Financing Payouts * †

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Abstract

We study the extent to which firms rely on the capital markets to fund their payouts. We find that 42% of firms that pay out capital also initiate debt or equity issues in the same year, resulting in 32% of aggregate payouts being externally financed. Most firms that simultaneously raise and distribute capital do not generate enough free cash flow to fund their payouts internally. Firms devote more external capital to finance share repurchases than to avoid dividend cuts. Payouts financed by debt, which allow firms to jointly manage their capital structure and liquidity, are by far the most common.

Key words: Payout policy, financing decisions, debt issues, equity issues, capital structure.

JEL classification: G35; G32.

The payout literature has long argued that payouts are primarily funded with internal funds. DeAngelo, DeAngelo, and Skinner's (2008) influential review notes that "the available evidence […] supports the view that the need to distribute FCF [free cash flow] is a first-order determinant of the overall value and timing of payouts" (pp. 97-98). What is more, Ross, Westerfield, and Jaffe (2013) write in their corporate finance textbook that "a firm should begin making distributions when it generates sufficient internal cash flow to fund its investment needs now and into the foreseeable future," advising managers to set payouts "low enough to avoid expensive future external financing" (payout chapter, pp. 607-608).

At the same time, tradeoff theories of capital structure predict that firms should actively counteract unexpected decreases in leverage by, for instance, issuing debt to finance dividends or repurchase equity. Examples of such leveraged recapitalizations have been documented in the academic literature (Vermaelen 1981; Denis and Denis 1993; Wruck 1994), discussed in the press,[1] and are even prominently featured in the same textbook that prescribes that payouts should be funded with internal funds (Ross et al., capital structure chapter, pp. 495-496). Of course, firms that issue debt (or equity) while simultaneously distributing capital can pay out more than their free cash flow—and they can do so over prolonged periods of time.

Taken together, these two characterizations of payouts point to a possible disconnect between the payout literature view of payouts as being primarily funded with free cash flow and the capital-structure literature acknowledgement that firms can finance their payouts by raising external capital. The theoretical consideration that corporate liquidity, capital structure, and payout policy are inextricably linked implies that if firms systematically finance their payouts, our understanding of the drivers of payout, security issuance, and capital structure decisions may need to be reexamined. No paper to date, however, has systematically analyzed the extent to which firms rely on the capital markets to finance their payouts, how pervasive or persistent this phenomenon is, whether firms only

[1] For instance, see "Buybacks jump as companies borrow for stock purchases" (*Bloomberg*, September 20, 2010); "Bondholders pay price of share buybacks" (*Financial Times*, February 26, 2014); "The new bond market: Debt investors wary as offerings fuel buybacks" (*The Wall Street Journal*, September 21, 2015).

finance payouts to maintain past regular dividend levels or discretionary payout increases are financed as well, and the drivers of such behavior.

The goal of this paper is to shed light on these questions by conducting the first systematic study of how firms fund their payouts and, in particular, of the role that the debt and equity markets play in financing payouts. We find that on average during our 1989-2012 sample period, 42% of payout payers initiate a net debt or an equity issue during the same year they pay out. In addition to being widespread, simultaneous payouts and security issues (henceforth, "financed payouts") are substantial in dollar magnitude: 32% of the aggregate capital paid out by public U.S. firms is raised by the same firms during the same year via net debt or firm-initiated equity issues.[2]

Importantly, we show that the vast majority of firms that finance their payouts in the capital markets have no choice but to raise this capital if they want to sustain their levels of payout and investment, as they do not generate enough profits to fund both: 41% of all payout payers set their payouts above their free cash flow, even after we conservatively count cash reductions and the proceeds of employee-initiated equity issues as part of a firm's free cash flow. These fractions are even larger when we aggregate firms' cash flows over four-year intervals, suggesting firms' reliance on external funds to finance their payouts is persistent.

Firms devote a larger fraction of the capital they raise to financing their *discretionary* payouts (i.e., the sum of their share repurchases, special dividends, and regular dividend increases) than their *non-discretionary* payouts (those required to avoid regular-dividend cuts): 23% of the aggregate proceeds of firm-initiated security issues are simultaneously paid out via discretionary payouts (35% since 2005), whereas 19% are paid out via non-discretionary payouts. Hence, while the well-known aversion to cut dividends can explain why firms finance their non-discretionary payouts (as in the models of Lambrecht and Myers (2012, 2017) or the survey evidence of Brav et al. (2005)), it cannot explain the majority of financed payouts, which take the form of share repurchases. At the same time,

[2] Neither the above figures nor our analyses throughout the paper include payouts that are financed via employee-initiated equity issues (typically the result of stock option exercises), which have become ubiquitous in recent years.

our finding that one-third of non-discretionary payers do not generate enough profits to fund both their regular dividends and investment suggests they have set a dividend level that their free cash flow cannot consistently sustain.

To shed light on why firms finance their discretionary payouts with external capital, we begin by analyzing the extent to which payouts are financed via debt versus equity issues, a choice with obvious capital-structure implications. Debt is by far the most important source of payout financing: 33% of aggregate discretionary payouts are financed via simultaneous net debt issues. Conversely, each year debt issuers pay out 25% of that year's aggregate net debt proceeds via discretionary payouts—and 39% if non-discretionary payouts are also included. By contrast, firm-initiated equity issues finance only 3% of both total and discretionary payouts, thus indicating that equity is not an important source of payout financing once employee-initiated issues are excluded. That said, when firms do initiate equity issues, they pay out a non-negligible 10% of the proceeds via discretionary payouts that same year, and 19% via total payouts.

The fact that debt is the dominant source of funds for financed payouts points to the desire to increase leverage as a key driver of payout financing. But if firms want to increase their leverage, why do they choose to combine payouts with (costly) debt issues instead of simply paying out more? A unique feature of debt-financed payouts is that they allow firms to quickly increase their leverage without depleting their cash reserves—or without triggering repatriation taxes. Consistent with firms' desire to jointly manage their capital structure and cash holdings being a key driver of debt-financed payouts, firms that finance their payouts with debt tend to hold lower leverage and cash than their industry peers. Debt-financed payouts allow these firms to significantly increase their leverage: Without the debt-issuance proceeds they simultaneously pay out, the median leverage of firms conducting debt-financed discretionary payouts would be 5.5 percentage points below target five years later, whereas it is all but precisely on target with debt-financed payouts. What is more, 84% of firms with a debt-financed discretionary payout would deplete their *entire* cash reserves if they tried to attain the same leverage increase by only paying out more without simultaneously raising debt.[3]

Of course, in a world with transaction costs and financing frictions, using debt-financed payouts to move toward a firm's target capital structure can be costly. We estimate that the one-time transaction costs associated with debt-financed discretionary payouts average less than one cent per dollar of financed payout. However, once we account both for the fact that firms incur transaction costs each time they roll over the paid-out debt and for the increased deadweight bankruptcy costs due to debt-financed payouts, the estimated financing cost increases to 5.2 cents per dollar.

We show that the marginal tax rates faced by most firms that debt-finance their discretionary payouts are large enough for the tax savings from the resulting leverage increases to compensate for their costs. Further supporting a causal role of tax motives, we find that firms use debt-financed discretionary payouts to increase their leverage when the value of interest tax deductions increases exogenously due to state corporate income tax raises (Heider and Ljungqvist 2015).

Another reason why firms may use debt-financed payouts is to mitigate potential agency problems. In particular, we show that when hedge fund activists target their industry peers, firms rely on debt-financed discretionary payouts to proactively alleviate their own free cash flow problem, thereby making themselves a less attractive target for activists.

We also show that firms are more likely to debt-finance their discretionary payouts in expansionary times, when credit-market sentiment tends to be elevated (Lopez-Salido, Stein, and Zakrajsek 2017). This result is consistent with Ma (2016), who argues that firms may engage in cross-market timing by simultaneously issuing debt and repurchasing equity. This motive could operate on its own; but it could also act in conjunction with firms' desire to jointly manage their cash and capital structure, helping determine the timing of their debt-financed repurchases. Further reinforcing cross-market-timing motives, we find that debt-financed payouts are larger when low

[3] Hovakimian, Opler, and Titman (2001) and Lie (2002) show that under-levered firms use share repurchases to move toward their leverage targets. Our results go one step further, showing that firms combine debt issues and share repurchases to accelerate the move toward their target leverage without exhausting their cash reserves.

excess bond premia or term premia indicates that debt may be overvalued, and low market-to-book or stock market sentiment indicates that equity could be undervalued.[4]

Finally, we find suggestive evidence that some debt-financed discretionary payouts may be motivated by market-timing opportunities fueled by government debt policies. Debt-financed payouts tend to be lower when the government bond supply is high, consistent with the notion that government borrowing can crowd out corporate debt (Graham, Leary, and Roberts 2014). We also show that, as hypothesized by Stein (2012), the Federal Reserve's quantitative easing (QE) program was associated with an increase in debt-financed payouts beyond the level expected given the business-cycle and fiscal conditions prevailing at the time of the program.

Our findings contribute to the literature along three dimensions. First, this paper is the first to systematically analyze how firms fund their payouts. The vast payout literature has investigated in detail the determinants of the form of payouts (dividends or repurchases), their motivations, and the effect that payout decisions have on equity returns. (See DeAngelo, DeAngelo, and Skinner (2008), and Farre-Mensa, Michaely, and Schmalz (2014) for recent reviews.) Yet, despite the high interest in payout policy, no paper to date has systematically examined how payouts are funded and, in particular, the extent to which firms rely on the capital markets to fund their payouts. In apparent contradiction to the view portrayed in popular corporate finance textbooks (e.g., Berk and DeMarzo 2011; Ross, Westerfield, and Jaffe 2013), we find that external capital is a substantial source of payout funding. An important implication is that the level of payouts is not pinned down by the level of free cash flow, rejecting an implicit assumption in much of the payout literature.

To be sure, we are not the first to show that firms sometimes raise external funds that they simultaneously pay out. Prominent examples are Vermaelen (1981), who documents the existence of 13 debt-financed share repurchases; Denis and Denis (1993), who investigate 39 leveraged recapitalizations; and Wruck (1994), who examines Sealed Air Corporation's leveraged special

[4] We also find some support for the hypothesis that equity-financed repurchases may be the result of managers' attempts to engage in equity-market timing. These attempts appear to be rather costly, as the costs associated with equity-financed payouts more than double those of their debt-financed counterparts.

dividend. Also related is Frank and Goyal's (2003) finding of a positive partial correlation between net debt issues and dividends. On the equity side, Fama and French (2005) and Grullon et al. (2011) find that firms often simultaneously raise and pay out equity; however their results are largely driven by employee-initiated equity issues, whereas we focus on payouts financed with firm-initiated issues. Building on this prior work, we provide the first comprehensive quantification of the role that the debt and equity markets play in financing payouts.

Second, the large frequency and magnitude of externally financed discretionary payouts have direct implications for our understanding of the drivers of firms' payout and capital structure policies. We show that firms use simultaneous payouts and security issues to jointly manage their leverage and cash in a way that most firms would be unable to replicate by using payouts (or issuances) alone, thus suggesting that capital-structure changes are not a by-product but a key objective of payout policy. In particular, our findings support the notion that debt-financed payouts are motivated by tax and perhaps also agency considerations, in line with trade-off theories of capital structure.[5] By contrast, the evidence rejects Myers' (1984) pecking-order prediction that "an unusually profitable firm […] will end up with an unusually low debt ratio compared to its industry's average, and it won't do much of anything about it. It won't go out of its way to issue debt and retire equity to achieve a more normal debt ratio" (p. 589).

Third, our paper relates to the on-going policy debate regarding the effects of monetary policy on corporate behavior. Several commentators have expressed concern that the recent boom in share repurchases has been fueled by the Federal Reserve's accommodative monetary policy and, in particular, by the QE program, which may induce firms to prioritize payouts over investment.[6] Although identifying the causal effects of monetary policy is beyond the scope of this paper, our

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[5] To be sure, our findings do not imply that the bulk of debt issuances are used to finance payouts. In particular, Denis and McKeon (2015) show that large leverage increases that move firms 10 percentage points above their long-run target debt ratio are conducted primarily as a response to operating needs.

[6] For instance, writing in the *Wall Street Journal*, Michael Spence and Kevin Warsh opine that "the Fed has hurt business investment—QE is partly to blame for record share buybacks and meager capital spending" (October 26, 2015). See also "Fed's low rates may be juicing stock buybacks at the expense of jobs" (*MarketWatch*, December 18, 2013) or "Why aren't low rates working? Blame dividends" (*Wall Street Journal*, June 5, 2016).

results suggest that firms use debt-financed payouts to take advantage of market timing opportunities, some of which may have been fueled by government policies.

1. Aggregate Payout and Capital Raising Activity

1.1 Sample selection

Our sample consists of all public U.S. firms that appear in the Compustat-CRSP merged files from 1989 to 2012.[7] We exclude firms in the year of their IPO to avoid capturing the IPO proceeds in our analyses of equity issues. As is customary, we also exclude financial firms (SIC 6) and utilities (SIC 49). The final sample consists of 10,198 unique firms and 86,609 firm-year observations for which all variables required for our baseline analyses in Section 2 are available.

1.2 Non-discretionary and discretionary payouts

The literature has shown that firms tend to avoid cutting their regular dividends (e.g., Lintner 1956; DeAngelo, DeAngelo, and Skinner 2008); by contrast, share repurchases, special dividends, as well as regular-dividend increases are seen as more flexible, and so managers enjoy greater discretion in deciding whether to pay them (Jagannathan, Stephens, and Weisbach 2000; Brav et al. 2005; Leary and Michaely 2011). As a result, the reasons why firms finance their non-discretionary and discretionary payouts may be different. To be able to study these reasons separately, throughout the paper we break down a firm's total payout (the sum of dividends and share repurchases) in two components: the *non-discretionary* component, defined as the minimum of a firm's regular dividend and its prior-year regular dividend; and the *discretionary* component, defined as the sum of the firm's regular-dividend increases, special dividends, and share repurchases.[8]

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[7] The sample starts in 1989 because it is the first full year for which data from the statement of cash flow were standardized following the adoption of the Statement of Financial Accounting Standards 95.

[8] Share repurchases are, by far, the largest component of discretionary payouts: in the average sample year, they account for 90% of all aggregate discretionary payouts. Conversely, non-discretionary payouts are the largest component of total dividends: in our average sample year, non-discretionary payouts account for 88% of aggregate dividends. Throughout the paper, we obtain very similar results if instead of breaking down total payouts into their discretionary and non-discretionary components, we simply break them out into dividends and share repurchases.

1.3 Aggregate payout and capital raising activity

We start by briefly describing the aggregate payout and capital-raising activities of public firms during our sample period. Figure 1 shows that both the percentage of firms that pay out and the dollar amount paid out have increased substantially. (All dollar figures reported in the paper are in real dollars of year 2012 purchasing power.) This increase has largely been driven by discretionary payouts—specifically, by share repurchases. As expected, Figure 1 also shows that discretionary payouts have been much more volatile and procyclical than their non-discretionary counterparts.

Figure 2 shows that net debt issues, defined as the difference between the amount of debt issued and the amount retired if this difference is positive, and zero otherwise, have been by far the most important source of external funds for public U.S. firms.[9] On the equity side, we break down the cash flows from equity issues into firm-initiated issues (SEOs and private placements) and equity issues initiated by a firm's employees, typically the strike price paid when employees exercise their stock options (McKeon 2015).[10] An important conceptual difference exists between the two: firms determine the timing of net debt and firm-initiated equity issues, whereas they do not directly control the timing of option exercises. For this reason, throughout the paper, we conservatively focus our attention on payouts financed via net debt or firm-initiated equity issues.

As Figures 1 and 2 show, aggregate payout and capital-raising activities are both procyclical and have similar aggregate dollar magnitudes. Of course, these patterns do not imply that payouts and issuances are in any way related at the firm level: firms that pay out and those that raise capital may be different firms that are at different stages of their life cycles, as standard lifecycle theories predict (e.g., Grullon, Michaely, and Swaminathan 2002; DeAngelo, DeAngelo, and Stulz 2006). The next section examines simultaneous payout and issuance decisions *by the same firm*, in contrast to the aggregate statistics presented so far.

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[9] Much of the proceeds of gross debt issues are used to roll over prior debt. Our focus on *net* debt issues allows us to capture those proceeds that firms can use to fund investment, cash-flow shortfalls, or—as it turns out—payouts.

