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

To control for other factors that may affect firms' payout decisions, we use multivariate regression analyses to compare the payout policies between dual-class and single-class firms. Fama and French (2001) and DeAngelo et al. (2006) find that more profitable and larger firms and firms with higher book-to-market ratios are more likely to pay cash dividends. We therefore include the variable *Lgsz* to control for the firm's size, defined as the log of the firm's total assets, the variable *BM* to control for the book-to-market ratio, defined as the book value of equity over market value of equity, and *ROA* to control for profitability, defined as operating income before depreciation over total assets. Jagannathan et al. (2000) show that the use of share repurchases increases with firm risk; we therefore include in our regressions the variable *Risk*, which is the log of the standard deviation of daily stock returns in the prior year. Following the life-cycle theory of dividends proposed by DeAngelo et al. (2006), we include the variable *Rete*, which is retained earnings over book value of equity. Since Desai and Jin (2011) show that institutional ownership is associated with higher levels of stock repurchases, we control for *IO*, which is the fraction of the firm's shares outstanding owned by institutional investors, as reported in 13F filings. We also include the following control variables that are used by previous studies as controls in analyses of firms' payout policies (e.g., John et al., 2011): *Tangible*, the percentage of plant, property, and equipment in total assets; *Lev*, the firm's leverage ratio, defined as the ratio of total liabilities over total assets; *Age*, the number of months since the stock first appears in CRSP; and *Analyst*, the log of one plus the number of one-year-ahead analyst forecasts of earnings per share from I/B/E/S.

In Table 2, we report results using all firms in Compustat. The dependent variable in the first two columns is cash dividend yield. Because our payout rate cannot be below zero, we have censored dependent variables. We therefore use Tobit models. We also control for industry and time fixed effects, and the *p*-values reported are based on firm-level clustered standard errors. The coefficient on *Dual* is 0.0035 and statistically different from 0 at the 5% level, indicating that dual-class firms' cash dividend yields are significantly higher than single-class firms' after controlling for other factors. Results in the next four columns show that the total payout yield is also higher for dual-class firms.

Table 2
Tobit regression tests for payout policies in dual-class and single-class firms (Compustat sample). This table provides results for dividend yields using Tobit regressions. Dependent variables are Cash Yield, Total Yield (I) and Total Yield (II). Variable definitions are provided in the appendix. Industry and year dummies are included. For the sake of brevity, we do not report intercepts and coefficients on industry and year dummies. *p*-Values are based on firm-level clustered standard errors.

	Cash Yield		Total Yield (I)		Total Yield (II)	
	Coefficient	*p*-Value	Coefficient	*p*-Value	Coefficient	*p*-Value
Dual	0.0035	0.050	0.0045	0.025	0.0060	0.059
Lgsz	0.0073	0.000	0.0068	0.000	0.0089	0.000
BM	0.0000	0.367	0.0000	0.470	0.0000	0.426
Tangible	0.0117	0.000	0.0095	0.004	0.0053	0.305
Lev	−0.0157	0.000	−0.0230	0.000	−0.0196	0.000
Risk	0.0000	0.300	0.0000	0.371	0.0000	0.419
Age	0.0068	0.000	0.0103	0.000	0.0113	0.000
Rete	0.0041	0.000	0.0000	0.002	0.0000	0.015
ROA	0.0605	0.000	0.0485	0.000	0.0181	0.000
Cashta	−0.0092	0.005	−0.0041	0.207	−0.0172	0.000
IO	−0.0187	0.000	−0.0037	0.094	−0.0045	0.170
Analyst	−0.0018	0.000	−0.0020	0.001	−0.0035	0.000
N		41,093		41,093		41,093
Log-likelihood		12,694		15,112		8,060

4.2. Tests for dual-class firms and propensity-matched single-class firms

As discussed in Section 3.2, we create propensity-matched single-class firms to deal with the potential problem of selection bias and endogeneity.

Panel A of Table 3 compares the proportion of firms paying out to shareholders between dual-class firms and their matching single-class firms each year. In 1995, 42.91% of dual-class firms have positive cash dividends, whereas only 39.53% of the matching single-class firms do so. The difference in the proportion is 3.38% and is statistically significant at the 10% level. In 1996–1998, we also see a greater proportion of dual-class firms paying cash dividends than the propensity-matched single-class firms, but the differences are not statistically significant. From 1999 to 2002, a significantly greater proportion of dual-class firms than single-class firms pay out cash dividends each year. We then compare the proportion of firms with positive total payout rates between dual-class and single-class firms. In most years, a significantly greater proportion of dual-class firms have a positive Total Yield (I) or Total Yield (II) than the propensity-matched single-class firms.

Panel B of Table 3 compares cash dividend yields and total payout yields between dual-class firms and their propensity-matched single-class firms. In 1995, dual-class firms have a mean cash dividend yield of 0.98%, whereas the propensity-matched single-class firms have a mean cash dividend yield of 0.87%. The difference in mean is statistically significant at the 10% level. We also report *p*-values from Wilcoxon rank tests of differences in medians between the two groups of firms. In 1995, the difference in median cash dividend yield between the two groups is also statistically significant at the 10% level. From 1996 to 2002, we find a similar pattern: more often than not, dual-class firms pay significantly higher cash dividends than their matched single-class firms, either by mean tests or median tests. Dual-class firms also tend to have higher total payout yields than the propensity-matched single-class firms, though the difference is not always statistically significant.[16]

To control for other factors that may affect firms' payout decision, we use multivariate regression analyses to compare the payout policies between dual-class and the propensity-matched single-class firms. We use the same control variables as in Table 2, but we include only dual-class firms and the propensity-matched single-class firms.

The dependent variable in the first two columns in Table 4 is cash dividend yield. The coefficient on *Dual* is 0.0022 and is statistically different from 0 at the 5% level, indicating that, on average, dual-class firms' cash dividend yields are significantly higher than single-class firms'. Results based on Total Yield (I) show that the total payout yield is also higher among dual-class firms. However, when the dependent variable is Total Payout (II), the coefficient on *Dual* is positive but statistically insignificant.

4.3. Results based on dual-class firms only

We have so far compared the payout policies of dual-class firms with single-class firms. Within dual-class firms, the degree of the wedge between insiders' voting rights and cash flow rights varies. In this section, we test if payout policies of dual-class firms are related to this wedge.

We divide dual-class firms into two groups based on the median value of *VOratio* each year: those with high wedge (i.e., firms with *VOratio* above median) and those with low wedge. In Panel A of Table 5, we compare the proportion of firms paying out to shareholders between dual-class firms with high and low wedges. In all eight years from 1995 to 2002, a greater proportion of high wedge dual-class firms have positive cash dividends than low wedge dual-class firms, but the difference is statistically

[16] Therefore, results seem to be stronger based on cash dividends instead of total payouts. This is consistent with our results in Section 5.1, where we argue that cash dividends should be a better pre-commitment device than share repurchases.

Table 3
Univariate tests of payout policies between dual-class firms and propensity-matched single-class firms. This table compares the payout policies between dual-class firms and propensity-matched single-class firms each year from 1995 to 2002. Panel A provides results on the proportion of firms with positive payouts, and Panel B provides results on payout yields. Variable definitions are provided in the appendix.

	1995	1996	1997	1998	1999	2000	2001	2002	Total
# of dual-class firms	296	319	337	318	317	290	248	208	2,333
# of single-class firms	296	319	337	318	317	290	248	208	2,333
Panel A: comparison of the proportion firms with positive payouts between dual-class and propensity-matched single-class firms									
Pay cash Dual-class	0.4291	0.4107	0.3828	0.4025	0.3754	0.3414	0.3508	0.3606	0.3836
Pay cash Single-class	0.3953	0.3574	0.3353	0.3553	0.2934	0.3034	0.2782	0.2981	0.3296
Difference	0.0338	0.0533	0.0475	0.0472	0.0820	0.0380	0.0726	0.0625	0.0540
(*p*-Value from *t*-test)	(0.085)	(0.108)	(0.104)	(0.184)	(0.020)	(0.097)	(0.072)	(0.089)	(0.000)
Pay cash or repurchase or both (I) Dual-class	0.5507	0.5674	0.5578	0.6226	0.6183	0.5621	0.5363	0.5625	0.5739
Pay cash or repurchase or both (I) Single-class	0.5034	0.4796	0.4570	0.5566	0.5394	0.5483	0.0500	0.5288	0.5131
Difference	0.0473	0.0878	0.1008	0.0660	0.0789	0.0138	0.0363	0.0337	0.0609
(*p*-Value from *t*-test)	(0.224)	(0.091)	(0.005)	(0.079)	(0.038)	(0.534)	(0.402)	(0.250)	(0.000)
Pay cash or repurchase or both (II) Dual-class	0.5846	0.6082	0.5935	0.6698	0.6814	0.6483	0.6048	0.6298	0.6279
Pay cash or repurchase or both (II) Single-class	0.5507	0.5298	0.5193	0.6195	0.6088	0.6241	0.6008	0.5962	0.5791
Difference	0.0339	0.0784	0.0742	0.0503	0.0726	0.0241	0.0040	0.0337	0.0488
(*p*-Value from *t*-test)	(0.377)	(0.046)	(0.040)	(0.174)	(0.054)	(0.515)	(0.924)	(0.283)	(0.000)
Panel B: comparison of payout yields between dual-class and propensity-matched single-class firms									
Cash Yield (dual-class)	0.0098	0.0082	0.0072	0.0061	0.0062	0.0064	0.0069	0.0060	0.0072
Cash Yield (single-class)	0.0087	0.0063	0.0063	0.0053	0.0050	0.0053	0.0052	0.0051	0.0060
Difference	0.0011	0.0019	0.0010	0.0008	0.0012	0.0011	0.0017	0.0009	0.0012
(*p*-Value from matched *t*-test)	(0.090)	(0.038)	(0.084)	(0.305)	(0.054)	(0.083)	(0.103)	(0.377)	(0.001)
p-Value from Wilcoxon rank test	0.071	0.017	0.064	0.200	0.035	0.089	0.099	0.211	0.000
Total Yield (I) Dual-class	0.0202	0.0158	0.0193	0.0185	0.0229	0.0200	0.0139	0.0132	0.0183
Total Yield (I) Single-class	0.0168	0.0127	0.0144	0.0181	0.0180	0.0210	0.0133	0.0109	0.0158
Difference	0.0034	0.0031	0.0049	0.0004	0.0049	−0.0010	0.0006	0.0023	0.0025
(*p*-Value from matched *t*-test)	(0.263)	(0.083)	(0.029)	(0.864)	(0.059)	(0.694)	(0.800)	(0.229)	(0.004)
p-Value from Wilcoxon rank test	0.103	0.004	0.009	0.381	0.072	0.887	0.871	0.658	0.000
Total Yield (II) Dual-class	0.0354	0.0247	0.0286	0.0264	0.0346	0.0311	0.0185	0.0163	0.0276
Total Yield (II) Single-class	0.0357	0.0178	0.0196	0.0232	0.0243	0.0318	0.0234	0.0162	0.0242
Difference	−0.0003	0.0069	0.0090	0.0032	0.0103	−0.0007	−0.0050	0.0001	0.0034
(*p*-Value from matched *t*-test)	(0.952)	(0.040)	(0.130)	(0.318)	(0.019)	(0.883)	(0.252)	(0.978)	(0.025)
p-Value from Wilcoxon rank test	0.299	0.009	0.034	0.357	0.112	0.719	0.335	0.932	0.009

significant only in the first four years. For example, in 1995, 50.94% of high wedge dual-class firms have positive cash dividends, whereas only 34.81% of low wedge dual-class firms pay cash dividends. The difference is statistically significant at the 1% level by the means test. Results are similar for total payouts, based on either Total Yield (I) or Total Yield (II): in most years from 1995 to 2002, a greater proportion of high wedge dual-class firms have positive payouts than low wedge dual-class firms, though the difference is not always statistically significant.

In Panel B of Table 5, we compare cash dividend yields and total payout yields between dual-class firms with high and low wedges. High wedge dual-class firms have higher cash dividend yields than low wedge dual-class firms in all eight years, although based on mean tests, the difference is statistically significant only in 1997. The difference in median cash dividend yield between the two groups, however, is statistically significant in most years. Results based on total payout yields are similar: high wedge dual-class firms have higher total payout yields than low wedge dual-class firms, but the difference is not always statistically significant each year.

To control for other factors that may affect firms' payout decisions, we use multivariate regression analyses to see how *VOratio* affects the payout policies in dual-class firms. We use the same control variables as in Table 2, but we include only dual-class firms. The main independent variable of interest is *VOratio*.

Table 6 examines dual-class firms' payout rates using Tobit regressions. The dependent variable in the first two columns is the cash dividend yield. *VOratio* has a positive and statistically significant effect on the cash dividend yield of dual-class firms. Results in the next four columns show that the total payout yield is also higher among dual-class firms with higher values of *VOratio*.

Table 4
Tobit regression tests of payout policies between dual-class and propensity-matched single-class firms. This table provides results for payout yields using Tobit regressions. Dependent variables are Cash Yield, Total Yield (I) and Total Yield (II). Variable definitions are provided in the appendix. Year dummies are included in the regressions. For the sake of brevity, we do not report coefficients on year dummies and the intercept. *p*-Values are based on firm-level clustered standard errors.

	Cash Yield		Total Yield (I)		Total Yield (II)	
	Coefficient	*p*-Value	Coefficient	*p*-Value	Coefficient	*p*-Value
Dual	0.0022	0.048	0.0040	0.085	0.0041	0.155
Lgsz	0.0036	0.000	0.0057	0.000	0.0076	0.000
BM	0.0000	0.776	0.0000	0.662	0.0000	0.996
Tangible	0.0163	0.000	0.0100	0.100	0.0109	0.255
Lev	−0.0207	0.000	−0.0355	0.000	−0.0312	0.002
Risk	−0.0007	0.472	−0.0014	0.274	−0.0009	0.699
Age	0.0035	0.000	0.0055	0.000	0.0068	0.000
Rete	0.0146	0.007	0.0001	0.619	0.0001	0.496
ROA	0.0127	0.155	0.0222	0.132	0.0164	0.173
Cashta	−0.0150	0.018	−0.0090	0.272	0.0033	0.786
IO	−0.0021	0.525	0.0008	0.867	0.0041	0.585
Analyst	−0.0017	0.045	−0.0020	0.099	−0.0026	0.159
N		4,588		4,588		4,588
Log-likelihood		2,695		2,985		2,089

Table 5
Univariate tests of payout polices in dual-class firms with high and low wedges in insiders' voting and cash flow rights. This table compares the payout policies of dual-class firms with high and low wedges in insiders' voting rights and cash flow rights. High and low wedges are defined based on the median *VOratio* of each year. Panel A provides results on the proportion of firms with positive payouts, and Panel B provides results on payout yields. Variable definitions are provided in the appendix.

	1995	1996	1997	1998	1999	2000	2001	2002	Total
Panel A: comparison of the propensity to pay out between dual-class firms with high wedge and those with low wedge									
Pay cash High wedge	0.5094	0.4734	0.4641	0.4770	0.4253	0.3895	0.3742	0.3723	0.4383
Pay cash Low wedge	0.3481	0.3432	0.3056	0.3391	0.3448	0.3140	0.3141	0.3431	0.3303
Difference	0.1613	0.1302	0.1585	0.1379	0.0805	0.0755	0.0601	0.0292	0.1080
(*p*-Value from *t*-test)	(0.004)	(0.015)	(0.002)	(0.009)	(0.124)	(0.143)	(0.266)	(0.218)	(0.000)
Pay cash or repurchase or both (I) High wedge	0.6038	0.6036	0.6575	0.7011	0.6609	0.5988	0.5484	0.5912	0.6230
Pay cash or repurchase or both (I) Low wedge	0.4873	0.5207	0.4611	0.5460	0.5920	0.5407	0.5128	0.5328	0.5242
Difference	0.1165	0.0829	0.1964	0.1551	0.0689	0.0581	0.0356	0.0584	0.0988
(*p*-Value from *t*-test)	(0.038)	(0.125)	(0.000)	(0.003)	(0.185)	(0.278)	(0.531)	(0.332)	(0.000)
Pay cash or repurchase or both (II) High wedge	0.6604	0.6627	0.6630	0.7356	0.7184	0.6977	0.6129	0.6350	0.6760
Pay cash or repurchase or both (II) Low wedge	0.5000	0.5680	0.5333	0.6034	0.6552	0.5988	0.5833	0.6058	0.5803
Difference	0.1604	0.0947	0.1297	0.1322	0.0632	0.0989	0.0296	0.0292	0.0957
(*p*-Value from *t*-test)	(0.004)	(0.074)	(0.012)	(0.009)	(0.205)	(0.055)	(0.596)	(0.620)	(0.000)
Panel B: comparison of payout yields between dual-class firms with high wedge and those with low wedge									
Cash Yield (high wedge)	0.0110	0.0089	0.0087	0.0068	0.0075	0.0075	0.0072	0.0070	0.0081
Cash Yield (low wedge)	0.0086	0.0074	0.0059	0.0057	0.0056	0.0060	0.0072	0.0059	0.0065
Difference	0.0024	0.0015	0.0028	0.0009	0.0019	0.0015	0.0000	0.0011	0.0026
(*p*-Value from *t*-test)	(0.266)	(0.276)	(0.033)	(0.348)	(0.144)	(0.250)	(0.982)	(0.481)	(0.004)
p-Value from Wilcoxon rank test	0.009	0.050	0.003	0.029	0.077	0.144	0.337	0.478	0.000
Total Yield (I) High wedge	0.0380	0.0202	0.0235	0.0217	0.0268	0.0227	0.0146	0.0147	0.0210
Total Yield (I) Low wedge	0.0296	0.0167	0.0157	0.0157	0.0186	0.0167	0.0137	0.0122	0.0156
Difference	0.0084	0.0035	0.0078	0.0060	0.0082	0.0060	0.0009	0.0027	0.0054
(*p*-Value from *t*-test)	(0.079)	(0.262)	(0.027)	(0.074)	(0.048)	(0.076)	(0.753)	(0.384)	(0.000)
p-Value from Wilcoxon rank test	0.011	0.089	0.001	0.003	0.026	0.122	0.395	0.249	0.000
Total Yield (II) High wedge	0.0433	0.0283	0.0316	0.0294	0.0361	0.0358	0.0204	0.0187	0.0308
Total Yield (II) Low wedge	0.0295	0.0231	0.0274	0.0239	0.0308	0.0238	0.0203	0.0201	0.0250
Difference	0.0138	0.0052	0.0042	0.0055	0.0053	0.0120	0.0001	−0.0014	0.0058
(*p*-Value from *t*-test)	(0.196)	(0.383)	(0.504)	(0.297)	(0.456)	(0.047)	(0.989)	(0.786)	(0.016)
p-Value from Wilcoxon rank test	0.002	0.033	0.020	0.003	0.048	0.027	0.516	0.610	0.000