[10] Unlike, for instance, Fama and French (2005), our equity-issuance measures do not only include issues that do not generate cash (such as stock-financed mergers, outright grants of stock to employees, or conversions of debt into equity), because we are only interested in capturing those issues whose proceeds can be used to fund payouts.

2. How Common and Large Are Financed Payouts?

In this section, we investigate the frequency and magnitude of payouts that occur during the same fiscal year as security issues (for brevity, we will refer to payouts and issues that take place during the same year as "simultaneous"). Section 2.1 examines the prevalence and economic magnitude of simultaneous payouts and firm-initiated security issues. Section 2.2 reports analogous results broken down for non-discretionary and discretionary payouts, while Section 2.3 breaks down the securities that are issued into net debt and equity issues. Section 2.4 analyzes the extent to which the decisions to simultaneously raise and pay out capital are made by firms that given their profit and investment levels, would have been unable to fund their payouts without raising capital.

2.1 Prevalence and magnitude of simultaneous payouts and security issues

Columns 1-3 in Table 1 report the number of firms that pay out and proactively raise capital in the same year, presented as a fraction of the population of public firms (column 1), the population of firms that pay out capital (column 2), and the population of firms that proactively raise capital (column 3). (In Table 1 and all other tables in the paper, we report annual figures averaged over four-year intervals to conserve space.) Column 1 shows that, in our average sample year, 20% of all public U.S. firms both paid out capital and initiated a net debt or an equity issue. Columns 2 and 3 show that this amounts to 42% of payout payers raising capital in the same year and 46% of security issuers also paying out capital, respectively.

Are simultaneous payouts and security issues economically important? Columns 4 and 5 investigate this question. For each firm-year, we measure the dollar amount the firm proactively raises and pays out in the same year—its "financed payout"—as the minimum of the proceeds of its firm-initiated security issues (net debt issues plus firm-initiated equity issues, denoted SI_{it}) and its total payout (TP_{it}). Thus, a firm's financed payout captures the capital the firm could have avoided raising without any change to its available funds if it had not simultaneously paid out that capital.

Column 4 in Table 1 shows that, on average over our sample period, 32% of the aggregate capital paid out by public U.S. firms is proactively raised by the same payers during the same year. This fraction has decreased somewhat in recent years, indicating that simultaneous payouts and firm-initiated issues have not kept pace with the explosion of payouts captured in Figure 1—even though the fraction of raised capital that is simultaneously paid out has increased markedly since 2003, averaging 35% over our sample (column 5) and peaking at 52% in 2011. In untabulated results, we find that the aggregate annual amount of financed payouts averaged $102 billion in our sample period and peaked in 2007 at $227 billion.

2.2 The role of discretionary and non-discretionary payouts

In order to shed light on the motives that lead firms to externally finance their payouts, we begin by analyzing the extent to which this behavior can be explained by the desire to avoid cutting regular dividends (Lintner 1956). Columns 6-9 in Table 1 show the same analyses as columns 1-2 and 4-5, but we substitute total payouts with non-discretionary payouts; similarly, in columns 10-13 we substitute total payouts with discretionary payouts.

The fraction of non-discretionary payouts that are financed is somewhat larger than that of discretionary payouts, both in terms of counts (column 7 vs. 11) and dollar magnitudes (column 8 vs. 12). However, this finding reflects the fact that non-discretionary payouts have been less prevalent and of smaller magnitude than their discretionary counterparts, particularly in recent years. A comparison of columns 6 and 10 reveals that, in absolute terms, firms are in fact *less* likely to finance their non-discretionary payouts (on average, 13% of all public firms do so) than their discretionary payouts (17% of all public firms do so). If instead of comparing firm counts we focus on dollar magnitudes, we continue to find that financed discretionary payouts dominate: 19% of the aggregate proceeds of firm-initiated security issues are simultaneously paid out via non-discretionary payouts (column 9) and 23% are paid out via discretionary payouts (column 13). In fact, the share of external capital used to finance discretionary payouts has grown considerably, peaking in 2011 when 47% of net capital raised by public firms was paid out via discretionary payouts. Given that firms have little reason to smooth their discretionary payouts (Jagannathan, Stephens, and Weisbach 2000), maintaining discretionary payout levels is unlikely to be the motivation for such financed payouts.

2.3 The role of debt and equity issues

We have shown that simultaneous payouts and security issues represent a large fraction of both payout and capital-raising activities. The drivers of this behavior may critically depend on the type of securities issued, as payouts financed via equity and debt issues have very different capital-structure implications. Table 2 thus examines the extent to which firms finance their payouts via net debt (Panel A) and firm-initiated equity (Panel B) issues. For completeness, we also document how often firms simultaneously pay out and raise capital via employee-initiated equity issues (Panel C).

Three results stand out. First, debt appears to be the dominant form of payout financing: Column 4 indicates that, in the average year, 30% of aggregate total payouts are financed via simultaneous net debt issues (Panel A), while firm- and employee-initiated equity issues finance 3% (Panel B) and 11% (Panel C) of aggregate payouts, respectively. Columns 8 and 12 show that debt dominates the financing of both non-discretionary and discretionary payouts. Figure 3 illustrates the dominance of debt as a source of payout financing by plotting how the aggregate amount of discretionary payouts financed with debt and firm-initiated equity issues has changed over time. In untabulated findings, we find that most debt that is used to finance payouts is long-term debt: of the 30% of aggregate total payouts that are financed via net debt issues, 90% are financed with net issues of long-term debt.

Second, when examining firm counts, a somewhat different picture emerges. Column 2 shows that the percentage of payout payers with simultaneous net debt issues is a substantial 38% (Panel A). That said, this fraction is smaller than the 69% of payers with simultaneous employee-initiated equity issues (Panel C), reflecting the large number of firms with (relatively small) capital inflows from employee stock-option exercises (see Figure 2). On the other hand, simultaneous payouts and firm-initiated equity issues are rather rare, with 7.5% of payout payers initiating equity issues (Panel B).

Third, relative to the total amount of capital firms raise, column 5 in Panel A shows that a sizable 39% of the annual proceeds of net debt issues ($97 billion of the $253 billion of aggregate net debt issues) are paid out during the same year by the same issuers—a larger amount via discretionary than via non-discretionary payouts (column 9 vs. column 13). In addition, Panel B shows that 19% of the proceeds of firm-initiated equity issues are also simultaneously paid out. Therefore, although the fact that SEOs and private placements are relatively rare implies that firms finance only a small fraction of payouts via firm-initiated equity issues, when firms do initiate equity issues, they pay out almost one-fifth of the proceeds during the same year.

As for employee-initiated equity issues, as much as 79% of these proceeds are paid out (Panel C). This finding is consistent with the notion that option exercises provide unplanned capital that is a by-product of firms' compensation policies, and so it is only natural that these proceeds are often paid out, a fact already documented by Fama and French (2005). At the same time, it is worth noting that one-tenth of aggregate payouts can be seen as being financed by the payers' employees.

2.4 The gap between payouts and free cash flow

Section 2.1 shows that simultaneous payouts and firm-initiated security issues represent approximately one-third of both the dollar amounts firms pay out and raise. We now analyze the extent to which this behavior is driven by firms that, given their profit and investment levels, would have been unable to fund their payouts without simultaneously raising capital. To do so, we begin by expressing firm *i*'s payout in year *t* in terms of its potential sources and uses of cash:

$$\text{Total payout } (TP_{it}) = \text{Free cash flow } (FCF_{it}) - \text{Change in cash } (CC_{it}) + \text{Security issues } (SI_{it}) + \text{Employee-initiated equity issues } (EE_{it}), \quad (1)$$

where free cash flow (FCF_{it}) is the sum of operating and investment cash flow.

Motivated by this identity, we define a firm's total payout gap as follows:

$$\text{Total payout gap } (TPG_{it}) \equiv \min\{\max\{TP_{it} - (FCF_{it} + CR_{it} + EE_{it}), 0\}, TP_{it}\}, \quad (2)$$

where $CR_{it} \geq 0$ is the maximum potential cash reduction that would leave the firm with the expected level of cash for a firm of its size, industry, and year. By conservatively adding employee-initiated equity issues to the sum of free cash flow and potential cash reduction, it follows from equation (1) that whenever a firm has a total payout gap (i.e., $TP_{it} > FCF_{it} + CR_{it} + EE_{it}$), the firm needs to initiate a net debt or an equity issue while it simultaneously pays out (i.e., $SI_{it} > 0$).[11]

To illustrate the payout gap definition, consider the case of a firm that pays out \$25, has free cash flow of \$25, and issues \$50 of net debt, which it uses to increase its cash reserves (i.e., $SI_{it} = CC_{it} =$ \$50). This firm pays out and raises capital during the same year, and hence was captured in Section 2.1 as financing its entire \$25 payout ($\min\{TP_{it}, SI_{it}\} =$ \$25). Yet the firm does *not* have a payout gap, because its free cash flow is sufficient to fund its payout ($TPG_{it} = \min\{\max\{25 - (25), 0\}, 25\}=$ \$0). This example illustrates the complementary nature of our analyses in Sections 2.1 and 2.4: In Section 2.1, we quantify all firms that pay out and raise capital simultaneously; in this section, we zero in on those firms that would have been unable to maintain their payout level without simultaneously raising capital, all else equal.

Note that it does not follow from our gap definition that a firm's payout is neither a necessary nor a sufficient driver of its need to tap the capital markets—some firms with a gap would have to raise at least some capital even if they did not pay out, while others could avoid raising any capital by cutting their investment while maintaining their payout. What our gap definition captures is how much capital firms could avoid raising by decreasing their payout while maintaining their profitability and investment levels and at least a normal level of cash.

Table 3 shows that 41% of all payers—or 20% of all public firms—set payout levels that, given their investment level, they need to finance by raising capital; the dollar magnitude of their gaps amounts to 29% of aggregate payouts and 31% of aggregate firm-initiated security issues. These figures are very close to those we found in Table 1 when we examined simultaneous payouts and firm-initiated issues, both in terms of firm counts and dollar magnitudes. Therefore, most firms that

[11] The only exception is if the firm is both able and willing to cover the gap $TP - (FCF + CR + EE)$ with an additional cash reduction that leaves it with cash below the expected level given its size, industry, and year. Throughout the paper, we obtain very similar results if instead of using CR in the definition of payout gap, we use each firm's actual cash reduction (i.e., $-\min\{CC, 0\} \geq 0$).

simultaneously raise and pay out capital could not have sustained their payout level without raising at least part of that capital (or without cutting their investment).

To what extent are payout gaps driven by non-discretionary and discretionary payouts? We define a firm's non-discretionary payout gap analogously to how we define its total payout gap:

$$\text{Non-discretionary payout gap } (NPG_{it}) \equiv \min\{\max\{NP_{it} - (FCF_{it} + CR_{it} + EE_{it}), 0\}, NP_{it}\}, \quad (3)$$

where *NP* denotes the firm's non-discretionary payout. Similarly, its discretionary gap is

$$\text{Discretionary payout gap } (DPG_{it}) \equiv \min\{\max\{DP_{it} - (FCF_{it} + CR_{it} + EE_{it} - NP_{it}), 0\}, DP_{it}\}, \quad (4)$$

where *DP* denotes the firm's discretionary payout.[12] Columns 5-12 in Table 3 show that non-discretionary gaps are substantial, with 34% of payers failing to generate enough profits to fund both last year's regular-dividend and their investment. But discretionary gaps are even more prevalent: 41% of payers cannot fund their discretionary payouts and investment with internal funds, having to devote 20% of the proceeds of all security issues to fill their discretionary gaps—with an additional 10% being used to fill non-discretionary gaps.

Figure 4 helps visualize how the aggregate dollar amounts of discretionary and non-discretionary payout gaps have evolved over our sample period. The figure shows that discretionary gaps have consistently exceeded their non-discretionary counterparts since 1995. The figure also shows that discretionary gaps—like discretionary payouts themselves—are highly procyclical, peaking in 2007, right before the 2008-2009 financial crisis, at an aggregate value of $181 billion.

Are payout gaps the result of firms' desire to smooth their payouts relative to their free cash flow, leading to temporary mismatches between them? If the answer were yes, measuring gaps over longer horizons would reduce their magnitude. To investigate whether this is the case, Table IA.2 reports the same analysis as above but with gaps defined over four-year intervals. (Tables IA.1-IA.11 are in the Internet Appendix to conserve space.) As it turns out, gaps are somewhat more prevalent and of

[12] Our discretionary-gap definition identifies firms for whom the sum of their free cash flow, cash, and employee-initiated equity issues is not enough to fund their discretionary payout after their non-discretionary payout has been funded, thus reflecting the notion that firms prioritize their non-discretionary over their discretionary payouts.

larger magnitude relative to the capital firms raise when defined over four-year intervals than when defined annually.

One driver of the persistence of payout gaps appears to be that just over a quarter, 27%, of regular dividend initiators have a payout-funding gap and need to finance their payouts externally; in dollar terms, dividend initiators' funding gaps amount to 20% of the aggregate sum of their initial regular dividends (Table IA.3).

In untabulated analysis, we also find that 46% of all firms that finance their payouts by initiating simultaneous security issues in a given year also do so in the next year; 64% of them do so in at least one of the next two years; and 73% do so in at least one of the next three years. Even in the case of volatile discretionary payouts, the persistence of payout-financing behavior is notable: 39% of all firms that finance their discretionary payout in a given year also do so in the next year; and 55% and 65% of them do so in at least one of the next two and three years, respectively. Thus, gaps are persistent and do not reflect temporary mismatches between cash flows and payouts.

2.5 Profitability and investment shocks

Section 2.4 shows that for the vast majority of firms that simultaneously raise and pay out capital, the sum of their free cash flow, potential cash reduction, and employee-initiated equity issues is not sufficient to fund their payouts. Hence, given their profitability and investment levels, such firms would not have been able to fund their payouts without raising capital. Table 4 examines the extent to which these firms' payout gaps are the result of the firms deciding to maintain their payouts in the face of shocks to their profits or investment needs that leave them with unusually low levels of free cash flow. To do so, we construct *counterfactual* payout gaps based on the firms' expected profits or investment, and we compare them to the firms' *actual* gaps (based on their actual profits and investment). If payout gaps were the result of one-off shocks to the firms' profits or investment, the gaps should all but disappear when we counterfactually assume that the shocks did not happen.

Column 1 in Table 4, Panel A shows that 33% of all payout payers would have a payout gap even if they had been *at least* as profitable as the median firm in their industry. Recall from Table 3 that

41% of all payers have an actual payout gap; therefore, 81% (=33%/41%, denoted in the table as "% of actual") of those firms with a gap would still have a gap even if we counterfactually assume that their profits were no lower than those of their industry's median firm. Columns 2 and 3 show that the aggregate dollar magnitude of such counterfactual gaps represents 91% of the magnitude of actual gaps. We find only slightly smaller ratios when we counterfactually assume that all firms are at least as profitable as they were the prior year (Panel B). These findings suggest that less than a fifth of payout gaps are incurred by firms that continue paying out in the face of unusually low profits. The reluctance to cut payouts when profits are unusually low also appears to have low explanatory power for non-discretionary payout gaps, explaining less than a quarter of all non-discretionary gaps (columns 4-6); and, it explains an even smaller fraction of discretionary gaps (columns 7-9).

Panels C and D in Table 4 perform an analysis analogous to Panels A and B, showing counterfactual payout gaps when we assume that no firm invests more than the median firm in its industry or than the firm itself did the prior year. Column 1 shows that 64% of firms with a payout gap would still have a gap if they had invested no more than the median firm in their industry (Panel C), and 74% would still have a gap if they had invested no more than they did the prior year (Panel D). Columns 2 and 3 show that the aggregate dollar magnitudes of payout gaps in these counterfactual scenarios represent 61% and 70%, respectively, of the actual magnitude of payout gaps. Therefore, firms that would not have a gap had their investment been at usual levels but that decide to continue paying out when their investment needs grow account for 30% to 40% of both the prevalence and aggregate magnitude of payout gaps. This ratio reaches 45% when we focus on the non-discretionary component of payout gaps (columns 4-6), whereas it stays below 36% when we focus on discretionary gaps (columns 7-9). Investment shocks are thus a more important driver of payout gaps than profitability shocks—but by no means the only driver.

3. Why Do Firms Finance Their Payouts?

Having examined the mechanical drivers of financed payouts, our goal in this section is to shed light on the motives that lead over 40% of payers to not follow the textbook prescription of funding payouts with free cash flow, instead setting payouts that they can sustain only by raising capital (or cutting investment). Throughout the section, we focus on financed *discretionary* payouts, as these cannot be explained by firms' well-known reluctance to cut their regular dividends. (We thus often omit the 'discretionary' qualifier for brevity.) We begin by examining the costs associated with financed payouts. We then turn our attention to analyzing the characteristics of firms that debt-finance their payouts and the potential benefits associated with this behavior. We conclude with a briefer analysis of the motives behind equity-financed payouts, which are far less common than their debt-financed counterparts.