Table 6
Tobit regression tests of payout yields among dual-class firms. This table provides results for dividend yields using Tobit regressions. Dependent variables are Cash Yield, Total Yield (I) and Total Yield (II). Variable definitions are provided in the appendix. Industry and year dummies are included. For the sake of brevity, we do not report coefficients on the industry and year dummies and the intercept. *p*-Values are based on firm-level clustered standard errors.

	Cash Yield		Total Yield (I)		Total Yield (II)	
	Coefficient	*p*-Value	Coefficient	*p*-Value	Coefficient	*p*-Value
VOratio	0.0007	0.001	0.0009	0.014	0.0009	0.069
Lgsz	0.0026	0.004	0.0024	0.030	0.0058	0.004
BM	−0.0010	0.184	−0.0014	0.129	−0.0053	0.128
Tangible	0.0072	0.309	−0.0054	0.539	−0.0147	0.314
Lev	−0.0131	0.022	−0.0022	0.785	−0.0043	0.774
Risk	−0.0062	0.000	−0.0091	0.000	−0.0039	0.242
Age	0.0033	0.002	0.0039	0.010	0.0042	0.112
Rete	0.0276	0.000	0.0441	0.000	0.0545	0.000
ROA	−0.0026	0.559	0.0023	0.745	−0.0036	0.658
Cashta	−0.0170	0.059	0.0042	0.703	0.0169	0.398
IO	0.0013	0.759	0.0048	0.445	0.0006	0.963
Analyst	−0.0014	0.268	−0.0002	0.894	−0.0013	0.203
N		2,596		2,596		2,596
Log-likelihood		1,963		1,236		1,260

5. Additional tests

In Section 4, our empirical evidence based on cash dividend yields and total payout yields supports the pre-commitment hypothesis. In this section, we conduct two additional tests. The first test is to examine if results on firms' payout structure are consistent with the pre-commitment hypothesis. The second test is to see if dual-class firms pre-commit even more among firms with more severe agency problems.

5.1. Tests based on the payout structure

As shown in Section 4, dual-class firms pay more than single-class firms. If dual-class firms pay out more to reduce agency costs as suggested by the pre-commitment hypothesis, then we have several other predictions. First, cash dividends should be a more convincing signal and pre-commitment device than stock repurchases. Cash dividends can lock managers into an implicit commitment to continue distributing the same or a greater amount of cash in future periods. In contrast, stock repurchases are a much more flexible form of corporate payout (e.g., Jagannathan et al., 2000) and there is no implicit commitment that firms will repeat a stock repurchase in the future. Dual-class firms should thus have a greater proportion of their payouts in the form of cash dividends. Among dual-class firms, we expect a positive relation between the *VOratio* and the fraction of cash dividends in total payouts.

In Panel A of Table 7, we use the ratio of cash dividends over total payouts as the dependent variable among all Compustat firms whose total payout is positive, using either one of the two definitions of the total payout. In all panels in Table 7, we run OLS regressions and report *p*-values for coefficients based on standard errors corrected for firm-clustering. We include year and industry dummies in the regressions to control for time and industry fixed effects. Based on total payout (I), the coefficient on *Dual* is 0.0387, indicating that the ratio of cash dividend over total payout (I) is 3.87% higher among dual-class firms than among single-class firms, after controlling for other factors that may affect firms' payout policies. The coefficient is statistically different from 0 at the 10% significance level. Based on total payout (II), the coefficient on *Dual* is 0.0397 and also statistically significant at the 10% level.

In Panel B of Table 7, we restrict our sample to dual-class firms and their propensity-matched single-class firms whose total payout is positive. Based on total payout (I) and total payout (II), the coefficients on *Dual* are 0.0327 and 0.0400, respectively, and both are statistically significant. The results suggest that dual-class firms pay out a greater proportion of their dividends as cash dividends to shareholders than single-class firms.

In Panel C of Table 7, we restrict our sample to dual-class firms only and require that their total payout be positive. Based on either total payout (I) or total payout (II), the coefficient on *VOratio* is positive and statistically significant. The results suggest that firms with higher values of *VOratio* distribute a greater proportion of their payouts to shareholders in the form of cash dividends instead of stock repurchases. The magnitude also seems to be economically significant. Take the coefficient of 0.0072 in the column of total payout (I) as an example. With a one standard deviation increase in *VOratio*, the proportion of cash dividends in total payouts increases by about 0.0195.[17] The results in Table 7 support the notion that dual-class firms pay out more as a pre-commitment device to reduce agency costs.

We continue to examine the payout structure using a multinomial logit model in Table 8. As the first dependent variable in Table 8, Pay 1 (I) is to distinguish firms' choice between paying cash dividends, stock repurchases, and no payout. The variable Pay 1 (I) has value zero if the firm's payout is 0; one if the firm has positive stock repurchase (as defined in Fama and French, 2001) but no cash

[17] We find that the variable *VOratio* has a standard deviation of 2.7050.

Table 7
OLS regression tests for payout structure. This table provides results for payout structure using OLS regressions. Dependent variables are Cash/Total Payout (I) and Cash/Total Payout (II). Variable definitions are provided in the appendix. Industry and year dummies are included. For the sake of brevity, we do not report coefficients on the industry and year dummies and the intercept. *p*-Values are based on firm-level clustered standard errors.

	Cash/Total Payout (I)		Cash/Total Payout (II)	
	Coefficient	*p*-Value	Coefficient	*p*-Value
Panel A: OLS regression results for dual-class and single-class firms (Compustat sample)				
Dual	0.0387	0.084	0.0397	0.062
Lgsz	0.0818	0.000	0.0772	0.000
BM	0.0000	0.237	0.0000	0.280
Tangible	0.1169	0.000	0.1148	0.000
Lev	−0.1720	0.000	−0.1870	0.000
Risk	0.0000	0.500	0.0000	0.528
Age	0.0419	0.000	0.0530	0.000
Rete	0.0000	0.000	0.0000	0.000
ROA	0.1506	0.000	0.1267	0.000
Cashta	−0.2647	0.000	−0.2355	0.000
IO	−0.2657	0.000	−0.2760	0.000
Analyst	−0.0211	0.001	−0.0143	0.017
N		17,343		19,969
Adj. R^2		0.2159		0.2224
Panel B: OLS regression results for dual-class and propensity-matched single-class firms				
Dual	0.0327	0.059	0.0400	0.011
Lgsz	0.0422	0.000	0.0369	0.000
BM	0.0040	0.485	0.0044	0.408
Tangible	0.3211	0.000	0.2809	0.000
Lev	−0.1911	0.000	−0.2448	0.000
Risk	0.0187	0.139	0.0001	0.995
Age	0.0496	0.000	0.0438	0.000
Rete	0.0008	0.476	0.0009	0.382
ROA	0.0593	0.182	0.0725	0.068
Cashta	−0.3425	0.000	−0.3639	0.000
IO	0.0011	0.979	−0.0357	0.323
Analyst	−0.0232	0.016	−0.0194	0.025
N		2,486		2,756
Adj. R^2		0.1547		0.1749
Panel C: OLS regression results for dual-class firms only				
VOratio	0.0072	0.037	0.0066	0.066
Lgsz	0.0367	0.012	0.0190	0.135
BM	−0.0070	0.741	0.0118	0.534
Tangible	0.1238	0.326	0.0992	0.383
Lev	−0.1826	0.078	−0.1385	0.117
Risk	−0.0487	0.043	−0.0612	0.002
Age	0.0362	0.079	0.0376	0.046
Rete	0.2287	0.001	0.2053	0.001
ROA	−0.0454	0.371	−0.0327	0.475
Cashta	−0.4213	0.006	−0.4177	0.000
IO	0.0797	0.323	0.0811	0.235
Analyst	−0.0417	0.038	−0.0209	0.264
N		1,497		1,638
Adj. R^2		0.2672		0.2984

dividends; and two if the firm has positive cash dividends. The variable Pay 1 (II) is defined similarly using Grullon and Michaely (2002)'s definition of stock repurchases. Because a special cash dividend is different from a regular cash dividend in terms of the degree of firms' pre-commitment, we also create the variable Pay 2 (I) to distinguish firms' choice between regular cash dividends, special cash dividend and stock repurchases, and no payout. Pay 2 (I) has value zero if the firm's payout is 0; one if the firm has positive stock repurchases (as defined in Fama and French, 2001) or positive special cash dividends but no regular cash dividends; and two if the firm has positive regular cash dividends. The variable Pay 2 (II) is defined similarly but uses Grullon and Michaely (2002)'s definition of stock repurchases.

In Panel A of Table 8, we run multinomial logit regressions using all Compustat firms. When the dependent variable is Pay 1 (I) or Pay 1 (II), we report the choice between cash dividend and stock repurchase, with stock repurchase being the referent case. The coefficient on *Dual* is positive and statistically significant, indicating that dual-class firms are more likely to pay cash dividends instead of buy back shares, compared to single-class firms. When the dependent variable is Pay 2 (I) or Pay 2 (II), we report the choice between regular cash dividend and special cash dividend or stock repurchase, with special cash dividend or stock repurchase being the referent case. The coefficient on *Dual* is also positive and statistically significant, indicating that dual-class firms prefer to pay regular cash dividends rather than pay special cash dividends or buy back shares, compared to

Table 8
Multinomial logit regressions for payout structure. This table provides results for payout structure using multinomial logit regression. Dependent variables are Pay1(I), Pay1(II), Pay2(I) and Pay2(II). Pay1 equals zero if the firm's payout is zero; one if cash dividends on common stock are zero but repurchases are positive; two if cash dividends on common stock are positive. Pay2 equals zero if the firm's payout is zero; one if regular cash dividends on common stock are zero but either special dividends (CRSP distribution codes 1262, 1272, 1292) or repurchases are positive; two if regular cash dividends on common stock are positive. In Pay1(I) and Pay2(I), buyback is defined based on Fama and French (2001). In Pay1(II) and Pay2(II), buyback is defined based on Grullon and Michaely (2002). All other variables are defined in Appendix A. Industry and year dummies are included. Panels A reports results using all Compustat firms. Panel B reports results using dual-class firms and their propensity-matched single-class firms. Panel C reports results among dual-class firms. In all three panels, the first two regressions report multinomial logit regressions for the choice between cash dividends and repurchases, and the last two regressions report multinomial logit regressions for the choice between regular dividends and special dividends or repurchases. For the sake of brevity, we do not report coefficients on the industry and year dummies and the intercept. *p*-Values are based on firm-level clustered standard errors.

	Pay1 (I)		Pay1(II)		Pay2 (I)		Pay2 (II)	
	Div. vs. Buyback		Div. vs. Buyback		Regular Div. vs. Special Div. or Buyback		Regular Div. vs. Special Div. or Buyback	
	Coefficient	*p*-Value	Coefficient	*p*-Value	Coefficient	*p*-Value	Coefficient	*p*-Value
Panel A: multinomial regression results for dual-class firms and single-class firms (Compustat sample)								
Dual	0.3439	0.089	0.3934	0.080	0.7243	0.000	0.7766	0.000
Lgsz	0.5565	0.000	0.5447	0.000	0.0465	0.135	0.0473	0.120
BM	0.0000	0.264	0.0000	0.297	−0.0001	0.864	−0.0007	0.533
Tangible	0.7279	0.001	0.6892	0.001	1.0039	0.000	0.9597	0.000
Lev	−0.7225	0.000	−0.7896	0.000	−0.6734	0.010	−0.7585	0.003
Risk	0.0001	0.200	0.0001	0.310	0.0000	0.560	0.0000	0.532
Age	0.2940	0.000	0.3770	0.000	0.6557	0.000	0.7369	0.000
Rete	0.8576	0.000	0.8550	0.000	1.0543	0.000	1.0535	0.000
ROA	2.4176	0.000	3.0235	0.000	1.6339	0.000	2.1901	0.000
Cashta	−0.7570	0.002	−0.7119	0.003	−1.8916	0.000	−1.8613	0.000
IO	−1.5170	0.000	−1.4427	0.000	−0.3399	0.068	−0.3645	0.046
Analyst	−0.0726	0.084	−0.0554	0.175	−0.5225	0.090	−0.5367	0.060
N	41,093		41,093		41,093		41,093	
Pseudo R^2		0.2582		0.2328		0.2653		0.2361
Panel B: multinomial regression results for dual-class firms and propensity-matched single-class firms								
Dual	0.4640	0.040	0.4910	0.029	0.1523	0.090	0.2772	0.012
Lgsz	0.0734	0.370	0.0567	0.487	0.3093	0.000	0.2945	0.000
BM	0.0055	0.157	0.0058	0.143	0.0148	0.628	0.0206	0.537
Tangible	1.7665	0.001	1.7111	0.002	1.5083	0.000	1.4287	0.000
Lev	−1.1933	0.029	−1.5701	0.004	−1.4888	0.000	−1.7994	0.000
Risk	−1.0647	0.000	−1.1260	0.000	−0.6613	0.000	−0.7505	0.000
Age	0.9863	0.000	0.9948	0.000	0.3465	0.000	0.3540	0.000
Rete	0.1324	0.305	0.1361	0.303	2.2091	0.000	2.2128	0.000
ROA	−0.3730	0.607	−0.0041	0.995	0.2579	0.642	0.8437	0.116
Cashta	−1.0672	0.130	−1.3127	0.058	−2.8390	0.000	−3.0504	0.000
IO	0.1284	0.760	0.0139	0.973	0.0575	0.830	−0.0649	0.799
Analyst	−0.2389	0.600	−0.2198	0.700	−0.0048	0.941	−0.0081	0.893
N	4,588		4,588		4,588		4,588	
Pseudo R^2		0.3113		0.2980		0.2776		0.2694
Panel C: multinomial regression results for dual-class firms								
VOratio	0.0656	0.005	0.0675	0.002	0.0966	0.000	0.0967	0.000
Lgsz	0.3313	0.009	0.2891	0.018	0.2478	0.066	0.2051	0.123
BM	−0.1863	0.277	−0.1239	0.487	−0.0691	0.516	−0.0087	0.944
Tangible	1.5487	0.065	1.4804	0.071	1.7488	0.053	1.6255	0.066
Lev	−1.5959	0.030	−1.8699	0.009	−2.2802	0.009	−2.5580	0.003
Risk	−0.4804	0.007	−0.6304	0.000	−0.6018	0.002	−0.7629	0.000
Age	0.3812	0.010	0.4231	0.004	0.4430	0.007	0.4819	0.004
Rete	2.6455	0.000	2.5931	0.000	2.5507	0.000	2.4803	0.000
ROA	−0.5406	0.444	−0.4127	0.491	−0.3011	0.774	−0.1918	0.852
Cashta	−2.7085	0.010	−2.9597	0.005	−3.7611	0.002	−4.0212	0.001
IO	0.5375	0.307	0.6350	0.228	0.6812	0.226	0.7453	0.188
Analyst	−0.0179	0.904	0.0131	0.930	−0.3404	0.041	−0.3749	0.024
N	2,596		2,596		2,596		2,596	
Pseudo R^2		0.3396		0.3256		0.3455		0.3355

single-class firms. In Panel B of Table 8, we restrict our sample to dual-class firms and their propensity-matched single-class firms and repeat the analyses in Panel A. We obtain similar results. The coefficients on *Dual* are positive and statistically significant. The results suggest that dual-class firms are more likely to pay cash dividends, especially regular cash dividends, to shareholders rather than other forms of corporate payouts compared to the propensity-matched single-class firms.

In Panel C of Table 8, we restrict our sample to dual-class firms only. The coefficient on *VOratio* is positive and statistically significant in all four regressions. The results suggest that among dual-class firms, the ones with high values of *VOratio*, pay out more to shareholders in the form of cash dividends instead of stock repurchases. Further, high *VOratio* firms prefer to use regular cash dividends instead of special cash dividends or repurchases.

Overall, the results on the payout structure in Tables 7 and 8 support the notion that dual-class firms use payout policy as a pre-commitment device to reduce agency conflicts.