3.1 The costs of financed payouts

In a world without transaction costs or financing frictions in which firms can always raise capital at prices that reflect their fundamental value, financed payouts simply shift the timing of distributions and the identity of the recipients without altering the present value of a firm's total distributions—and thus without affecting the total value of the firm (Miller and Modigliani 1961). However, the literature suggests that most firms face a non-trivial wedge between their external and internal costs of funds. First, direct transaction costs associated with raising external funds imply that external capital is more costly than internal capital for virtually all firms (e.g., Kaplan and Zingales 1997). These costs include underwriting spreads (in the case of bonds and stocks), loan fees (in the case of bank loans and lines of credit), and other direct issuance expenses (e.g., registration and legal fees). In addition to these direct transaction costs, asymmetric information discounts (Myers and Majluf 1984), taxes, and deadweight bankruptcy costs can imply that for many firms, "the cost of new debt and equity may differ substantially from the opportunity cost of internal finance generated through cash flow and retained earnings" (Fazzari, Hubbard, and Petersen 1988; p. 142).

In order to quantify the costs associated with debt- or equity-financed payouts, we would ideally need to observe the wedge between each firm's external cost of debt or equity, on the one hand, and its internal cost of funds, on the other hand. While these wedges are not directly observable, Table 5 provides a range of estimates of their magnitude to get a sense of the costs of debt and equity-financed payouts.

Panel A begins by estimating the transactions costs associated with those debt-issuance proceeds that firms simultaneously pay out, combining data from Thomson Reuters SDC and Mergent FISD (for bond issues) and DealScan (for loans and lines of credit). Debt transaction costs have both fixed and variable components (Altinkilic and Hansen 2000). For an average 72% of firms with a discretionary payout gap, the sum of their free cash flow, potential cash reduction, and proceeds of employee-initiated equity issues, minus any non-discretionary payout, is negative, and so such firms would have to raise at least some capital even if their discretionary payout were zero (Table IA.5).[13] Accordingly, we cannot attribute the fixed component of these firms' debt transaction cost (estimated by Altinkilic and Hansen to be 10.4% of the total transaction cost) to their decision to finance their discretionary payout; our analysis in Table 5 thus subtracts it.

Column 1 shows that firms pay on average 0.6 cents in transaction costs for each $1 of payouts they finance by issuing debt. This amounts to the average firm that debt-finances its payouts incurring $0.7 million in transaction costs that can be directly attributed to its payout-financing decision (column 2). Column 3 indicates that the aggregate magnitude of these transaction costs is non-negligible: In the average year, industrial public firms pay an aggregate $368 million in transaction costs for the $67 billion of discretionary payouts they finance with net debt issues.[14]

The transactions costs calculated in columns 1-3 of Table 5, Panel A effectively assume that firms only pay these costs once. However, if a firm with zero free cash flow in steady state decides to issue a five-year bond to repurchase shares, the firm will need to issue a new bond to roll over its debt in five years, incurring transaction costs again. To give a sense of how accounting for these roll-

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[13] Table IA.5 also shows that while these firms would have to raise at least some capital even if their discretionary payout were zero, the amount of additional they raise due to their payout decision is sizeable, constituting 22% of their total funding need.

[14] The costs we report in Table 5 include firms that would have to raise capital even if they did not pay out (and so for which the fixed component of transaction costs cannot be attributed to their payout decision) and their complement set. Tables IA.6 and IA.7 report costs broken down for these two sets of firms.

over transaction costs affects the cost of debt-financed payouts, columns 4-6 show the present value of transactions costs that a firm that debt-finances its payout will need to pay over 100 years.[15] This calculation assumes that each firm rolls over its debt every time it comes due by issuing debt that has the same maturity and transaction costs as the debt it initially issued to debt-finance its payout.[16] Column 4 shows that the present value of the transaction costs paid over 100 years to finance $1 of payouts is 2.9 cents. The present value of the transaction costs incurred by the average firm-year that debt-finances its payouts is $2.6 million (column 5), which aggregates to $1.32 billion across all firms that debt-finance their payouts in the average sample year (column 6).

Our analysis in Panel A of the costs of debt-financed payouts focuses only on transaction costs. However, information frictions in the capital markets can cause the wedge between firms' external and internal costs of funds to be larger than is implied by direct transaction costs. One well-known attempt to structurally estimate this wedge by modeling it as a deadweight bankruptcy cost is Hennessy and Whited (HW; 2007). In a model with both debt flotation costs and deadweight bankruptcy costs (and so where bankruptcy costs are incremental to transaction costs), HW estimate that for large (small) firms, deadweight bankruptcy costs equal 7.3% (14.1%) of capital (see Table V in HW). Using these estimates to quantify the costs of financed payouts requires us to first assess how debt-financed payouts increase firms' probability of bankruptcy. To do so, for each firm that debt-finances its payout in year *t*, we compute the difference between the firm's Merton (1974) distance to default (DD, estimated as in Bharath and Shumway (2008)) at the end of year *t* and the counterfactual DD if the firm had set its debt-financed payout to zero. We then multiply this difference by the deadweight-bankruptcy-cost estimates provided by HW for firms of that size.

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[15] We set the discount rate equal to the average cost of debt for firms in the sample each year.

[16] All else equal, the transaction costs associated with debt issues of longer maturity tend to be higher (e.g., Kim, Palia, and Saunders 2008). Thus, an advantage of the costs we report in columns 4-6 relative to those in columns 1-3 is that we do not mechanically attribute lower transaction costs to firms that finance their payouts by issuing debt of shorter maturity. Also, the fact that our definition of debt-financed payout requires firms to issue *net* debt ensures that we do not double-count transaction fees by assuming that the same $1 of debt is used both to roll over debt issued to finance past payouts and to finance a new payout.

Panel B in Table 5 reports our findings. Column 1 shows that firms that conduct debt-financed payouts see their probability of default increase by 0.35 percentage points (p.p.) on average. This is a non-trivial increase, particularly given that the mean and median probability of default for these firms is 4.7% and 0.0%, respectively. As expected, the increase is anti-cyclical, peaking in 2008 when those (few) firms conducting debt-financed payouts saw their probability of default increase by 1.47 p.p. on average. Column 2 shows that the cost of each $1 of debt-financed payout, as captured by the deadweight bankruptcy cost associated with the increase it causes in the firm's default probability, is 2.3 cents. In the average year, this amounts to an average cost of $0.7 million per firm with a debt-financed payout (column 3), or $447 million when we aggregate across all firms (column 4).

We next combine these deadweight-bankruptcy-cost estimates of the costs of debt-financed payouts with the transaction-cost estimates from Panel A. Columns 5-7 focus on the one-time transaction cost estimates: We find that the one-time transaction cost plus the deadweight bankruptcy cost associated with $1 of debt-financed payout is 2.9 cents. In the average year, this amounts to $1.4 million per firm with a debt-financed payout, or $810 million when aggregating across all firms. Analogously, in columns 8-10, where we use our estimates of the present value of transaction costs paid over 100 years, we find that the cost of $1 of debt-financed payout is 5.2 cents, amounting to $3.4 million per firm-year with a debt-financed payout, or an aggregate $1.75 billion.

We now turn to analyzing the costs associated with *equity*-financed discretionary payouts, which we report in Panel C of Table 5. Columns 1-3 are analogous to columns 1-3 of Panel A, focusing on transaction costs and again subtracting their fixed component in the case of those firms that would still have to raise capital even if they did not pay out.[17] Column 1 shows that the transaction costs associated with $1 of equity-financed payout average 4.9 cents. In the average year, this amounts to an average cost of $1.3 million per firm with an equity-financed payout, or $128 million when we aggregate across all firms. In columns 4-6, instead of estimating transaction costs directly from

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[17] For equity issues, Altinkilic and Hansen (2000) estimate fixed costs to range from 6.4% to 6.5% of underwriter compensation (we take the mid-point of this range).

equity issuance data, we use HW's structural estimates of the costs of issuing equity for firms of different sizes. These estimates aim to capture the full wedge between firms' external and internal costs of equity, which includes "adverse selection costs, along with underwriting fees" (p. 1712).[18] According to HW's structural estimates, the cost associated with $1 of equity-financed payout averages 12.7 cents (column 4). This amounts to an average cost of $2.5 million per firm-year with an equity-financed payout, or $243 million when we aggregate across all firms. Panel C thus shows that, when adverse selection discounts are included, the costs of equity-financed payouts more than double those of their debt-financed counterparts, which likely helps explain why financing payouts with equity is far less common than doing so with debt.

In sum, our most comprehensive estimates of the costs of debt-financed payouts, which account both for the fact that firms incur transaction costs each time they need to roll over the debt they initially paid out and for increased deadweight bankruptcy costs, average 5.2 cents per dollar—or an aggregate $1.75 billion annually. (The costs of equity-financed payouts are even larger, at up to 12.7 cents per dollar.) These non-trivial costs suggest that firms must perceive significant benefits in conducting a deliberate policy of financing payouts. We explore these benefits next.

3.2 Characteristics of firms that debt-finance their payouts

We begin our investigation of the potential benefits of debt-financed payouts by analyzing the characteristics of the firms engaging in this behavior (we defer our analysis of the benefits of equity-financed payouts until Section 3.6). Column 1 in Table 6 shows the results of estimating the following probit model in our sample of public firms:

$$\textit{Debt-financed discretionary payout}_{it} = \Phi X_{it} + \gamma_t + \varepsilon_{it} \quad (5)$$

where the dependent variable is an indicator set equal to one if firm *i* conducts a debt-financed discretionary payout in year *t*, and zero otherwise. The vector *X* includes controls for firm size, an indicator for whether the firm has an investment-grade credit rating, profitability, investment, excess

[18] Thus, unlike in the case of deadweight bankruptcy costs, HW's equity-issuance-cost estimates already include transaction costs, which is why we do not combine our transaction-cost estimates with HW's structural estimates.

leverage and excess cash (in both cases relative to the firm's industry median), the tax cost of repatriating the firm's foreign profits, and market-to-book. (All variables are defined in Appendix A.)

The analysis in column 1 thus focuses on the extensive-margin decision of whether to conduct a debt-financed discretionary payout; by contrast, in column 2 we condition the sample on those firms that pay a discretionary payout and estimate a fractional logit model in which the dependent variable is the fraction of the firm's discretionary payout that is debt-financed. Specifically, the dependent variable in column 2 is $\min\{\textit{Net debt issue}_{it}, DP_{it}\} / DP_{it}$, where *DP* denotes a firm's discretionary payout, and all control variables are the same as in column 1. For ease of interpretation, in both columns 1 and 2 we report conditional marginal effects evaluated at the means of the independent variables. Standard errors are clustered at the firm level.[19]

Table 6 shows that larger firms are more likely to conduct a debt-financed payout (column 1) and, conditional on paying out, tend to finance a larger fraction of their payout with debt (column 2). In addition, we find that debt-financed payouts are more common at firms with an investment-grade credit rating (however, conditional on paying out, a firm's rating is not significantly associated with the payout fraction that is debt-financed). Both a firm's size and rating level are thought to be negatively correlated with its debt transaction costs (Altinkilic and Hansen 2000) and deadweight bankruptcy costs (Hennessy and Whited 2007). Thus, our findings in Table 6 indicate that debt-financed payouts are more common among those firms for which the cost of debt-financed payouts is lower—although, as we saw in Section 3.1, even for these firms the cost can still be significant.

Table 6 goes on to show that operating profit is negatively associated with both the likelihood that a firm conducts a debt-financed payout and with the fraction of the payout that it debt-finances. At the same time, we also find that firms with high investment (and thus low free cash flow) rely

[19] Table IA.8 provides a benchmark for financed payouts by examining the characteristics of discretionary payers in general, whether or not their payouts are financed. Our findings are in line with those prior literature has found for share repurchases (e.g., Dittmar 2000), which account for 90% of discretionary payouts.

more on debt-financed payouts, both at the extensive and intensive margin.[20] That said, recall from Table 4 that fewer than 20% and 36% of firms that finance their discretionary payouts do so because they have experienced a negative profitability or a positive investment shock, respectively.

While the results in Tables 3, 4, and 6 help us understand the characteristics and circumstances surrounding those firms that finance their payouts, the question still remains: Why do firms facing a profitability or (more frequently) an investment shock, as well as many other firms not facing either, set a discretionary payout level that they need to finance externally? The next sections examine in turn the role that capital structure and cash management, investor activism, and market timing play in motivating this behavior.

3.3 Using financed payouts to jointly manage a firm's capital structure and cash holdings

Table 2 showed that debt is by far the largest source of payout financing. Of course, such debt-financed payouts result in increased leverage, which suggests that firms may use them as a tool to actively manage their capital structure. But if a firm wants to increase its leverage, why does it not simply pay out capital, instead of simultaneously raising debt and paying it out? Debt-financed payouts have two unique implications that internally funded payouts cannot replicate. First, while any payout causes leverage to increase, this effect is magnified when payouts are financed with debt. Second, by combining payouts with debt issues, firms can increase their leverage (as well as their leverage net of cash) without depleting their cash reserves. In particular, we have shown in the previous section that firms with high levels of investment are more likely to finance their payouts;

[20] To illustrate, column 1 indicates that, for the average public firm, a 1 percentage-point (p.p.) increase in its investment-to-assets ratio is associated with a 0.3 p.p. increase in the probability that the firm conducts a debt-financed payout. Column 2 shows that for the average discretionary payout payer, a 1 p.p. increase in its investment ratio is associated with a 2.2 p.p. increase in the fraction of its discretionary payout financed by debt. The interpretation of all other coefficient estimates is analogous.

debt-financed payouts allow such high-investing firms to prevent their leverage from falling—as would be the case if they simply reinvested their profits—without depleting their cash reserves.[21]

Consistent with capital-structure and cash considerations being key drivers of financed payouts, column 1 in Table 6 indicates that each percentage point (p.p.) increase in a firm's excess leverage or excess cash ratios is associated with a 0.15 or 0.20 p.p. decrease, respectively, in its probability of conducting a debt-financed payout. (These are sizeable decreases given the 15% unconditional probability of conducting a debt-financed payout). Column 2 similarly shows that payers with high levels of leverage or cash debt-finance a smaller fraction of their payouts, all else equal.

Figure 5 further examines the quantitative impact that debt-financed discretionary payouts have on leverage and cash holdings. Panel A compares the evolution of the target leverage deviation for the median firm that debt-finances its discretionary payout in year $t = 0$ to how median leverage would have evolved had firms not debt-financed their payouts. (We define the target leverage deviation as the difference between a firm's leverage and the predicted level of leverage for a firm of its size, industry, and year.) The solid line shows that the median firm that debt-finances its payout in year $t = 0$ is 4.4 percentage points (p.p.) below its target leverage in year $t = -1$. Median leverage climbs to 1.3 p.p. above target in year $t = 0$, and then in year $t = 1$ begins a gradual decline toward the estimated target level, which it all but reaches by year $t = 5$.

The dashed line shows the counterfactual evolution of median leverage under the assumption that firms do not debt-finance their payouts in year $t = 0$ or any subsequent years. The figure shows that without debt-financed payouts, median counterfactual leverage would still initially increase, as our counterfactual analysis allows firms to raise debt or pay out discretionary payouts, simply zeroing out the effects of debt-financed payouts. However, this initial increase would fall 1.3 p.p. short of

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[21] The following stylized example illustrates these mechanics. Consider a high-investing firm that initially has a 30% leverage ratio with $30 of debt and $70 of equity, holds $15 in cash, and generates $10 in profits. If the firm reinvests its profits, its leverage will fall to 27.3% (=30/110). The firm could keep its leverage stable without raising any debt by paying out $10, but doing so will bring its cash down to $5. Alternatively, the firm could issue $3.53 of debt and pay out half of it, which will keep its leverage at 30% and its cash ratio at 15%. Raising debt and paying part of the proceeds out is the only way such a firm can keep both its leverage and cash ratios stable.

reaching the target level of leverage in year $t = 0$. In subsequent years, median counterfactual leverage would further deviate from both its actual and target levels, with counterfactual leverage 5.5 p.p below target leverage (and 5.7 p.p. below actual leverage) in year $t = 5$.