5.2. Payout policies in firms with different degrees of agency problems

If dual-class firms pay out more to reduce agency costs, then we expect the effect to be more pronounced among certain firms. First, the effect should be more pronounced among low-growth firms. For high-growth firms, the cost of paying out cash to investors is high because the firm may have to forgo valuable investment opportunities. Therefore, the firm may resort to other ways to mitigate the agency costs instead of using high cash dividend payouts. In contrast, the cost of paying out cash to investors is low for low-growth firms because these firms do not have many investment opportunities and paying out cash to investors is usually in shareholders' best interest. Therefore, it is particularly important for these firms to pay out to shareholders in order to reduce agency costs.

Second, the effect should be more pronounced among firms with more free cash flows. Firms with more free cash flows have higher potential agency problems. Therefore, dual-class firms with more free cash flows may have a stronger need to use higher payouts as a way to reduce agency problems.

We use Tobin's Q to measure a firm's growth opportunities. Firms with high Tobin's Qs have more growth opportunities than firms with low Tobin's Qs. Following previous studies (e.g., Gompers et al., 2010), Tobin's Q is defined as the ratio of the market value of assets to the book value of assets. The market value is calculated as the sum of the book value of assets and the market value of common stock less the book value of common stock and deferred taxes. Similar to a study by Lang et al. (1991), free cash flow equals the ratio of cash flow (operating income before depreciation minus interest expense minus income taxes net of the change in deferred tax and investment credits) to assets if Tobin's Q is below one; zero otherwise.

In Panel A of Table 9, we examine how Tobin's Q affects the difference in payout yields between dual-class and single-class firms using all Compustat firms. We run regressions with the interaction term *Dual* ∗ *TobinQ*. When the dependent variable is cash dividend yield, the coefficient on the interaction term *Dual* ∗ *TobinQ* is negative and statistically significant. The result indicates that the difference in the cash dividend yield between dual-class and single-class firms is greater among firms with low Tobin's Qs. When the dependent variable is changed to Total Yield (I) or Total Yield (II), the coefficient on the interaction term *Dual* ∗ *TobinQ* is still negative and statistically significant.

In Panel B of Table 9, we restrict our sample to dual-class firms and their propensity-matched single-class firms. The coefficient on the interaction term *Dual* ∗ *TobinQ* is negative and statistically significant at the 5% level when the dependent variable is cash dividend yield or total payout (I). In Panel C of Table 9, we restrict our sample to dual-class firms only. When the dependent variable is cash dividend yield, the coefficient on the interaction term *VOratio* ∗ *TobinQ* is negative and statistically significant. This result indicates that the positive relation between cash dividend yields and *VOratio* is stronger among firms with low Tobin's Qs. When the dependent variable is changed to Total Yield (I), the coefficient on the interaction term *VOratio* ∗ *TobinQ* is still negative and statistically significant. When the dependent variable is changed to Total Yield (II), the coefficient on the interaction term *VOratio* ∗ *TobinQ* is statistically insignificant. The results in Table 9 indicate that dual-class firms pay out more as a pre-commitment device to reduce agency costs, and the effect is stronger among low-growth firms.

In Panel A of Table 10, we examine how free cash flow affects the difference in payout yields between dual-class and single-class firms using all Compustat firms. When the dependent variable is cash dividend yield, the coefficient on the interaction term *Dual* ∗ *FreeCF* is positive and statistically significant. This result indicates that the difference in the cash dividend yield between dual-class and single-class firms is greater among firms with higher free cash flows. When the dependent variable is changed to Total Yield (I) or Total Yield (II), the coefficient on the interaction term *Dual* ∗ *FreeCF* is still positive and statistically significant.

In Panel B of Table 10, we restrict our sample to dual-class firms and their propensity-matched single-class firms. The coefficient on the interaction term *Dual* ∗ *FreeCF* is positive in all three models. In Panel C of Table 10, we restrict our sample to dual-class firms only. No matter whether the dependent variable is Cash Yield, Total Yield (I), or Total Yield (II), the coefficient on the interaction term *VOratio* ∗ *FreeCF* is positive and statistically significant.

Overall, the results in Table 10 indicate that dual-class firms pay out more as a pre-commitment device to reduce agency costs, and the effect is stronger among firms with higher free cash flows.

6. An alternative explanation: the home-made dividend hypothesis

One potential alternative explanation for our results is the home-made dividend hypothesis. If a single-class firm pays little or no cash dividends, investors who need cash can sell some of their shares in the firm to generate a "home-made" dividend. In contrast, if the super-voting shares of a dual-class firm are non-tradable or very illiquid, then holders of the super-voting shares have little or no ability to generate home-made dividends. Therefore, dual-class firms may have to pay a sizeable cash dividend regularly to meet the cash demands of super-voting shareholders.

If the home-made dividend hypothesis drives our results, then we should see a higher cash dividend yield for dual-class firms with non-tradable super-voting shares. Furthermore, dual-class firms with non-tradable super-voting shares should pay more cash dividends as a percentage of their total payout compared to dual-class firms with tradable super-voting shares, because when dual-class firms conduct a stock repurchase they generally buy back inferior-voting shares.

Table 9
Effects of the dual-class share structure on corporate payout in firms with different growth opportunities. This table provides results for dividend yields using Tobit regression to examine the interaction effect of Tobin's Q and the dual-class share structure. Dependent variables are Cash Yield, Total Yield (I) and Total Yield (II). Tobin's Q is defined as the ratio of the market value of assets and the book value of assets: the market value is calculated as the sum of the book value of assets and the market value of common stock less the book value of common stock and deferred taxes. *Dual ∗ TobinQ* is defined as the dummy variable *Dual* times *Tobin's Q*. *VOratio ∗ TobinQ* is defined as the variable *VOratio* times *Tobin's Q*. All other variables are defined in Appendix A. Industry and year dummies are included. For the sake of brevity, we do not report coefficients on the industry and year dummies and the intercept. *p*-Values are based on firm-level clustered standard errors.

	Cash Yield		Total Yield (I)		Total Yield (II)	
	Coefficient	*p*-Value	Coefficient	*p*-Value	Coefficient	*p*-Value
Panel A: Tobit regression results for dual-class firms and single-class firms (Compustat sample)						
Dual	0.0082	0.005	0.0043	0.101	0.0052	0.136
Dual ∗ TobinQ	−0.0030	0.011	−0.0010	0.056	−0.0030	0.084
TobinQ	−0.0008	0.014	−0.0022	0.000	−0.0019	0.000
Lgsz	0.0073	0.000	0.0068	0.000	0.0088	0.000
BM	0.0000	0.375	0.0000	0.487	0.0000	0.429
Tangible	0.0112	0.000	0.0092	0.006	0.0053	0.306
Lev	−0.0161	0.000	−0.0236	0.000	−0.0202	0.000
Risk	0.0000	0.200	0.0000	0.224	0.0000	0.300
Age	0.0067	0.000	0.0100	0.000	0.0110	0.000
Rete	0.0040	0.000	0.0000	0.000	0.0000	0.018
ROA	0.0648	0.000	0.0505	0.000	0.0170	0.000
Cashta	−0.0066	0.051	0.0021	0.548	−0.0119	0.019
IO	−0.0188	0.000	−0.0039	0.079	−0.0047	0.157
Analyst	−0.0016	0.001	−0.0014	0.019	−0.0030	0.001
N		41,093		41,093		41,093
Log-likelihood		12,705		15,193		8,082
Panel B: Tobit regression results for dual-class firms and propensity-matched single-class firms						
Dual	0.0053	0.032	0.0087	0.010	0.0066	0.039
Dual ∗ TobinQ	−0.0024	0.016	−0.0028	0.033	−0.0010	0.157
TobinQ	−0.0006	0.283	−0.0001	0.921	−0.0008	0.608
Lgsz	0.0037	0.000	0.0057	0.000	0.0076	0.000
BM	0.0000	0.768	0.0000	0.633	0.0025	0.432
Tangible	0.0160	0.000	0.0096	0.115	0.0108	0.098
Lev	−0.0210	0.000	−0.0361	0.000	−0.0314	0.000
Risk	0.0007	0.455	0.0024	0.183	0.0007	0.687
Age	0.0034	0.000	0.0054	0.000	0.0066	0.000
Rete	0.0144	0.007	0.0001	0.625	0.0001	0.365
ROA	0.0151	0.119	0.0222	0.173	0.0165	0.008
Cashta	−0.0136	0.036	−0.0054	0.539	−0.0074	0.412
IO	−0.0021	0.514	0.0009	0.856	0.0047	0.406
Analyst	−0.0015	0.063	−0.0016	0.181	−0.0020	0.155
N		4,588		4,588		4,588
Log-likelihood		2,702		2,992		2,091
Panel C: Tobit regression results for dual-class firms only						
VOratio	0.0016	0.001	0.0012	0.027	0.0031	0.094
VOratio ∗ TobinQ	−0.0008	0.067	−0.0014	0.088	−0.0018	0.123
TobinQ	−0.0011	0.349	−0.0035	0.021	−0.0026	0.144
Lgsz	0.0026	0.005	0.0023	0.039	0.0056	0.005
BM	−0.0019	0.115	−0.0018	0.123	−0.0078	0.102
Tangible	0.0064	0.365	−0.0064	0.463	−0.0161	0.271
Lev	−0.0141	0.015	−0.0039	0.623	−0.0071	0.636
Risk	−0.0062	0.000	−0.0088	0.000	−0.0034	0.306
Age	0.0032	0.002	0.0035	0.020	0.0040	0.132
Rete	0.0272	0.000	0.0438	0.000	0.0540	0.000
ROA	−0.0003	0.966	0.0017	0.849	−0.0056	0.531
Cashta	−0.0131	0.966	0.0130	0.271	0.0283	0.173
IO	0.0011	0. 796	0.0042	0.495	0.0003	0.978
Analyst	−0.0008	0.507	0.0008	0.639	0.0000	0.996
N		2,596		2,596		2,596
Log-likelihood		1,972		2,046		1,266