Consistent with the notion that debt-financed payouts allow firms to increase their leverage without depleting their cash reserves, the solid line in Figure 5, Panel B shows that firms with a debt-financed payout in year $t = 0$ are able to maintain a steady cash-to-assets ratio through year $t = 5$. By contrast, the counterfactual dashed line shows that the median such firm does not have enough cash to attain the same leverage increase shown in Panel A by only paying higher payouts without simultaneously raising debt—in fact, only 16% of firms have enough cash to do so. Figure 5 thus illustrates how firms rely on debt-financed payouts to increase their leverage while maintaining a steady level of cash.

Even when firms have ample cash reserves, using this cash to fund payouts can be costly if the cash is held overseas. Debt-financed payouts allow firms in this situation to increase their leverage without the tax costs they would face if they repatriated their foreign cash to fund payouts (e.g., Foley et al. 2007; Faulkender and Petersen 2012). Consistent with this interpretation, Table 6 shows that the tax cost of repatriating foreign earnings is positively associated with both the likelihood and magnitude of debt-financed payouts.

In order to quantify the importance of firms' incentives to avoid repatriation taxes as a driver of financed payouts, Table IA.9 replicates our analysis of simultaneous payouts and security issues in Table 1 after excluding all firm-years for which the tax cost of repatriating the foreign profits they earned in the previous year is positive. The percentage of discretionary payers that simultaneously raise capital among firms with no incentives to avoid repatriation taxes is 41%, only slightly smaller than the 42% in the full sample. The fraction of capital paid out that is raised by the same discretionary payers during the same year remains almost unchanged after excluding firms with incentives to avoid repatriation taxes, while the fraction of raised capital that is simultaneously paid out decreases from 23% to 18%. Thus, the desire to avoid repatriation taxes plays a relatively small role in explaining the majority of financed payouts, though it appears to be an important driver of instances in which firms raise large amounts of capital—typically debt (Figure 3)—that they simultaneously pay out.[22]

Why do firms manage their capital structure? Taxes are one key reason why firms may find it optimal to increase their leverage by debt-financing their payouts. Issuing debt allows firms to minimize their tax bill because interest payments can be deducted from taxable income (Modigliani and Miller 1963). Paying out the debt-issuance proceeds ensures that the taxable interest income that would be generated if firms retained the proceeds as cash does not offset the tax savings. In addition to minimizing a firm's tax bill, debt can also be used to mitigate the agency costs of free cash flow (Grossman and Hart 1982; Jensen 1986). Indeed, as Jensen points out, "debt creation, without retention of the proceeds of the issue, enables managers to effectively bond their promise to pay future cash flows […] in a way that cannot be accomplished by simple dividend increases" (p. 324).

Are the tax benefits of debt plausibly large enough to compensate for the costs of debt-financed payouts estimated in Section 3.1? To get a sense of the magnitude of these benefits, we examine the distribution of marginal tax rates, τ, faced at the end of year $t-1$ by firms conducting a debt-financed discretionary payout in year t: firms in the 5th, 10th, 25th, 50th, and 75th percentiles faced marginal tax rates of 10.8%, 18.8%, 29.8%, 33.5%, and 34.6%, respectively.[23] (By contrast, among firms without debt-financed payouts, the respective marginal rates were 2.8%, 5.3%, 12.2%, 27.7%, and 33.4%, respectively; we reject the null that the two groups have the same distribution, $p < 0.001$). We can approximate the capitalized present value of the tax benefits of issuing perpetual net debt ND as τND (Graham 2000). The above rates then suggest that for the vast majority of firms that debt-finance

[22] Apple Inc. is a notable example of a company that has followed this strategy. On April 24, 2013, *The Wall Street Journal* reported that "despite its huge cash stockpile, Apple plans to issue debt to help fund dividend payments and stock buybacks in part because much of its cash is overseas. Raising money in the debt market would help Apple avoid the big tax bill that would come from bringing the cash back to the U.S."

[23] These rates are based on the (after-interest-deductions) marginal tax rate estimates provided by Blouin, Core, and Guay (2010). Our conclusions are similar if we use Graham's (2000) estimates.

their payouts, the tax benefits of doing so are large enough to compensate for both the transaction and deadweight bankruptcy costs associated with debt-financed payouts.[24]

Table 7 investigates whether firms are indeed more likely to debt-finance their payouts when the value of interest tax deductions increases exogenously. Following Heider and Ljungqvist (2015), we exploit staggered changes in state corporate income taxes as plausibly exogenous shocks to the value of interest tax deductions, following a difference-in-differences approach. We find that a firm's probability of conducting a debt-financed payout increases by 2 p.p. ($p = 0.034$) following a tax increase in its headquarter state relative to firms not affected by a tax raise. This represents a sizeable 12.5% increase relative to the 16% unconditional probability of debt-financed payouts in the sample, and it suggests that firms use debt-financed payouts to increase their leverage when the tax benefits of leverage increase exogenously. As expected, we find no evidence that firms respond to tax increases by equity-financing their payouts ($p = 0.729$). Nor do we find evidence that tax *decreases* affect firms' likelihood to finance their discretionary payouts by issuing debt or equity ($p = 0.657$ and 0.942, respectively), consistent with the dynamic-tradeoff-theory prediction that leverage should not respond to tax cuts (Heider and Ljungqvist 2015).

Taken together, the findings in Tables 5 and 6 and in Figure 5 indicate that firms use debt-financed payouts to jointly manage their leverage and cash holdings—thereby minimizing their tax bill—in a way that would be impossible to replicate if they funded their payouts internally. This evidence highlights the interdependent nature of firms' payout, cash, and capital-structure polices, which goes well beyond the mechanical effects payouts have on cash and leverage.

[24] The τND tax benefit approximation is likely to be an upper bound, as it ignores personal tax costs (Graham 2000) and it assumes that firms can deduct all interest payments associated with *ND* at their marginal rate τ. Still, we find that for 89% of firms conducting a debt-financed payout, the ratio τ / *debt-fp cost* is larger than 2, where *debt-fp cost* is our most comprehensive estimate of the per-dollar costs associated with debt-financed payouts (from Table 5, Panel B, column 8). This finding is consistent with the notion that for most firms that debt-finance their payouts, the tax benefits of doing so are large enough to compensate for the costs associated with debt-financed payouts.

3.4 Investor activism

A number of public commentators have expressed concern that activist investors might be pressuring firms to increase their payouts, potentially at the expense of long-term investment.[25] Consistent with these concerns, Table IA.8 shows that firms that have been targeted by activist hedge funds tend to have higher payouts, thus raising the following question: To what extent are these payouts financed with simultaneous debt issues?

Columns 3 and 4 of Table 6 show that firms targeted by an activist hedge fund are neither more likely to pay a debt-financed discretionary payout nor, conditional on paying payout, to debt-finance a larger fraction of their payout. In order to better understand the potential consequences of investor activism, we also examine whether financed payouts are more common in *industries* that have been targeted by activist hedge funds. The motivation for this test is Gantchev, Gredil, and Jotikasthira's (2017) finding that the managers of peer firms view activism in their industry as a threat, and undertake real policy changes to mitigate this threat. Consistent with the spillover effects documented by Gantchev et al., columns 5 and 6 show that in industries with higher activism activity (as measured by the fraction of firms targeted by activists), firms are more likely to conduct debt-financed discretionary payouts; conditional on paying out, they also tend to debt-finance a larger fraction of their payout. These findings suggest that when activists target their industry peers, firms rely on debt-financed payouts to proactively alleviate their own free cash flow agency problem, thereby making themselves a less attractive target for activists (Brav, Jiang, and Kim 2009, 2015).

3.5 Market timing

In recent work, Ma (2016) argues that firms can engage in cross-market timing by simultaneously issuing in the debt market and repurchasing in the equity market, or vice versa. This prediction suggests that managers' attempts to profit from situations in which they think their debt is overvalued relative to their equity could be an additional motive behind debt-financed discretionary payouts

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[25] E.g., "As Activism Rises, U.S. Firms Spend More on Buybacks Than Factories" (*The Wall Street Journal*, May 26, 2015).

(90% of which take the form of share repurchases). This motive could on its own motivate some of the debt-financed repurchases we observe; but it could also act in conjunction with firms' desire to increase their leverage (whether for tax or agency reasons), helping determine the timing of when firms conduct the debt-financed repurchases required to reach their target leverage.

Identifying instances of debt or equity misvaluation in the data is notoriously challenging. With this caveat in mind, below we discuss a range of evidence that is consistent with the notion that debt-financed payouts are more common in times when both the costs of issuing debt and repurchasing shares are likely low.

To begin with, recall from Figure 3 that debt-financed payouts are procyclical, which suggests that firms are more likely to debt-finance their payouts when raising capital is likely easiest (e.g., Campello, Graham, and Harvey 2010; Erel et al. 2012) and credit-market sentiment tends to be high (Lopez-Salido, Stein, and Zakrajsek 2017). The results in Table 8 further support this procyclicality. Columns 1 and 3 show that debt-financed payouts are more common when real GDP is high relative to potential GDP (as measured by the output gap) and when GDP growth is high, respectively; during these times, discretionary payers also tend to debt-finance a larger fraction of their payouts (columns 2 and 4). Similarly, columns 5-8 show that debt-financed payouts are more common and larger when the credit spread and the term spread are low. To illustrate, each percentage point (p.p.) increase in the credit or term spreads is associated with a 3.7 or 1.9 p.p. decrease, respectively, in the average firm's likelihood of conducting a debt-financed payout.

In order to shed further light on the role of market timing in motivating debt-financed payouts, Table 9 introduces two variables that the literature has argued could capture variation in debt costs over and beyond the variation that is related to the prevailing business cycle conditions: The excess bond premium, which is the difference between the actual credit spread and the spread that would be predicted by a model that captures systematic movements in individual firms' default risk (Gilchrist and Zakrajsek 2012); and the term premium, which captures the difference between the actual term spread and the predicted spread given investors' implied expectations of the future path of short-term

Treasury yields (Adrian, Crump, and Moench 2013). The excess bond premium thus aims to capture variation in the component of the price of debt that is incremental to the price necessary to compensate debtholders for expected defaults; similarly, the term premium captures variation in the compensation debtholders require for bearing the risk that short-term Treasury yields do not evolve as they expected. Consistent with market-timing motives, we find that debt-financed payouts are both more common and larger when the excess bond premium is low (columns 1-4) and when the term premium is low (columns 5-8).[26] Table IA.10 shows consistent results using loan officer sentiment (Lown and Morgan 2006) and corporate credit growth to capture debt-market conditions.

Of course, successful cross-market timing requires firms to conduct debt-financed repurchases when the cost of issuing debt is relatively low *and* the cost of repurchasing shares is also low. Consistent with this prediction, Table 9 shows that both the likelihood of conducting a debt-financed payout and, conditional on paying out, the fraction of the payout financed by debt are higher for firms with low market-to-book, which might view their equity as undervalued (columns 1-2 and 5-6; see also Table 6). Columns 3-4 and 7-8 use Baker and Wurgler's (2007) stock-market investor sentiment to capture variation in equity-market conditions, and similarly find that debt-financed payouts are more common and larger when stock sentiment is low.

3.5.1 Government debt policies and market-timing motives of debt-financed payouts

In a 2012 speech, then Federal Reserve Governor Jeremy Stein indicated that the (at the time) "unusually large divergence in the costs of debt and equity—due in part to the cumulative effects of our LSAP [large-scale asset purchases] policies—is likely to be one factor that makes debt-financed repurchases of equity attractive." This hypothesis raises the following question: To what extent are debt-financed payouts motivated by cross-market timing opportunities fueled by government policies? Answering this question poses a major identification challenge, given that policies such as quantitative easing (QE) are implemented in direct response to specific macroeconomic shocks.

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[26] Like Table 8 (and Table 10 below), Table 9 includes all the same firm-level controls as columns 1-2 of Table 6 (omitted to conserve space), with the only exception of market-to-book when indicated that investor sentiment is instead used as a control. In addition, Tables 8 and 9 include the output gap to control for business cycle conditions.

Thus, disentangling the effects of the shocks from those of the policy responses requires a careful selection of counterfactuals that falls beyond the scope of our paper.

With this limitation in mind, Table 10 shows suggestive evidence that government policies can cause the level of debt-financed payouts to diverge from what would be expected given the prevailing business cycle conditions. We begin by studying the relationship between the government bond supply and debt-financed payouts. Consistent with the notion that government borrowing can crowd out corporate debt (Graham, Leary, and Roberts 2014), columns 1-4 show that higher government borrowing is associated with a lower propensity for firms to debt-finance their payouts and, for those that pay out, a smaller fraction of their payouts being debt-financed.

Columns 5-8 estimate the same regressions as columns 1-4 but adding a control for the annual level of large-scale asset purchases conducted by the Fed under the QE program. Although we again caution against interpreting these estimates causally, the results are consistent with the notion that the program was associated with an increase in debt-financed discretionary payouts, as hypothesized by Stein in his speech. Further reinforcing cross-market-timing motives, we continue to find that debt-financed payouts are more prevalent and larger when market-to-book or stock sentiment is low. Table 10 thus suggests that a potentially unintended consequence of the QE program might have been to incentivize firms to hold higher leverage than they otherwise would, thereby increasing the financial fragility of the economy (e.g., Schularick and Taylor 2012).

3.6 Potential benefits of equity-financed payouts

Table 2 and Figure 3 make clear that debt is the main source of payout financing, and so our focus so far has been on understanding the motives behind debt-financed discretionary payouts. We now more briefly examine the potential benefits that may lead firms to rely on firm-initiated equity issues to finance their discretionary payouts.

Analogously as we did in Table 6 for debt-financed payouts, Table 11 analyzes the characteristics of those firms that equity-finance their payouts. The results are consistent with at least two motives of equity-financed payouts. First, if managers believe that their firm goes thorough cycles of over-and undervaluation that take place during the same year, they can use equity-financed share repurchases to engage in equity-market timing. The higher the idiosyncratic volatility of a firm's equity, the more frequent and pronounced are its manager's opportunities to exploit the firm's misvaluation by engaging in equity-market timing (Warusawitharana and Whited 2016). Consistent with this prediction, column 1 in Table 11 shows that firms with higher idiosyncratic volatility of monthly stock returns are more likely to issue equity and pay a discretionary payout (typically repurchase shares) during the same year; conditional on paying out, these firms are also more likely to equity-finance a larger fraction of their payouts (column 2). Thus, the desire to time the equity market may help explain why, on average, 10% of the proceeds of firm-initiated equity issues are simultaneously paid out. The positive coefficients of excess leverage in Table 11 suggest that this equity-market timing may be particularly appealing to highly-leveraged firms, for which relying on debt-financed repurchases to engage in cross-market timing may not be an option.[27]

Second, Easterbrook (1984) notes that equity-financed payouts can also be driven by agency considerations if firms have such high payouts that they have to raise capital to finance any new investments, thereby subjecting investment decisions to the scrutiny of the capital markets.[28] Table 11 shows that firms without strong institutional investors are more prone to financing their payouts with equity (columns 3-4). This finding suggests that equity-financed payouts could substitute for other governance mechanisms such as institutional ownership (e.g., Harford, Mansi, and Maxwell 2008), in the spirit of Zwiebel's (1996) dynamic model.

[27] Table IA.11 shows the same analysis as Table 8 but focusing on equity-financed instead of debt-financed payouts. In contrast to Table 8, we find somewhat noisy evidence that equity-financed payouts are *anti*cyclical. One potential driver of this result is that stock volatility tends to be higher in recessions (Schwert 1989), thereby giving rise to more intra-year cycles of over- and undervaluation. At the same time, Table IA.11 suggests that Dittmar and Dittmar's (2008) finding that economic expansions tend to be associated with higher aggregate levels of both equity issues and repurchases is unlikely to be driven by the same firms simultaneously issuing and repurchasing shares.

[28] While Easterbrook's paper focuses on dividends, his theory also accommodates repurchases. Indeed, he writes that "nothing here suggests that repurchases of shares would not do as well as or better than dividends" (p. 655).

4. Conclusions

This paper is the first to systematically study the extent to which public firms rely on the capital markets to finance their payouts. We find that, in the average year, 42% of firms that pay out capital also raise capital that same year, resulting in close to one-third of aggregate payouts being financed in the capital markets. Conversely, issuers pay out 39% of the aggregate proceeds of net debt issues and 19% of the proceeds of firm-initiated equity issues during the same year. The vast majority of firms engaging in this payout-financing behavior do not generate enough operating cash flow—not even after accounting for their cash reserves and the proceeds of employee stock-option exercises—to fund their investment and payouts without the proceeds of these issues. Firms devote 10% of the capital they raise to cover the gap between their prior-year regular dividend and their internal funds; an additional 20% goes to cover the gap between their internal funds and their share repurchases, regular-dividend increases, and special dividends. Thus, most externally financed payouts are discretionary and cannot be explained by firms' desire to avoid regular-dividend cuts.