We test this alternative hypothesis in Table 11. In Panel A, we run a Tobit regression of all dual-class firms with Cash Yield as the dependent variable. The independent variable of interest is a dummy variable *Nontrade*, which takes a value of 1 if the dual-class firm's super-voting shares are non-tradable, and 0 otherwise. We also include all variables used in Table 6. The coefficient on *VOratio* remains positive and highly statistically significant. The coefficient on *Nontrade*, however, is statistically insignificant, indicating that there is no difference in cash dividend payout between dual-class firms with tradable and non-tradable super-voting shares.

Table 10
Effects of the dual-class share structure on corporate payout in firms with different free cash flows. This table provides results for dividend yields using Tobit regressions to examine the interaction effect of free cash flows with the dual-class share structure. Dependent variables are Cash Yield, Total Yield (I) and Total Yield (II). Free cash flow equals the ratio of cash flow (operating income before depreciation minus interest expense minus income taxes net of the change in deferred tax and investment tax credits) to assets if Tobin's Q is below one; zero otherwise. *Dual * FreeCF* is defined as the dummy variable *Dual* times free cash flow. *VOratio * FreeCF* is defined as the variable *VOratio* times free cash flow. All other variables are defined in Appendix A. Industry and year dummies are included. For the sake of brevity, we do not report coefficients on the industry and year dummies and the intercept. *p*-Values are based on firm-level clustered standard errors.

	Cash Yield		Total Yield (I)		Total Yield (II)	
	Coefficient	*p*-Value	Coefficient	*p*-Value	Coefficient	*p*-Value
Panel A: Tobit regression results for dual-class firms and single-class firms (Compustat sample)						
Dual	0.0031	0.050	0.0044	0.029	0.0054	0.091
*Dual * FreeCF*	0.0093	0.076	0.0092	0.067	0.0753	0.086
FreeCF	−0.0373	0.300	−0.0060	0.534	−0.0162	0.205
Lgsz	0.0056	0.000	0.0068	0.000	0.0089	0.000
BM	0.0000	0.199	0.0000	0.469	0.0000	0.425
Tangible	0.0143	0.000	0.0095	0.004	0.0054	0.296
Lev	−0.0136	0.000	−0.0230	0.000	−0.0195	0.000
Risk	0.0003	0.230	0.0000	0.500	0.0000	0.610
Age	0.0074	0.000	0.0103	0.000	0.0113	0.000
Rete	0.0028	0.000	0.0001	0.002	0.0001	0.016
ROA	0.0461	0.000	0.0490	0.000	0.0193	0.000
Cashta	−0.0081	0.016	−0.0042	0.201	−0.0173	0.000
IO	−0.0165	0.000	−0.0037	0.092	−0.0045	0.167
Analyst	−0.0018	0.000	−0.0020	0.001	−0.0036	0.000
N		41,093		41,093		41,093
Log-likelihood		14,029		15,113		8,063
Panel B: Tobit regression results for dual-class firms and propensity-matched single-class firms						
Dual	0.0030	0.076	0.0056	0.037	0.0036	0.101
*Dual * FreeCF*	0.0654	0.003	0.0022	0.069	0.0061	0.094
FreeCF	0.0360	0.010	0.0239	0.594	0.0354	0.349
Lgsz	0.0026	0.000	0.0048	0.000	0.0061	0.000
BM	−0.0001	0.191	−0.0002	0.206	−0.0003	0.203
Tangible	0.0201	0.000	0.0161	0.020	0.0280	0.009
Lev	−0.0217	0.000	−0.0329	0.000	−0.0308	0.004
Risk	0.0008	0.270	0.0012	0.632	0.0011	0.500
Age	0.0046	0.000	0.0068	0.000	0.0076	0.000
Rete	0.0118	0.015	0.0000	0.918	0.0000	0.995
ROA	0.0082	0.381	0.0450	0.000	0.0283	0.018
Cashta	−0.0156	0.019	−0.0028	0.765	−0.0162	0.255
IO	0.0000	0.996	0.0004	0.936	0.0102	0.215
Analyst	−0.0012	0.155	−0.0024	0.073	−0.0041	0.044
N		4,588		4,588		4,588
Log-likelihood		2,536		2,684		1,978
Panel C. Tobit regression results for dual-class firms						
VOratio	0.0007	0.002	0.0009	0.010	0.0009	0.048
*VOratio * FreeCF*	0.0073	0.090	0.0436	0.038	0.0445	0.080
FreeCF	0.0330	0.203	0.0522	0.171	0.0255	0.666
Lgsz	0.0026	0.004	0.0024	0.033	0.0057	0.005
BM	−0.0010	0.159	−0.0017	0.182	−0.0057	0.107
Tangible	0.0072	0.310	−0.0062	0.477	−0.0155	0.287
Lev	−0.0132	0.020	−0.0017	0.833	−0.0038	0.802
Risk	−0.0061	0.000	−0.0092	0.000	−0.0040	0.236
Age	0.0033	0.002	0.0037	0.012	0.0040	0.128
Rete	0.0278	0.000	0.0445	0.000	0.0545	0.000
ROA	0.0014	0.800	0.0034	0.661	−0.0033	0.692
Cashta	−0.0183	0.035	0.0031	0.773	0.0174	0.376
IO	0.0012	0.780	0.0043	0.499	0.0000	0.997
Analyst	−0.0015	0.227	−0.0002	0.881	−0.0012	0.684
N		2,596		2,596		2,596
Log-likelihood		1,966		2,041		1,261

In Panel B of Table 11, we change the dependent variable to Cash/Total Payout (I) or Cash/Total Payout (II), the ratio of cash dividends to the firm's total payouts. We run an OLS regression of all dual-class firms, and all independent variables are the same as those in Panel A of Table 11. Again, the coefficient on *VOratio* remains positive and statistically significant. The coefficient on *Nontrade* is statistically insignificant, indicating that there is no difference in the ratio of cash dividend to total payout between dual-class firms with tradable and non-tradable super-voting shares.

Table 11
Testing the home-made dividend hypothesis. This table provides results for the effects of non-tradable superior voting shares on corporate payout policy. In Panel A, the dependent variable is Cash Yield and the Tobit regression is used. In Panel B, the dependent variables are Cash/total payout (I) and Cash/total payout (II) and OLS regression is used. In both panels, the results are based on the sample of dual-class firms. *Nontrade* is a dummy variable for non-tradable superior voting shares, equal to 1 if superior voting shares are non-tradable, and 0 otherwise. Other variables are defined in the appendix. Industry and year dummies are included. For brevity, we do not report coefficients on the industry and year dummies and the intercept. *p*-Values are based on firm-level clustered standard errors.

	A: Tobit regression		B: OLS regression			
	Cash Yield		Cash/total payout (I)		Cash/total payout(II)	
	Coefficient	*p*-Value	Coefficient	*p*-Value	Coefficient	*p*-Value
VOratio	0.0007	0.001	0.0074	0.031	0.0067	0.057
Nontrade	−0.0080	0.429	−0.1332	0.462	−0.1251	0.352
Lgsz	0.0026	0.005	0.0350	0.016	0.0180	0.159
BM	−0.0010	0.181	−0.0094	0.659	0.0099	0.605
Tangible	0.0072	0.305	0.1189	0.351	0.0964	0.400
Lev	−0.0132	0.021	−0.2085	0.047	−0.1569	0.081
Risk	−0.0062	0.000	−0.0478	0.047	−0.0604	0.003
Age	0.0033	0.002	0.0345	0.094	0.0369	0.050
Rete	0.0276	0.000	0.2319	0.000	0.2075	0.000
ROA	−0.0028	0.523	−0.0408	0.398	−0.0291	0.508
Cashta	−0.0171	0.058	−0.4250	0.005	−0.4244	0.000
IO	0.0011	0.791	0.0733	0.367	0.0750	0.276
Analyst	−0.0014	0.268	−0.0417	0.038	−0.0213	0.255
N		2,596		1,497		1,638
Log-likelihood		1,767				
Adj. R^2				0.2683		0.2985

The results in Table 11 show no support for the home-made dividend hypothesis. Therefore, it is unlikely that dual-class firms pay out more because super-voting shareholders of these firms lack the ability to generate home-made cash dividends.