Debt is the main source of funds used to finance payouts. We find most support for the notion that firms use debt-financed discretionary payouts to adjust their capital structure without depleting their cash reserves (or triggering repatriation taxes). In particular, we show that debt-financed payouts allow under-levered firms to quickly increase their leverage up to levels that, given their cash holdings, they could not reach by using payouts alone. The marginal tax rates faced by most firms that debt-finance their payouts appear large enough for the tax savings of this behavior to outweigh its costs, which we estimate at up to 5.2 cents per dollar.

Overall, our findings leave little doubt that the relation between payouts, cash, and capital structure is far from mechanical when one conditions on how payouts are financed. Our paper thus highlights the importance of studying these policies jointly as interdependent elements of the financial ecosystem. In particular, an interesting question is the extent to which payout, liquidity, or capital structure considerations are the primary target of corporate financial management. We leave the answer to this question—which likely differs across firms and time periods—for future research.

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Appendix A. Variable Definitions.

Size is the logarithm of real total assets (Compustat data item *at*, deflated to 2012 dollars using the annual GDP deflator) as of the beginning of the fiscal year.

Investment-grade credit rating is an indicator equal to one if the firm has an investment-grade grade credit rating (Compustat data item *splticrm* equal to BBB− or better) as of the beginning of the fiscal year, and zero otherwise.

Operating cash flow is defined as Compustat data items (*oancf* + *exre* + *txbcof*) scaled by beginning-of-year total assets (*at*).

Investment (capex + acquisitions) is defined as Compustat data items (*capx* + *aqc*) scaled by beginning-of-year total assets (*at*).

Excess leverage is defined as the difference between a firm's leverage (Compustat data items (*dltt* + *dlc*) / *at*) and the leverage of the median firm in its three-digit SIC industry as of the beginning of the fiscal year.

Excess cash is defined as the difference between a firm's cash (Compustat data items *che* / *at*) and the leverage of the median firm in its three-digit SIC industry as of the beginning of the fiscal year.

Tax cost of repatriating foreign earnings is the product of a firm's foreign earnings (Compustat data item *pifo*) times the statutory U.S. tax rate of 35% minus the firm's foreign tax credit (*txfo*), scaled by total assets (*at*) and multiplied by 10, if this quantity is positive, and zero otherwise (see Hanlon, Lester, and Verdi (2015) for a related approach).

Market-to-book is defined as Compustat data items (*prcc_f* × *csho* + *pstkl* + *dltt* + *dlc* − *txditc*) / *at*, measured as of the beginning of the fiscal year, and divided by 100.

Firm targeted by activist hedge fund is an indicator equal to one if the firm is targeted by an activist hedge fund during the 12-month window ending at the end of the firm's third fiscal quarter, and zero otherwise. Data on hedge fund activism has been kindly provided by Alon Brav. See Brav, Jiang, and Kim (2015) for details on how the data are collected.

Industry targeted by activist hedge fund is the fraction of firms in a firm's industry that have been targeted by an activist hedge fund, defined as above.

Output gap is measured as log(real annual potential GDP, *GDPPOT*) − log(real annual GDP, *GDPC1*), both obtained from the Federal Reserve Economic Data (FRED).

Real GDP growth is the change in annual real GDP from the preceding year, as reported by the Bureau of Economic Analysis (BEA). As with the firm-level controls, we measure GDP growth (and also the bond yields below) as fractions.

Credit spread is the average difference in yields during each firm's fiscal year between Moody's seasoned Baa and Aaa bonds, both available monthly from FRED.

Term spread is the average difference in yields during each firm's fiscal year between ten-year Treasury bonds and three-month Treasury bills, both available monthly from FRED.

Excess bond premium is the difference between a measure of the actual credit spread and the spread that would be predicted by a model that captures systematic movements in individual firms' default risk. The variable was introduced by Gilchrist and Zakrajsek (2012), and it is available at https://www.federalreserve.gov/econresdata/notes/feds-notes/2016/updating-the-recession-risk-and-the-excess-bond-premium-20161006.html.

Term premium is the difference between the actual term spread and the predicted spread given investors' implied expectations of the future path of short-term Treasury yields. The variable was introduced by Adrian, Crump, and Moench (2013), and it is available at https://www.newyorkfed.org/research/data_indicators/term_premia.html.

Stock-market investor sentiment captures the common variation in a number of different time series that proxy for investor enthusiasm, including: the equity share in new issues, the discount on closed end funds, stock market turnover, the number of IPOs, and the premium on dividend paying stocks. The variable was introduced by Baker and Wurgler (2007), and it is available at http://www.hbs.edu/faculty/initiatives/behavioral-finance-and-financial-stability/Pages/data.aspx.

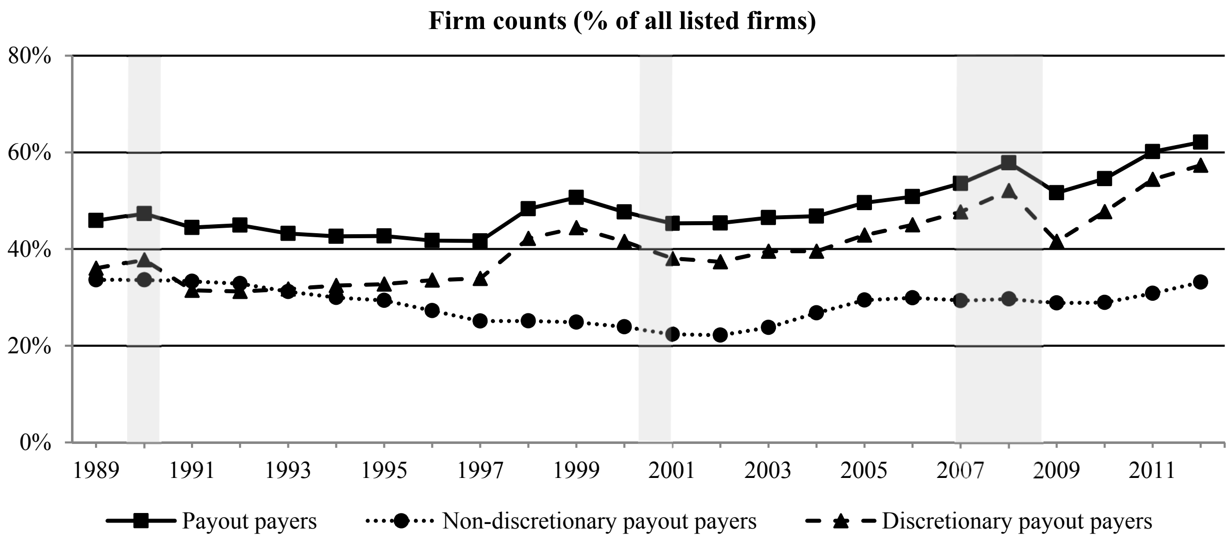
Government bond supply is measured as the annual change in data items (FL313161125.Q + FL313161400.Q − FL713061125.Q − FL263061120.Q) from the Federal Reserve's Financial Accounts of the United States, all measured as of the last quarter of each year, scaled by nominal annual GDP from FRED.

Quantitative easing is measured as the logarithm of the dollar amount of large-scale asset purchases conducted by the Federal Reserve (Fed) under the QE program during each firm's fiscal year. The QE program consisted of three phases, known as QE1, QE2, and QE3. We calculate the monthly volume of QE1 purchases from transaction-level data from the website of the Federal Reserve Bank of New York. The monthly volume of QE2 purchases is calculated based on the Fed's announcement on November 3, 2010, stating the goal to purchase $600 billion worth of assets by the end of the second quarter of 2011 "at a pace of about $75 billion per month." QE3 was announced on September 13, 2012, with an initial target of $40 billion worth of asset purchases per month; the target was increased to $85 billion per month on December 12 of the same year. The target was then reduced to $65 billion per month in February 2014. The QE program concluded on October 29, 2014.

Idiosyncratic volatility is the idiosyncratic volatility of monthly stock returns. For each firm-year, we estimate a Fama and French (1993) three-factor model using the firm's monthly stock returns for the 24-month window ending at the end of the fiscal year, requiring at least 10 observations, and then compute the standard deviation of the predicted residuals. (We use monthly return data from CRSP (CRSP data item *ret*) and monthly Fama-French factors from Ken French's website.)

Share of institutional investors is computed using data come from Thomson-Reuters Institutional Holdings (13F) Database. Specifically, for each firm-year, we add up the number of shares held by each of its institutional investors (Thomson-Reuters data item *shares*) at the beginning of the fiscal year (or the closest subsequent month for which Thomson-Reuters data are available) and divide it by the firm's total number of shares outstanding (as captured by CRSP data item *shrout* × 1000).

Figure 1. Aggregate payout activity.
For each year from 1989 to 2012, the top graph shows the percentage of public U.S. firms that are payout payers (i.e., pay a dividend or repurchase shares). In addition, in the figure and throughout the paper, we break down each firm's total payout into two parts: the non-discretionary part, defined as the minimum of a firm's regular dividend and its prior-year regular dividend; and the discretionary part, which is made up of the sum of any regular dividend increases paid by the firm, special dividends, and share repurchases. The top graph shows the percentage of all public firms that are non-discretionary payout payers as well as the percentage of discretionary payers. (Note that these two categories are not mutually exclusive; in particular, any firm paying a regular dividend larger than its prior-year regular dividend is both a non-discretionary and a discretionary payout payer.) The bottom graph shows each year's aggregate total payout (i.e., the sum of dividends and share repurchases paid by all public U.S. firms that year). It also shows each year's aggregate non-discretionary and discretionary payouts. The grey bars identify NBER recessions. Dollar magnitudes are in billions of dollars of 2012 purchasing power.



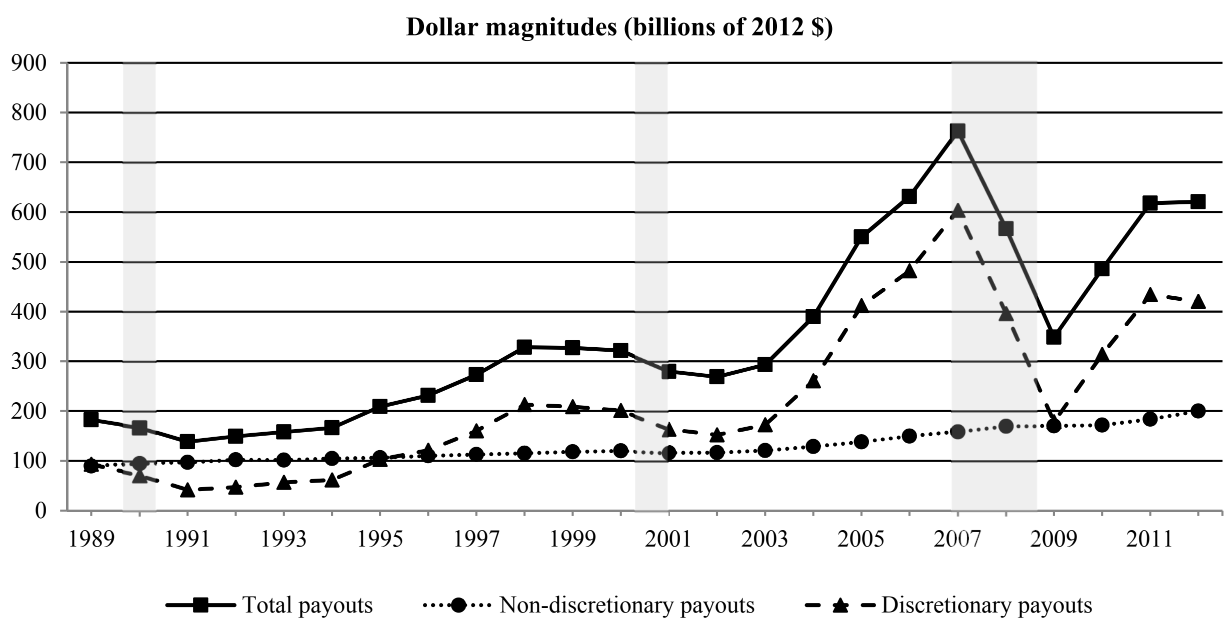


Figure 2. Aggregate capital-raising activity.
For each year from 1989 to 2012, the top graph shows the percentage of public U.S. firms with positive net debt issues (defined as debt issues net of debt repurchases if this difference is positive, and zero otherwise), firm-initiated equity issues, and employee-initiated equity issues. (Following McKeon (2015), we identify a firm as initiating an equity issue during a quarter if the ratio of the equity raised during that quarter to end-of-period market equity is above 3%. Otherwise, we conservatively classify the issue as employee initiated. We then add up the quarterly proceeds of firm-initiated issues over all four quarters in a year, and analogously for employee-initiated issues.) The bottom graph shows the aggregate dollar amount raised via net debt issues, firm-initiated equity issues, and employee-initiated equity issues by public U.S. firms each year. The grey bars identify NBER recessions. Dollar magnitudes are in billions of dollars of 2012 purchasing power.

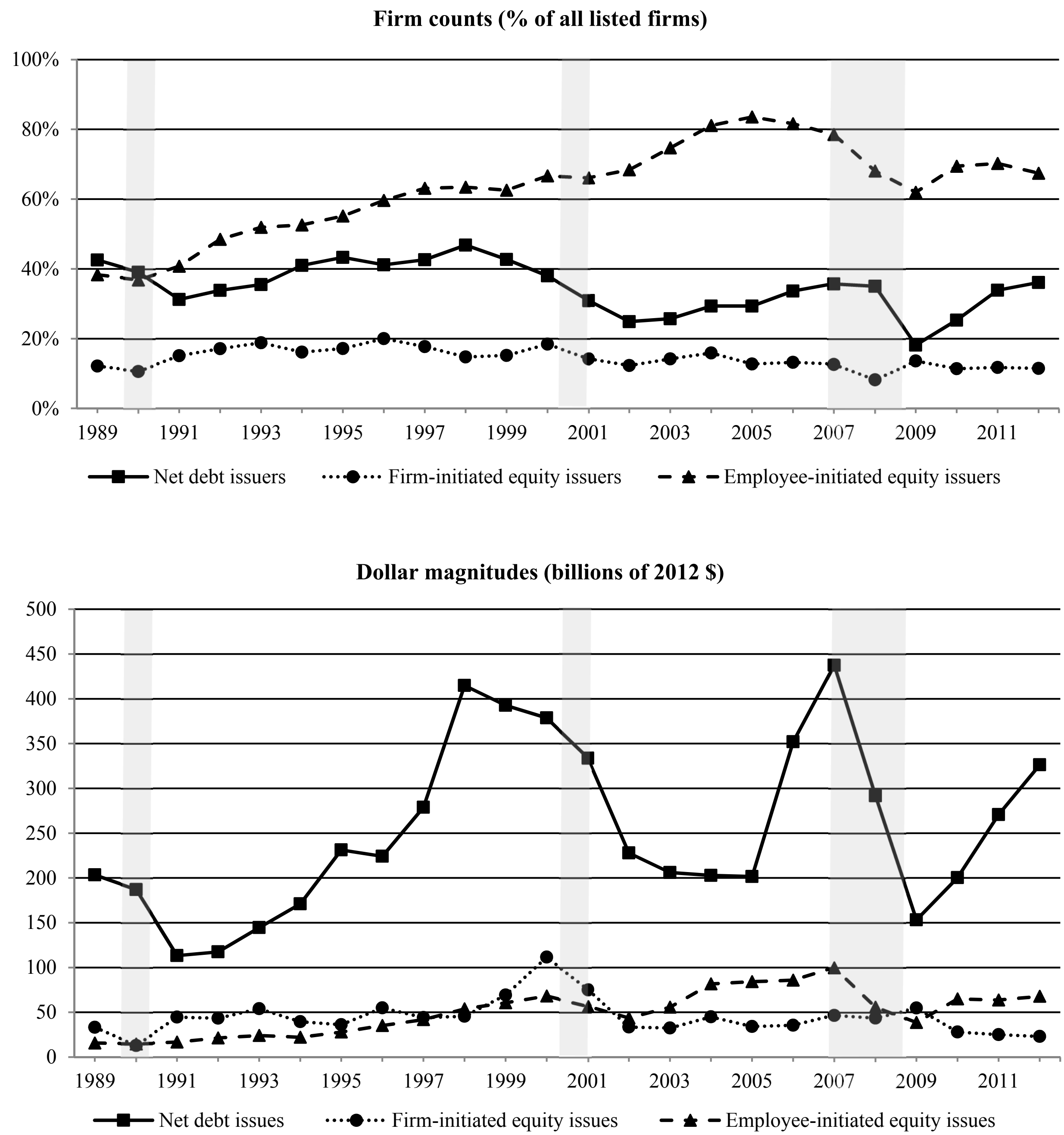


Figure 3. Aggregate magnitude of debt- and equity-financed discretionary payouts.
For each year t from 1989 to 2012, the solid line plots the sum of debt-financed discretionary payouts aggregated across all public U.S. firms; i.e., the aggregate sum of $\min\{ND_{it}, DP_{it}\}$. (*ND* denotes the proceeds of net debt issues and *DP* is discretionary payout.) The dotted line plots the aggregate magnitude of equity-financed discretionary payouts; i.e., the aggregate sum of $\min\{FE_{it}, DP_{it}\}$. (*FE* captures the proceeds of firm-initiated equity issues.) The grey bars identify NBER recessions. Dollar magnitudes are in billions of dollars of 2012 purchasing power.