7. Alternative measures of corporate payout policies

We follow the literature and use the dividend yield and the total payout yield to measure corporate payout policies. However, one concern for these measures is that the denominator is the market capitalization of the firm. Therefore, these measures are affected by the firm's market capitalization. We have partially addressed this concern by using the proportion of firms paying out cash dividends and the proportion of firms paying out at all. In this section, we use other measures of corporate payout policies that are not affected by the firm's market capitalization. Namely, we use the firm's earnings as the denominator instead of the firm's market capitalization and repeat the analyses in Tables 2, 4, and 6.

Panel A of Table 12 shows that the coefficient on the *Dual* dummy is positive and statistically significant at the 10% level when the dependent variable is cash dividends over earnings (i.e., payout ratio), indicating that within the Compustat universe, dual-class firms have a higher cash payout ratio than single-class firms. When we change the dependent variable to total payout over earnings using the definition of repurchases in either Fama and French (2001) or Grullon and Michaely (2002), the coefficient remains positive and statistically significant. The coefficients on the control variables are qualitatively similar to those in Table 2, and we do not report them to save space.

In Panel B of Table 12, we run regressions using dual-class firms and their propensity-matched single-class firms as in Table 4. Again, we change the dependent variable to cash dividends over earnings or total payout over earnings. The coefficients on the *Dual* dummy are positive and statistically significant at the 10% level in all three models, suggesting that dual-class firms pay out a larger proportion of their earnings to shareholders than their propensity-matched single-class firms.

In Panel C of Table 12, we confine our analyses to dual-class firms only as in Table 6. The independent variable of interest is *VOratio*. When the dependent variable is cash dividends over earnings or total payout over earnings based on the definition of repurchases in Fama and French (2001), the coefficient on *VOratio* is positive and statistically significant at the 5% level. However, when the dependent variable is total payout over earnings based on the definition of repurchases in Grullon and Michaely (2002), the coefficient on *VOratio* is statistically insignificant. The results in Panel C, therefore, show some evidence that among dual-class firms, the ones with higher *VOratio* pay out a larger proportion of their earnings to shareholders than firms with lower *VOratio*.

Overall, Table 12 shows that our results generally hold even if we use alternative measures of corporate payout policies that are not related to firms' market capitalizations. Therefore, our earlier results are unlikely driven by the use of the firm's market capitalization in the denominator.

8. Evidence from share unifications

In our earlier results, we use propensity-matched single-class firms to address the endogeneity issue because firms adopting dual-class shares are generally different from single-class firms. Another way to address the endogeneity issue is to examine share unifications, which occur when dual-class firms abandon the dual-class share structure and change to single-class firms. We explore

Table 12
Tobit regression tests of payout using alternative dependent variables. This table provides Tobit regressions results using alternative dependent variables. Dependent variables are Cash dividends over earnings, Total payout over earnings (I), and Total payout over earnings (II), where earnings are net income before extraordinary items. In Total payout over earnings (I), total payout is equal to the sum of cash dividends and repurchases based on the definition in Fama and French (2001). In Total payout over earnings (II), total payout is equal to the sum of cash dividends and repurchases based on the definition in Grullon and Michaely (2002). Panel A is for the sample of dual-class and single-class firms (Compustat sample). Panel B is for the sample of dual-class and propensity-matched single-class firms. Panel C is for the sample of dual-class firms. Control variables are the same as in Tables 2, 4, and 6, and their definitions are provided in the appendix. Industry and year dummies are included in the regressions. For the sake of brevity, we do not report coefficients on control variables, industry dummies, year dummies or the intercept. p-Values are based on firm-level clustered standard errors.

	Cash dividends over earnings		Total payout over earnings (I)		Total payout over earnings (II)	
	Coefficient	p-Value	Coefficient	p-Value	Coefficient	p-Value
A: dual-class and single-class firms (Compustat sample)						
Dual	0.0863	0.068	0.0980	0.081	0.1070	0.033
B: dual-class and propensity-matched single-class firms						
Dual	0.0860	0.064	0.0926	0.072	0.1205	0.051
C: dual-class firms						
VOratio	0.0098	0.018	0.0175	0.028	0.0147	0.120

payout policy changes around such unifications. Because we deal with the same firm before and after the share unification, any change in the firm's payout policy is most likely due to the change in the firm's share structure. Therefore, endogeneity is a less serious concern.

Our sample consists of 96 share unifications from 1995 to 2010.[18] Panel A of Table 13 shows that on average, the cash dividend yield does not experience a significant decrease from year −1 to year 1, where year 0 is the year of share unification. This is probably due to the fact that firms are usually very reluctant to reduce cash dividend payments (e.g., Brav et al., 2005; Lintner, 1956).[19] We then examine total payout changes around share unifications and find that the total payout yield decreases by 0.8% if we define share repurchases as in Fama and French (2001). There is no significant change in total payouts if we define share repurchases as in Grullon and Michaely (2002).

We then look at abnormal changes in firms' payouts around unifications, where the abnormal change is defined as the change in the sample firm minus the industry median in the same period. There is no significant change in abnormal cash dividend yield from year −1 to year 1. However, abnormal changes in total payouts are negative and statistically significant at the 5% level no matter how we define share repurchases.

To alleviate concerns that our measures of corporate payout policies are affected by the firm's market capitalization, we use the firm's earnings as the denominator instead of the firm's market capitalization and repeat the analyses in Panel A of Table 13. Results are reported in Panel B of Table 13, and they show a similar pattern. There is no significant change in cash dividends over earnings around share unifications. However, the abnormal changes in total payouts over earnings show a negative and statistically significant decrease.

To summarize, results from share unifications show some evidence that firms decrease their total payouts after they change from dual-class to single-class firms. The results are generally consistent with our earlier evidence that dual-class firms pay out more to shareholders than single-class firms.

9. Conclusions

We examine corporate payout policies in dual-class firms using a sample of U.S. firms from 1995 to 2002. We test two alternative hypotheses. The first one is the expropriation hypothesis, which predicts that dual-class firms pay out less to shareholders because insiders in dual-class firms are more entrenched and thus pay out less in order to maximize their private benefits of control. The second one is the pre-commitment hypothesis, which argues that dual-class firms pre-commit to pay out more to shareholders to mitigate the agency problems in dual-class firms.

Our results consistently show that dual-class firms distribute more cash to shareholders than single-class firms. In terms of payout structure, dual-class firms use more regular cash dividends rather than special cash dividends or repurchases, compared to single-class firms. Additional tests show that dual-class firms with more free cash flows and fewer growth opportunities rely even more on dividends as a pre-commitment mechanism. We also test and rule out the hypothesis that dual-class firms pay out more because super-voting shareholders lack the ability to generate home-made dividends by selling shares since super-voting shares are often non-tradable. Overall, our results support the pre-commitment hypothesis. The empirical results in this paper suggest that there may be more to the use of dual-class shares than entrenching insiders. Dual-class shares may indeed enhance shareholder value under certain scenarios, as suggested by Chemmanur and Jiao (2012).

[18] We collected the unification cases based on information in firms' 10k reports, supplemented by two cases from Chad Zutter. We thank Chad Zutter from the University of Pittsburgh for sharing his data with us. Our sample contains every identifiable instance of a unification based on a variety of scenarios.

[19] Therefore, a better test could be to use the sample of firms changing from a single-class to a dual-class share structure. However, most firms adopt dual-class shares when they go public, so such cases are relatively rare.

Table 13
Corporate payout changes around share unifications. This table provides average changes and the average abnormal changes in corporate payouts from year −1 to year 1, where year 0 is the year of share unification (changing from a dual-class firm to a single-class firm). Panel A provides changes in Cash Yield, Total Yield (I), and Total Yield (II), as defined in the Appendix A. Panel B provides changes in Cash dividends over earnings, Total payout over earnings (I), and Total payout over earnings (II), where earnings are net income before extraordinary items. In Total payout over earnings (I), total payout is the sum of cash dividends and repurchases based on the definition in Fama and French (2001). In Total payout over earnings (II), total payout is the sum of cash dividends and repurchases based on the definition in Grullon and Michaely (2002). In both panels, abnormal changes are defined as the payout changes of unification firms minus the industry median. The sample of unification firms is from 1995 to 2010. *p*-Values are based on *t*-tests.