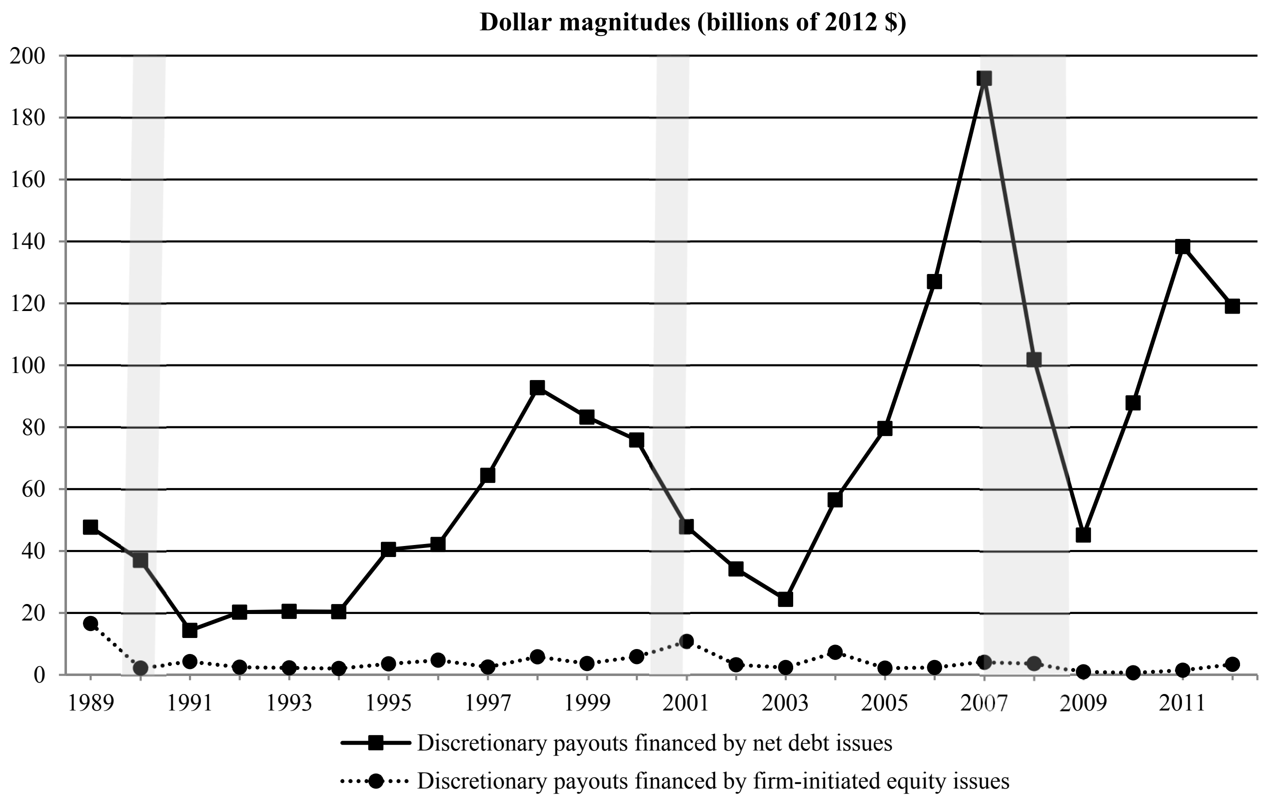


Figure 4. Aggregate magnitude of the gap between internal funds and payouts.
For each year t from 1989 to 2012, the solid line plots the sum of discretionary payout gaps aggregated across all public U.S. firms; i.e., the aggregate sum of $DPG_{it} \equiv \min\{\max\{DP_{it} - (FCF_{it} + CR_{it} + EE_{it} - NP_{it}), 0\}, DP_{it}\}$. ($DP$ is discretionary payout, the sum of share repurchases, regular dividend increases, and special dividends; FCF is free cash flow, the sum of operating cash flow and investment cash flow; CR is cash reduction, defined as in Table 3; NP is non-discretionary payout, the minimum of a firm's regular dividend and its prior-year regular dividend; and EE captures the proceeds of employee-initiated equity issues.) The dotted line plots the aggregate magnitude of non-discretionary payout gaps; i.e., the sum of $NPG_{it} \equiv \min\{\max\{NP_{it} - (FCF_{it} + CR_{it} + EE_{it}), 0\}, NP_{it}\}$ across all public firms. The grey bars identify NBER recessions. Dollar magnitudes are in billions of dollars of 2012 purchasing power.

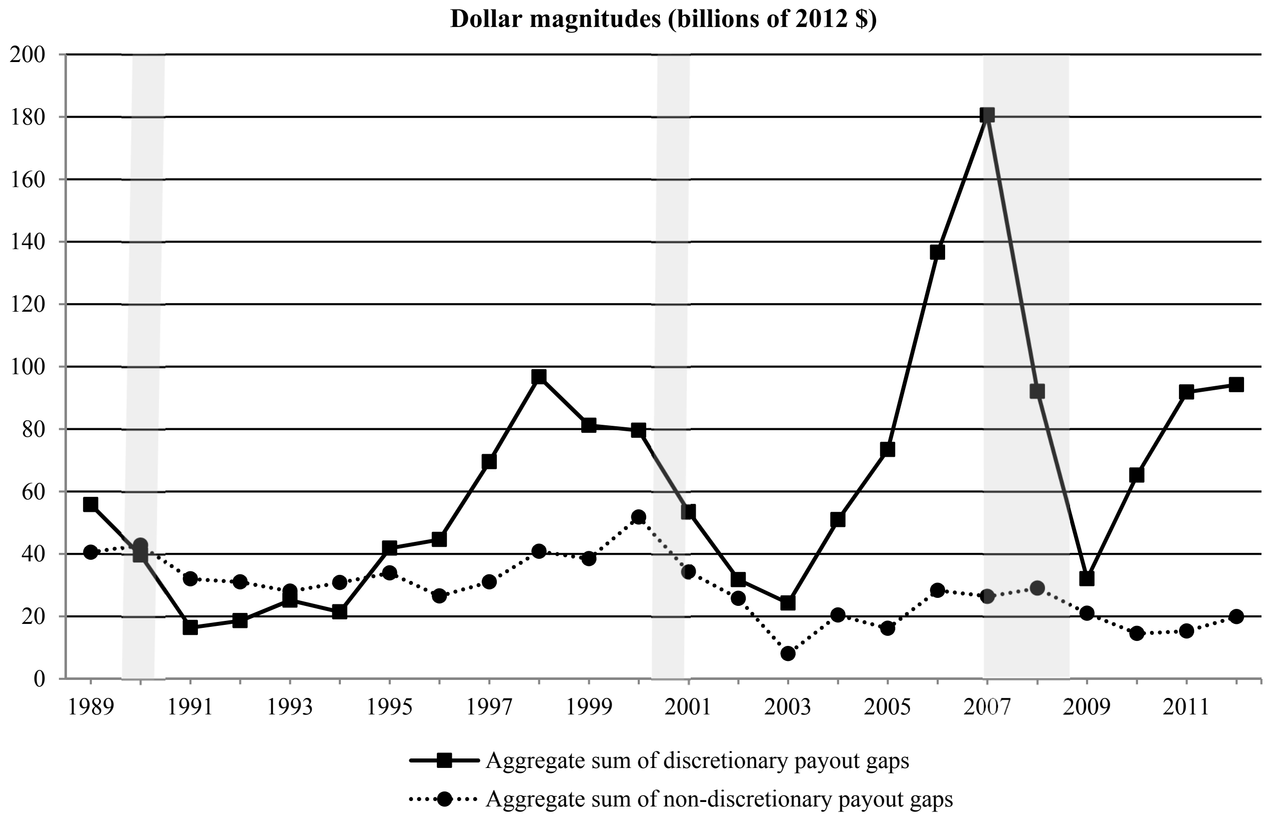
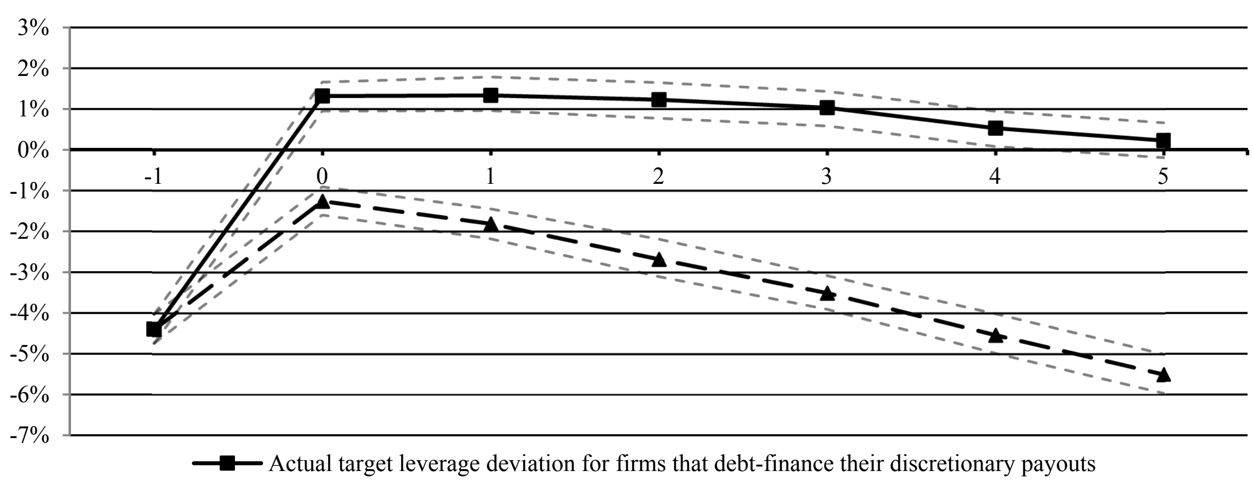


Figure 5. Relationship between debt-financed discretionary payouts, leverage, and cash.

This figure investigates the impact that debt-financed discretionary payouts have on firms' leverage and cash holdings. Specifically, the solid line in Panel A shows the evolution from year $t = -1$ to year $t = 5$ of the target leverage deviation for the median firm that debt-finances its discretionary payout in year $t = 0$; i.e., for the median firm for which $\min\{ND_{it}, DP_{it}\} >> 0$ in year $t = 0$. (ND denotes the proceeds of net debt issues and DP is discretionary payout. The target leverage deviation is defined as the difference between a firm's leverage and the predicted level of leverage for a firm of its size, industry, and year.) The dashed line in Panel A shows how the same set of firms' median target leverage deviation would have evolved had the firms not debt-financed their discretionary payouts in year $t = 0$ or any subsequent year: For any firm for which $\min\{ND_{it}, DP_{it}\} >> 0$ in year $t = 0$, we counterfactually set ND_{it} equal to $ND_{it} - \min\{ND_{it}, DP_{it}\}$ and DP_{it} equal to $DP_{it} - \min\{ND_{it}, DP_{it}\}$ for year $t = 0$ and any subsequent year $t + j$ for which $\min\{ND_{it+j}, DP_{it+j}\} >> 0$. (Note that this counterfactual exercise leaves total assets and cash unchanged and still allows firms to raise debt or pay out capital—it simply undoes the effect on leverage of those net debt-issuance proceeds that are paid out during the same year via discretionary payouts.) The solid line in Panel B shows the evolution of median cash-to-assets for the same set of firms that debt-finance their discretionary payouts in year $t = 0$, whereas the dashed line shows how median cash would have evolved had these firms tried to attain the same leverage increase shown in Panel A without raising any net debt and instead paying a higher discretionary payout in year $t = 0$ as well as any subsequent year $t + j$ for which $\min\{ND_{it+j}, DP_{it+j}\} >> 0$. Specifically, if a firm with a debt-financed discretionary payout $\min\{ND_{it}, DP_{it}\} >> 0$ were to counterfactually set its net debt issues to zero, it would need to increase its discretionary payout to $DP_{it} + ND_{it}(TA_{it} - D_{it})/D_{it}$, where TA_{it} and D_{it} are the (actual) levels of total assets and debt the firm has at the end of year t, to attain the same leverage increase. Doing so would lead 84% of firms that debt-finance their discretionary payouts to end up with negative cash holdings already in year $t = 0$. To facilitate the comparison of the solid and dashed lines in Panel B, we scale both actual and counterfactual cash in year t by actual total assets in year t. (Scaling counterfactual cash by counterfactual total assets leads to even more pronounced results; in fact, the counterfactual discretionary payouts implied by our analysis in Panel B would need to be so high that by year 5, counterfactual total assets would be negative for 17% of firms.) Both panels show 95% confidence intervals around each median (for actual cash in Panel B, the confidence interval is very narrow such that in the graph it appears to overlap with the median).

Panel A. Target leverage deviation with and without debt-financed discretionary payouts.



Panel B. Cash holdings with and without debt-financed discretionary payouts.

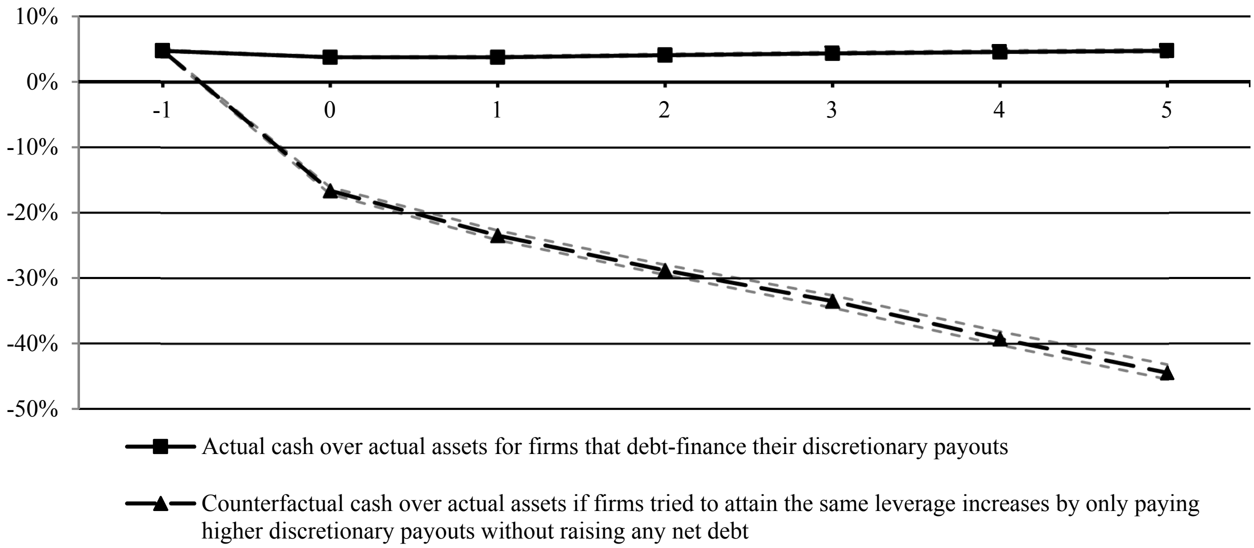


Table 1. Simultaneous payouts and security issues.