Panel A: results based on payout yields (scaled by market capitalization)

	Change (year −1 to year 1)	*p*-Value	Abnormal Change (year −1 to year 1)	*p*-Value
	N = 96		N = 96	
Cash Yield	−.001	.301	.000	.884
Total Yield (I)	−.008	.032	−.008	.038
Total Yield (II)	−.009	.241	−.024	.011

Panel B: results based on payout ratios (scaled by earnings)

	Change (year −1 to year 1)	*p*-Value	Abnormal change (year −1 to year 1)	*p*-Value
	N = 50		N = 50	
Cash dividends over earnings	−.137	.390	−.050	.792
Total payout over earnings (I)	−.192	.285	−.223	.096
Total payout over earnings (II)	−.153	.675	−.324	.088

Appendix A. Variable definitions

Dependent variables

Cash Yield: The ratio of cash dividends to the market value of the firm.
Total Yield (I): The ratio of total payout to the market value of the firm. Total payout is equal to the sum of cash dividends and repurchases based on the definition in Fama and French (2001), who define repurchases as net repurchases; i.e., after removing from share purchases the effect of shares issued to fund acquisitions and shares issued for employee stock option programs and other corporate purposes. We follow their approach of using the increase in common treasury stock if the firm uses the treasury stock method for repurchases. If the firm uses the "retirement" method instead (which is inferred from the fact that treasury stock is zero in the current and prior year), repurchases are calculated as the difference between stock purchases and stock issuances from the statement of cash flows. If either of these amounts (the change in treasury stock or the difference between #115 and #108) is negative, repurchases are set to zero.
Total Yield (II): The ratio of total payout to the market value of the firm. Total payout is equal to the sum of cash dividends and repurchases based on the definition in Grullon and Michaely (2002), who define repurchases as the difference between stock purchases and stock issuances from the statement of cash flows.
Cash/Total Payout (I): The ratio of cash dividends to total payouts. Total payouts are equal to the sum of cash dividends and repurchases based on the definition in Fama and French (2001).
Cash/Total Payout (II): The ratio of cash dividends to total payouts. Total payouts are equal to the sum of cash dividends and repurchases based on the definition in Grullon and Michaely (2002).

Independent variables

Dual: Dummy variable. It is equal to 1 if the firm has dual-class share structure; 0 otherwise.
VOratio: Ratio of insiders' voting rights over cash flow rights.
Lgsz: Log of total assets.
BM: Book value of equity over market value of equity.
Tangible: Percentage of property, plants, and equipment in total assets.
Lev: Total liability over total assets.
Risk: Log of the standard deviation of daily stock returns in the prior year.
Age: Log of one plus the number of years since the firm first appears in CRSP.
Rete: Retained earnings over book value of equity.
ROA: Operating income before depreciation over total assets.
Cashta: Cash over total assets.
IO: The fraction of the firm's shares outstanding held by institutional investors, as reported in 13F filings.

Analyst: Log of one plus the number of one-year-ahead analyst forecasts of earnings, as reported in I/B/E/S.
FreeCF: The ratio of cash flow (operating income before depreciation minus interest expense minus income taxes net of the change in deferred tax and investment tax credits) to assets if Tobin's Q is below one; zero otherwise.

Variables for propensity score matching

Media: A dummy variable, which is set equal to 1 if the firm is a "media" company in its IPO year, and 0 otherwise. We define media companies as those belonging to SIC Codes 2710–11, 2720–21, 2730–31, 4830, 4832–33, 4840–41, 7810, 7812, and 7820.
Name: A dummy variable, which is equal to 1 if the firm's name at IPO includes a person's name; 0 otherwise.
StateLaw: The state law antitakeover index from Gompers et al. (2003).
SalesRank: The percentile ranking of the IPO-year sales of the firm relative to other firms with the same IPO year.
ProfitRank: The percentile ranking (0 = lowest, 100 = highest) in the IPO-year profit relative to other firms in the same IPO year.
%Firms: The percentage of all Compustat firms located in the same metropolitan or metropolitan statistical area (MSA) as firm *i* in the year before firm *i*'s IPO.
%Sales: The percentage of all Compustat sales by firms located in the same MSA as firm *i* in the year before firm *i*'s IPO.
%RegionSales: The ratio of a firm's sales to the sales of all firms in the same region.
Lgsz: Log of total assets.

References

Armstrong, C., Jagolinzer, A., Larcker, D., 2010. Chief executive officer equity incentives and accounting irregularities. J. Account. Res. 48, 225–271.
Bebchuk, L.A., Weisbach, M.S., 2010. The state of corporate governance research. Rev. Financ. Stud. 23, 939–961.
Billett, M., Xue, H., 2007. The takeover deterrent effect of open market share repurchases. J. Financ. 62, 1827–1850.
Brav, A., Graham, J., Harvey, C., Michaely, R., 2005. Payout policy in the 21st century. J. Financ. Econ. 77, 483–527.
Chemmanur, T., Jiao, Y., 2012. Dual class IPOs: a theoretical analysis. J. Bank. Financ. 36, 305–319.
Chemmanur, T., Tian, X., 2012. Do anti-takeover provisions spur corporate innovation? Working paper. Boston College and Indiana University.
DeAngelo, H., DeAngelo, L., Stulz, R., 2006. Dividend policy and the earned/contributed capital mix: a test of the life-cycle theory. J. Financ. Econ. 81, 227–254.
DeAngelo, H., DeAngelo, L., Skinner, R., 2008. Corporate payout policy. Found. Trends Financ. 3, 95–287.
Denis, D., 1990. Defensive changes in corporate payout policy: share repurchases and special dividends. J. Financ. 45, 1433–1456.
Desai, M.A., Jin, L., 2011. Institutional tax clienteles and payout policy. J. Financ. Econ. 100, 68–84.
Dey, A., Nikolaev, V., Wang, X., 2009. Disproportional control rights and the bonding role of debt. Working paper. University of Chicago.
Faccio, M., Lang, L., Young, L., 2001. Dividends and expropriation. Am. Econ. Rev. 91, 54–78.
Fama, E., French, K., 1997. Industry cost of equity. J. Financ. Econ. 43, 153–193.
Fama, E., French, K., 2001. Disappearing dividends: changing firm characteristics or lower propensity to pay? J. Financ. Econ. 60, 3–43.
Gokkaya, S., 2011. Seasoned equity offerings by dual-class firms. Working paper. Mississippi State University.
Gompers, P., Ishii, J., Metrick, A., 2003. Corporate governance and equity prices. Q. J. Econ. 118, 107–155.
Gompers, P., Ishii, J., Metrick, A., 2010. Extreme governance: an analysis of dual-class firms in the United States. Rev. Financ. Stud. 23, 1051–1088.
Grullon, G., Michaely, R., 2002. Dividends, share repurchases, and the substitution hypothesis. J. Financ. 57, 1649–1684.
Harvey, C.R., Lins, K.V., Roper, A.H., 2004. The effect of capital structure when expected agency costs are extreme. J. Financ. Econ. 74, 3–30.
Jagannathan, M., Stephens, C.P., Weisbach, M.S., 2000. Financial flexibility and the choice between dividends and stock repurchases. J. Financ. Econ. 57, 355–384.
Jiang, J., 2010. Board structure and the governance role of independent board in dual-class firms. Working paper. Vanderbilt University.
John, K., Knyazeva, A., Knyazeva, D., 2011. Does geography matter? Firm location and corporate payout policy. J. Financ. Econ. 101, 533–551.
Karpoff, J.M., Malatesta, P.H., 1989. The wealth effects of second-generation state takeover legislation. J. Financ. Econ. 25, 291–322.
La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R., 2000. Agency problems and dividend policies around the world. J. Financ. 55, 1–33.
Lang, L., Stulz, R., Walkling, R., 1991. A test of the free cash flow hypothesis: the case of bidder returns. J. Financ. Econ. 29, 315–335.
Li, K., Ortiz-Molina, H., Zhao, X., 2008. Do voting rights affect institutional investment decisions? Evidence from dual-class firms. Financ. Manag. 37, 713–745.
Lintner, J., 1956. Distribution of incomes of corporations among dividends, retained earnings, and taxes. Am. Econ. Rev. 46, 97–113.
Malatesta, P.H., Walkling, R.A., 1988. Poison pill securities: stockholder wealth, profitability, and ownership structure. J. Financ. Econ. 20, 347–376.
Masulis, R., Wang, C., Xie, F., 2009. Agency problems at dual class companies. J. Financ. 64, 1697–1727.
Moyer, R.C., Rao, R., Sisneros, P.M., 1992. Substitutes for voting rights: evidence from dual class recapitalizations. Financ. Manag. 35–47.
Myers, S., 2000. Outside equity. J. Financ. 55, 1005–1037.
Nguyen, V., Xu, L., 2010. The impact of dual class structure on earnings management activities. J. Bus. Financ. Account. 37, 456–485.
Schulz, P., Shive, S., 2010. Mispricing of dual class shares: profit opportunities, arbitrage, and trading. J. Financ. Econ. 98, 524–549.
Stein, J., 1988. Takeover threats and managerial myopia. J. Polit. Econ. 96, 61–80.