This table examines the extent to which firms simultaneously pay out and raise capital during the same fiscal year. We focus only on instances in which firms proactively raise capital by considering only firm-initiated security issues; *SI* is thus defined as the sum of the proceeds of net debt issues (i.e., max{debt issued – debt repurchased, 0}) and firm-initiated equity issues. On the payout side, columns 1-5 examine total payout (*TP*); columns 6-9 focus on the non-discretionary component of total payout (*NP*), defined as the minimum of a firm's regular dividend and its prior-year regular dividend; and columns 10-13 focus on the discretionary component of total payout (*DP*), defined as the sum of share repurchases, regular dividend increases, and special dividends. All firm counts we report throughout the paper require variables to be greater than $100,000 to be considered positive. Note that the sum of columns 9 and 13 need not equal column 5. To illustrate why, consider the case of a firm that raises $80 of debt, pays out $30 in non-discretionary payouts (*NP*), and another $60 in discretionary payouts (*DP*). For this firm, min{*SI, TP*} = $80 < min{*SI, NP*} + min{*SI, DP*} = $30 + $60 = $90.

	Total payout (*TP*)					**Non-discretionary payout (*NP*)**				**Discretionary payout (*DP*)**			
	Firm counts			*$ magnitudes*		*Firm counts*		*$ magnitudes*		*Firm counts*		*$ magnitudes*	
				Aggregate sum of min{*SI*, *TP*} over …				Aggregate sum of min{*SI*, *NP*} over …				Aggregate sum of min{*SI*, *DP*} over …	
Annual figures averaged over …	% public firms that pro-actively raise & pay out capital	% *TP* payers that also pro-actively raise capital	% firms pro-actively raising capital that also pay out capital	aggreg. sum of *TP*	aggreg. sum of *SI*	% public firms that pro-actively raise capital & pay a non-disc. payout	% *NP* payers that also pro-actively raise capital	aggreg. sum of *NP*	aggreg. sum of *SI*	% public firms that pro-actively raise capital & pay a discret. payout	% *DP* payers that also pro-actively raise capital	aggreg. sum of *DP*	aggreg. sum of *SI*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1989-1992	21.2%	46.3%	46.3%	45.7%	38.5%	15.9%	47.5%	52.1%	26.8%	16.1%	46.8%	51.3%	17.1%
1993-1996	20.6%	48.5%	40.0%	34.3%	27.4%	14.7%	49.9%	39.6%	17.8%	15.9%	48.6%	38.6%	13.5%
1997-2000	23.8%	50.6%	45.2%	38.8%	28.2%	13.3%	53.7%	51.3%	13.9%	20.5%	50.7%	41.4%	18.9%
2001-2004	15.5%	33.6%	41.0%	24.9%	26.8%	8.6%	36.1%	36.1%	15.3%	12.7%	32.7%	24.3%	16.0%
2005-2008	20.7%	39.1%	49.9%	24.1%	42.1%	12.8%	43.1%	37.8%	16.7%	18.1%	38.4%	26.2%	34.6%
2009-2012	19.7%	34.1%	52.2%	23.1%	44.3%	11.1%	36.2%	33.4%	22.6%	17.3%	33.6%	28.8%	35.7%
all years	20.3%	42.0%	45.8%	31.8%	34.6%	12.7%	44.4%	41.7%	18.9%	16.8%	41.8%	35.1%	22.7%

Table 2. Simultaneous payouts and security issues—breaking down the role of debt and equity.

This table examines which securities firms issue when they simultaneously pay out and raise capital during the same year. Panel A focuses on net debt issues (with *ND* defined as max{debt issued – debt repurchased, 0}); Panel B examines firm-initiated equity issues (denoted *FE*); and Panel C focuses on employee-initiated equity issues (denoted *EE*). Columns 1-5 examine total payout (*TP*); columns 6-9 focus on the non-discretionary component of total payout (*NP*), defined as the minimum of a firm's regular dividend and its prior-year regular dividend; and columns 10-13 focus on the discretionary component of total payout (*DP*), defined as the sum of share repurchases, regular dividend increases, and special dividends. To conserve space, we show only annual figures averaged over all our sample years (1989-2012). Table IA.1 in the Internet Appendix provides a time-series breakdown analogous to that shown in Table 1, with annual figures averaged over four years.

	Total payout (*TP*)					**Non-discretionary payout (*NP*)**				**Discretionary payout (*DP*)**			
	Firm counts			*$ magnitudes*		*Firm counts*		*$ magnitudes*		*Firm counts*		*$ magnitudes*	
				For *S* = *ND*, *FE*, or *EE*, aggregate sum of min{*S*, *TP*} over …				For *S* = *ND*, *FE*, or *EE*, aggregate sum of min{*S*, *NP*} over …				For *S* = *ND*, *FE*, or *EE*, aggregate sum of min{*S*, *DP*} over …	
Annual figures averaged over …	% public firms that issue securities & pay out capital	% *TP* payers that also issue securities (*ND*, *FE*, or *EE*)	% firms issuing securities that also pay out capital	aggreg. sum of *TP*	aggreg. sum of *S*	% public firms that issue securities & pay a non-discret. payout	% *NP* payers that also issue securities (*ND*, *FE*, or *EE*)	aggreg. sum of *NP*	aggreg. sum of *S*	% public firms that issue securities & pay a discret. payout	% *DP* payers that also issue securities (*ND*, *FE*, or *EE*)	aggreg. sum of *DP*	aggreg. sum of *S*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Panel A. Net debt issues (*ND*).													
1989-2012	18.2%	37.6%	52.4%	29.7%	38.6%	11.8%	41.2%	39.6%	21.4%	15.1%	37.6%	32.9%	25.3%
Panel B. Firm-initiated equity issues (*FE*).													
1989-2012	3.5%	7.5%	24.6%	3.2%	18.8%	1.7%	5.9%	3.8%	10.8%	2.7%	7.1%	3.2%	10.1%
Panel C. Employee-initiated equity issues (*EE*).													
1989-2012	33.8%	69.0%	53.7%	11.2%	78.8%	19.4%	68.2%	19.5%	55.6%	29.4%	71.4%	15.9%	63.5%

Table 3. Do firms have sufficient internal funds to fund their payouts?

This table examines whether payout payers have sufficient internal funds to fund their payouts taking as given their level of profitability and investment. Columns 1-4 show the prevalence of firms with a total payout gap, i.e., firms with $TPG_{it} \equiv \min\{\max\{TP_{it} - (FCF_{it} + CR_{it} + EE_{it}), 0\}, TP_{it}\} >> 0$, as well as the economic magnitude of these gaps. *TP* is total payout; *FCF* is free cash flow, the sum of operating and investment cash flow (the two main components of investment cash flow are capital expenditures and cash acquisitions, both of which are negative); $CR \geq 0$ is the maximum cash reduction that would leave the firm with the predicted level of cash given its size, industry, and year; and *EE* captures employee-initiated equity issues. To estimate a firm's predicted cash, we first regress cash-to-assets on firm size and a full set of industry and year fixed effects. We then define predicted cash as the firm's actual assets times the maximum of the predicted cash-to-assets ratio from that regression and the cash-to-assets ratio of the firm in the first quintile of the cash distribution, thus avoiding negative and very low cash predictions. Columns 5-8 focus on non-discretionary payout (*NP*) gaps, defined as $NPG_{it} \equiv \min\{\max\{NP_{it} - (FCF_{it} + CR_{it} + EE_{it}), 0\}, NP_{it}\}$. Columns 9-12 focus on discretionary payout (*DP*) gaps, defined as $DPG_{it} \equiv \min\{\max\{DP_{it} - (FCF_{it} + CR_{it} + EE_{it} - NP_{it}), 0\}, DP_{it}\}$.

	Total payout gaps (*TPG*)				**Non-discretionary payout gaps (*NPG*)**				**Discretionary payout gaps (*DPG*)**			
	Counts		$ magnitudes		Counts		$ magnitudes		Counts		$ magnitudes	
Annual figures averaged over ...	% public firms with a *TP* gap	% *TP* payers with a *TP* gap	Aggreg. sum of *TPG* over aggreg. sum of *TP* paid by all firms	Aggreg. sum of *TPG* over aggreg. sum of proactive security issues	% public firms with a *NP* gap	% *NP* payers with a *NP* gap	Aggreg. sum of *NPG* over aggreg. sum of *NP* paid by all firms	Aggreg. sum of *NPG* over aggreg. sum of proactive security issues	% public firms with a *DP* gap	% *DP* payers with a *DP* gap	Aggreg. sum of *DPG* over aggreg. sum of *DP* paid by all firms	Aggreg. sum of *DPG* over aggreg. sum of proactive security issues
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1989-1992	20.2%	44.2%	42.7%	35.9%	13.2%	39.4%	38.4%	19.5%	15.2%	44.2%	48.8%	16.4%
1993-1996	20.5%	48.2%	33.0%	26.4%	12.6%	42.6%	28.3%	12.7%	15.7%	48.2%	39.2%	13.6%
1997-2000	24.0%	51.0%	39.0%	28.4%	10.6%	42.8%	34.6%	9.3%	20.7%	51.2%	41.8%	19.1%
2001-2004	14.3%	31.1%	20.5%	21.5%	6.3%	26.4%	18.6%	7.5%	11.8%	30.5%	21.8%	14.0%
2005-2008	21.9%	41.3%	22.7%	39.8%	8.7%	29.5%	16.1%	7.1%	19.1%	40.6%	24.8%	32.8%
2009-2012	19.1%	32.9%	16.8%	32.3%	7.2%	23.4%	9.8%	6.8%	16.8%	32.5%	20.6%	25.5%
all years	20.0%	41.4%	29.1%	30.7%	9.8%	34.0%	24.3%	10.5%	16.6%	41.2%	32.8%	20.2%

Table 4. The role of profitability and investment shocks in explaining payout gaps.

This table examines the extent to which active payout gaps are driven by firms with unusually low profits or high investment. The table replicates the analysis in Table 3 using four counterfactual definitions of active payout gaps. In Panel A, we assume that no firm is less profitable than the median firm in its industry and define $ATPG_{it}^{IndOcf} \equiv \min\{\max\{TP_{it} - (\max\{OCF_{it}, \textit{Industry median } OCF_{it}\} + ICF_{it} + CR_{it} + EE_{it}), 0\}, TP_{it}\}$, where *Industry median* OCF_{it} is the median ratio of operating cash flow/lagged assets in the firm's industry-year multiplied by the firm's lagged assets. (*TP* is total payout; *ICF* is investment cash flow; *CR* is cash reduction; and *EE* captures the proceeds of employee-initiated equity issues. Industry is defined at the 2-digit SIC level.) In Panel B, we assume that no firm is less profitable than it was in the previous year and define $ATPG_{it}^{LagOcf} \equiv \min\{\max\{TP_{it} - (\max\{OCF_{it}, OCF_{it-1}\} + ICF_{it} + CR_{it} + EE_{it}), 0\}, TP_{it}\}$. In Panel C, we assume that no firm invests more than the median firm in its industry and define $ATPG_{it}^{IndInv} \equiv \min\{\max\{TP_{it} - (OCF_{it} + \max\{ICF_{it}, \textit{Industry median } ICF_{it}\} + CR_{it} + EE_{it}), 0\}, TP_{it}\}$, where in *Industry median* ICF_{it} we substitute CAPEX and acquisitions by the median ratio of (CAPEX + acquisitions)/lagged assets in the firm's industry-year multiplied by the firm's lagged assets. In Panel D, we assume that no firm invests more than it did in the previous year and define $ATPG_{it}^{LagInv} \equiv \min\{\max\{TP_{it} - (OCF_{it} + \max\{ICF_{it}, \textit{Lagged } ICF_{it}\} + CR_{it} + EE_{it}), 0\}, TP_{it}\}$, where in *Lagged* ICF_{it} we substitute CAPEX and acquisitions by their lagged values. Counterfactual non-discretionary and discretionary gaps are defined analogously, following their respective definitions in Table 3. To conserve space, we show only annual figures averaged over all sample years, 1989-2012 (Table IA.4 in the Internet Appendix provides a time-series breakdown analogous to Table 3).

	Total payout gaps (*TPG*)			**Non-discretionary payout gaps (*NPG*)**			**Discretionary payout gaps (*DPG*)**		
Annual figures averaged over …	% *TP* payers with a *TP* gap (1)	Aggreg. sum of *TPG* over aggreg. sum of *TP* (2)	Aggreg. sum of *TPG* over aggreg. sum of proactive issues (3)	% *NP* payers with a *NP* gap (4)	Aggreg. sum of *NPG* over aggreg. sum of *NP* (5)	Aggreg. sum of *NPG* over aggreg. sum of proactive issues (6)	% *DP* payers with a *DP* gap (7)	Aggreg. sum of *DPG* over aggreg. sum of *DP* (8)	Aggreg. sum of *DPG* over aggreg. sum of proactive issues (9)
Panel A. We assume that no firm is less profitable than the median firm in its industry.									
all years	33.5%	26.7%	27.9%	26.8%	21.5%	9.2%	34.0%	30.9%	18.7%
% of actual	80.8%	91.3%	91.3%	78.8%	88.6%	88.6%	82.5%	92.6%	92.6%
Panel B. We assume that no firm is less profitable than that same firm was in the previous year.									
all years	33.1%	24.6%	25.8%	26.2%	20.2%	8.7%	33.3%	28.0%	17.1%
% of actual	79.9%	84.9%	84.9%	76.9%	83.5%	83.5%	80.7%	85.6%	85.6%
Panel C. We assume that no firm invests more than the median firm in its industry.									
all years	26.7%	17.9%	18.6%	18.9%	13.5%	5.7%	26.8%	21.2%	12.8%
% of actual	64.5%	61.3%	61.3%	55.7%	54.6%	54.6%	64.9%	64.3%	64.3%
Panel D. We assume that no firm invests more than that same firm did in the previous year.									
all years	30.7%	20.7%	21.5%	22.9%	15.6%	6.8%	30.7%	24.6%	14.7%
% of actual	74.1%	69.9%	69.9%	67.3%	62.8%	62.8%	74.4%	73.2%	73.2%

Table 5. Costs associated with financed discretionary payouts.

This table examines the costs associated with discretionary payouts financed via net debt issues (Panels A and B) and firm-initiated equity issues (Panel C). Columns 1-3 in Panel A report the one-time transactions costs associated with those debt-issuance proceeds that firms simultaneously pay out, estimated using data from Thomson Reuters SDC and Mergent FISD (for bond issues) and DealScan (for loans and lines of credit). For those firms that would have to raise at least some capital even if their discretionary payout were zero, we subtract the fixed component of the transaction costs, estimated by Altinkilic and Hansen (2000) to be 10.4% of the total transaction cost. Columns 4-6 in Panel A report the present value of transactions costs that firms that debt-finance their payouts will need to pay over 100 years assuming that the transaction costs and maturity of their debt remain unchanged. (We set the discount rate equal to the average cost of debt for firms in the sample each year.) Panel B reports the deadweight bankruptcy costs associated with the leverage increases induced by debt-financed payouts. Column 1 reports the average increase in the probability of default induced by debt-financed payouts, computed as the difference between each firm's Merton (1974) distance to default (DD, estimated as in Bharath and Shumway (2008)) and the counterfactual DD if the firm had set its debt-financed payout to zero, in which case the firms' equity E would be $E + \min\{ND, DP\}$ and its debt D would be $D - \min\{ND, DP\}$ (ND is net debt issued and DP is discretionary payout). To compute the deadweight bankruptcy costs reported in columns 2-4, we multiply the increase in DD by the deadweight-bankruptcy-cost estimates provided by Hennessy and Whited (HW; 2007, Table V) for firms of that size (for medium-sized firms, we use their full-sample estimates). (The average cost per dollar of debt-financed payout in column 2 of Panel B is close to four times larger than in column 1 of Panel A, while the cost incurred per each firm-year that debt-finances its payout in column 3 of Panel B is only slightly larger than its counterpart in column 2 of Panel A; this fact suggests that firms for which debt-financed payouts impose large deadweight bankruptcy costs tend to have smaller debt-financed payouts.) The deadweight bankruptcy costs estimated by HW are incremental to transaction costs; therefore, in columns 5-10 of Panel B, we add up our bankruptcy cost estimates and the transaction costs from Panel A. Columns 1-3 of Panel C report the transaction costs associated with equity-financed payouts, computed using SDC data (we again subtract the fixed component for those firms that would have to raise capital even if they did not pay out). In columns 4-6, we estimate the costs of equity-financed payouts using HW's structural estimates of equity issuance costs for firms of different sizes, which account both for underwriting fees and adverse selection costs. For those firms that would have to raise capital even if they did not pay out, we set the intercept estimated by HW to zero; we also set the non-significant quadratic component equal to zero for large firms.

Panel A. Transaction costs associated with debt-financed discretionary payouts.

	One-time debt-issuance transaction costs			Present value of current and future debt-issuance transaction cots		
	Average cost per $1 of debt-financed discret. payout, in $ cents	Average cost per firm-year with debt-financed discret. payout, in $ million	Aggregate cost for all firms with debt-financed discret. payout, in $ million	Average cost per $1 of debt-financed discret. payout, in $ cents	Average cost per firm-year with debt-financed discret. payout, in $ million	Aggregate cost for all firms with debt-financed discret. payout, in $ million
	(1)	(2)	(3)	(4)	(5)	(6)
1989-1992	0.70	0.393	210.6	2.38	0.941	490.8
1993-1996	0.66	0.334	207.7	2.62	1.010	631.6
1997-2000	0.55	0.547	459.6	2.26	1.700	1,407.1
2001-2004	0.53	0.510	199.7	3.92	3.039	1,176.8
2005-2008	0.48	1.080	579.6	2.13	3.404	1,810.8
2009-2012	0.69	1.354	550.5	3.85	5.727	2,407.0
all years	0.60	0.703	367.9	2.86	2.637	1,320.7

Panel B. Deadweight bankruptcy costs associated with debt-financed discretionary payouts.

		Deadweight bankruptcy cost only, building on Hennessy and Whited (2007) estimates			Deadweight bankruptcy cost + one-time debt transaction costs			Deadweight bankruptcy cost + present value of current and future debt transaction costs		
	Firm average, percentage point increase in default probability	Average cost per $1 of debt-financed discret. payout, in $ cents	Average cost per firm-year with debt-financed discret. payout, in $ million	Aggregate cost for all firms with debt-financed discret. payout, in $ million	Average cost per $1 of debt-financed discret. payout, in $ cents	Average cost per firm-year with debt-financed discret. payout, in $ million	Aggregate cost for all firms with debt-financed discret. payout, in $ million	Average cost per $1 of debt-financed discret. payout, in $ cents	Average cost per firm-year with debt-financed discret. payout, in $ million	Aggregate cost for all firms with debt-financed discret. payout, in $ million
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1989-1992	0.39%	2.92	0.571	341.8	3.62	0.965	552.4	5.31	1.514	832.5
1993-1996	0.16%	1.31	0.114	68.3	1.97	0.447	273.8	3.93	1.122	693.6
1997-2000	0.69%	3.77	1.308	1,039.0	4.32	1.841	1,483.1	6.03	2.976	2,406.7
2001-2004	0.24%	2.13	0.700	276.3	2.66	1.203	470.7	6.05	3.670	1,410.5
2005-2008	0.51%	2.60	1.471	814.0	3.09	2.552	1,393.5	4.73	4.877	2,624.6
2009-2012	0.13%	1.25	0.283	139.7	1.94	1.633	686.8	5.09	5.984	2,527.6
all years	0.35%	2.33	0.741	446.5	2.93	1.440	810.0	5.19	3.357	1,749.3

Panel C. Equity-issuance costs associated with equity-financed discretionary payouts.

	Equity-issuance transaction costs (one-time)			Equity-issuance costs including transaction costs & adverse selection premia, building on Hennessy and Whited (2007) estimates		
	Average cost per $1 of debt-financed discret. payout, in $ cents	Average cost per firm-year with debt-financed discret. payout, in $ million	Aggregate cost for all firms with debt-financed discret. payout, in $ million	Average cost per $1 of debt-financed discret. payout, in $ cents	Average cost per firm-year with debt-financed discret. payout, in $ million	Aggregate cost for all firms with debt-financed discret. payout, in $ million
	(1)	(2)	(3)	(4)	(5)	(6)
1989-1992	5.04	1.666	195.3	12.91	3.042	358.6
1993-1996	5.16	0.752	104.3	12.27	1.355	186.8
1997-2000	5.23	0.973	150.1	13.30	1.819	280.6
2001-2004	5.01	1.917	177.6	14.60	3.730	347.6
2005-2008	4.48	1.717	94.8	11.92	3.361	185.7
2009-2012	4.69	0.805	47.0	11.08	1.748	100.3
all years	4.93	1.305	128.2	12.68	2.509	243.3

Table 6. Characteristics of firms that finance their discretionary payouts with debt.

This table examines the characteristics of firms that finance their discretionary payouts via net debt issues. In columns 1, 3, and 5, we estimate probit models within the full sample of public firms in which the dependent variable is an indicator set equal to one for firms conducting debt-financed discretionary payouts; i.e., for firms for which min{$Net\ debt\ issues_{it}$, DP_{it}} >> 0, where *DP* denotes a firm's discretionary payout. In columns 2, 4, and 6, we estimate fractional logit models in which the dependent variable is the fraction of a firm's discretionary payout that is financed through net debt issues (i.e., min{$Net\ debt\ issues_{it}$, DP_{it}}/DP_{it}), with only firms that pay a positive discretionary payout included in the analysis. All columns include year fixed effects. All variables are defined in Appendix A. Data on activist hedge funds are only available for years 1995-2011, which is why the sample size in columns 3-6 is smaller. For ease of interpretation, we report conditional marginal effects evaluated at the means of the independent variables. Robust standard errors clustered at the firm level are shown in italics beneath the coefficient estimates. We use ***, **, and * to denote significance at the 1%, 5%, and 10% level (two-sided), respectively.

Dependent variable:	**Debt-financed disc. payout?**	**% disc. payout fin. by debt**	**Debt-financed disc. payout?**	**% disc. payout fin. by debt**	**Debt-financed disc. payout?**	**% disc. payout fin. by debt**
	(1)	(2)	(3)	(4)	(5)	(6)
Size	0.039***	0.034***	0.038***	0.031***	0.038***	0.031***
	0.001	*0.002*	*0.001*	*0.003*	*0.001*	*0.003*
Investment-grade credit rating	0.049***	0.008	0.056***	0.011	0.056***	0.012
	0.006	*0.010*	*0.008*	*0.011*	*0.008*	*0.011*
Operating cash flow	-0.040***	-1.134***	-0.021**	-1.010***	-0.022**	-1.010***
	0.009	*0.044*	*0.011*	*0.045*	*0.011*	*0.045*
Investment (capex + acquisitions)	0.304***	2.195***	0.300***	2.125***	0.300***	2.126***
	0.008	*0.064*	*0.009*	*0.067*	*0.009*	*0.067*
Excess leverage	-0.154***	-0.113***	-0.148***	-0.095***	-0.148***	-0.096***
	0.009	*0.023*	*0.011*	*0.026*	*0.011*	*0.026*
Excess cash	-0.199***	-0.697***	-0.189***	-0.630***	-0.189***	-0.632***
	0.010	*0.030*	*0.011*	*0.031*	*0.011*	*0.031*
Tax cost repatriat. foreign profits	0.154***	0.244***	0.162***	0.213**	0.165***	0.220**
	0.042	*0.091*	*0.048*	*0.100*	*0.047*	*0.100*
Market-to-book	-0.869***	-5.189***	-0.934***	-5.279***	-0.928***	-5.259***
	0.102	*0.379*	*0.117*	*0.399*	*0.117*	*0.399*
Firm targeted by act. hedge fund			-0.005	-0.031		
			0.009	*0.020*		
Indus. targeted by act. hedge fund					0.174***	0.261**
					0.062	*0.129*
χ^2 test: all coefficients = 0	5,153.9***	2,236.8***	3,735.5***	1,875.1***	3,742.6***	1,869.0***
No. observations	85,505	33,832	60,892	25,029	60,892	25,029
No. firms	10,135	6,091	8,466	5,179	8,466	5,179

Table 7. Do firms use debt-financed discretionary payouts to increase their leverage in response to state-level tax increases?

This table examines whether firms use debt-financed discretionary payouts to increase their leverage in response to exogenous increases in state corporate income taxes in their headquarter state. We follow a difference-in-differences approach that exploits the staggered nature of corporate income tax changes, using as controls firms that have not been affected by a tax change in their headquarter state. In column 1, the dependent variable is an indicator set equal to one for firms with a debt-financed discretionary payout (defined as in Table 6), and zero otherwise; in column 2, the dependent variable is an indicator set equal to one for firms with an equity-financed discretionary payout (defined as in Table 11), and zero otherwise. The variable "corporate tax increase at $t-1$" is an indicator that captures whether the state where the firm is headquartered increased its corporate income tax in year $t-1$ (following Heider and Ljungqvist (2015), we allow firms to respond to tax changes with a one-year lag), and analogously for the variable "corporate tax decrease at $t-1$." For the complete list of corporate income tax changes, see Heider and Ljungqvist (2015). Excess leverage and excess cash are defined in Appendix A. We screen out those firms with zero after-interest marginal tax rates in year $t-1$ (according to Blouin, Core, and Guay's (2010) estimates, available through WRDS) because only firms with profits to shield from tax have an incentive to increase their leverage when taxes increase. (We obtain similar results if we use Graham's (2000) tax estimates to do the screening.) In both columns, we estimate probit models with year fixed effects; results are similar if we estimate linear probability models. For ease of interpretation, we report conditional marginal effects at the means of the independent variables. Robust standard errors clustered at the state-industry level are shown in italics beneath the coefficient estimates. We use ***, **, and * to denote significance at the 1%, 5%, and 10% level (two-sided), respectively.

Dependent variable:	**Debt-financed discretionary payout?**	**Equity-financed discretionary payout?**
	(1)	(2)
Corporate tax increase at $t-1$	0.020**	-0.002
	0.009	*0.005*
Corporate tax decrease at $t-1$	0.003	0.000
	0.006	*0.002*
Excess leverage	-0.174***	0.031***
	0.013	*0.004*
Excess cash	-0.304***	-0.001
	0.015	*0.004*
χ^2 test: all coefficients = 0	1,189.3***	263.8***
No. observations	77,530	77,530
No. firms	9,124	9,124

Table 8. Business cycle conditions and debt-financed discretionary payouts.
This table examines the relationship between business cycle conditions and firms' decision to debt-finance their discretionary payouts. The models we estimate in the odd and even columns are the same we estimate in columns 1 and 2 of Table 6, respectively, with only two differences: (1) each column adds one business cycle control; and (2) we do not include year fixed effects and instead add a linear time trend. (We introduce the business cycle controls one at a time and include a linear time trend instead of year fixed effects to avoid multicollinearity problems.) The coefficient estimates of the firm-level control variables are very similar to those in Table 6; thus, we do not report them here to conserve space. For ease of interpretation, we report conditional marginal effects evaluated at the means of the independent variables. All variables are defined in Appendix A. Robust standard errors clustered at the firm level are shown in italics beneath the coefficient estimates. We use ***, **, and * to denote significance at the 1%, 5%, and 10% level (two-sided), respectively.

Dependent variable:	**Debt-financed disc. payout?**	**% disc. payout fin. by debt**	**Debt-financed disc. payout?**	**% disc. payout fin. by debt**	**Debt-financed disc. payout?**	**% disc. payout fin. by debt**	**Debt-financed disc. payout?**	**% disc. payout fin. by debt**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Output gap	0.883***	0.665***						
	0.065	*0.147*						
Real GDP growth			0.954***	1.140***				
			0.077	*0.171*				
Credit spread					-3.715***	-5.206***		
					0.416	*0.937*		
Term spread							-1.865***	-1.895***
							0.104	*0.235*
Additional controls	yes	yes	yes	yes	yes	yes	yes	yes
χ^2 test: all coefficients = 0	4,896.7***	2,080.8***	4,850.2***	2,109.7***	4,791.2***	2,092.7***	4,929.5***	2,111.4***
No. observations	85,505	33,832	85,505	33,832	85,505	33,832	85,505	33,832
No. firms	10,135	6,091	10,135	6,091	10,135	6,091	10,135	6,091

Table 9. Do market-timing motives help explain debt-financed payouts?

This table examines whether debt-financed discretionary payouts are more frequent and larger when low excess bond premia or term premia indicates that debt may be overvalued, and low market-to-book or stock market sentiment indicates that equity could be undervalued. The models we estimate in the odd and even columns are the same we estimate in columns 1 and 2 of Table 6, respectively, with only three differences: (1) each column adds a control for debt-market conditions (excess bond premium or term premium); (2) we do not include year fixed effects and instead add a linear time trend and control for the output gap; and (3) in columns 3-4 and 7-8, we control for stock-market investor sentiment instead of market-to-book. The coefficient estimates of the firm-level control variables are very similar to those in Table 6; thus, we do not report them here to conserve space. For ease of interpretation, we report conditional marginal effects evaluated at the means of the independent variables. All variables are defined in Appendix A. Robust standard errors clustered at the firm level are shown in italics beneath the coefficient estimates. We use ***, **, and * to denote significance at the 1%, 5%, and 10% level (two-sided), respectively.

Dependent variable:	**Debt-financed disc. payout?**	**% disc. payout fin. by debt**	**Debt-financed disc. payout?**	**% disc. payout fin. by debt**	**Debt-financed disc. payout?**	**% disc. payout fin. by debt**	**Debt-financed disc. payout?**	**% disc. payout fin. by debt**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Debt-market conditions								
Excess bond premium	-0.912***	-1.807***	-0.698***	-1.696***				
	0.224	*0.514*	*0.233*	*0.532*				
Term premium					-2.662***	-4.136***	-2.708***	-4.359***
					0.240	*0.554*	*0.240*	*0.558*
Equity-market conditions								
Market-to-book	-0.913***	-5.284***			-0.910***	-5.254***		
	0.102	*0.376*			*0.102*	*0.375*		
Stock-market investor sentiment			-0.874***	-0.591			-1.058***	-0.963**
			0.197	*0.468*			*0.193*	*0.459*
Additional controls	yes	yes	yes	yes	yes	yes	yes	yes
χ^2 test: all coefficients = 0	4,897.9***	2,092.2***	4,896.6***	2,047.2***	4,922.5***	2,132.3***	4,922.2***	2,096.4***
No. observations	85,505	33,832	85,505	33,832	85,505	33,832	85,505	33,832
No. firms	10,135	6,091	10,135	6,091	10,135	6,091	10,135	6,091

Table 10. Government policies in the debt market and debt-financed discretionary payouts.

This table examines the relationship between government debt-market policies and firms' decision to debt-finance their discretionary payouts. The models we estimate in the odd and even columns are the same we estimate in columns 1 and 2 of Table 6, respectively, with only three differences: (1) columns 1-4 control for the government bond supply, and columns 5-8 control also for the level of large-scale asset purchases conducted by the Federal Reserve under the QE program; (2) we do not include year fixed effects and instead add a linear time trend and control for the output gap; and (3) in columns 3-4 and 7-8, we control for stock-market investor sentiment instead of market-to-book. The coefficient estimates of the firm-level control variables are very similar to those in Table 6; thus, we do not report them here to conserve space. For ease of interpretation, we report conditional marginal effects evaluated at the means of the independent variables. All variables are defined in Appendix A. Robust standard errors clustered at the firm level are shown in italics beneath the coefficient estimates. We use ***, **, and * to denote significance at the 1%, 5%, and 10% level (two-sided), respectively.

Dependent variable:	**Debt-financed disc. payout?**	**% disc. payout fin. by debt**	**Debt-financed disc. payout?**	**% disc. payout fin. by debt**	**Debt-financed disc. payout?**	**% disc. payout fin. by debt**	**Debt-financed disc. payout?**	**% disc. payout fin. by debt**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Debt-market government policies								
Government bond supply	-0.072	-0.429**	-0.466***	-0.695***	-0.293***	-0.731***	-0.664***	-0.991***
	0.093	*0.208*	*0.116*	*0.261*	*0.097*	*0.216*	*0.118*	*0.263*
Quantitative easing					0.797***	1.124***	0.797***	1.310***
					0.100	*0.217*	*0.100*	*0.219*
Equity-market conditions								
Market-to-book	-0.919***	-5.297***			-0.903***	-5.241***		
	0.102	*0.374*			*0.101*	*0.375*		
Stock-market investor sentiment			-1.626***	-1.855***			-1.539***	-1.648***
			0.233	*0.555*			*0.232*	*0.557*
Additional controls	yes	yes	yes	yes	yes	yes	yes	yes
χ^2 test: all coefficients = 0	4,895.4***	2,090.4***	4,903.2***	2,038.9***	4,957.2***	2,139.4***	4,965.2***	2,084.2***
No. observations	85,505	33,832	85,505	33,832	85,505	33,832	85,505	33,832
No. firms	10,135	6,091	10,135	6,091	10,135	6,091	10,135	6,091

Table 11. Characteristics of firms that finance their discretionary payouts with equity.

This table examines the characteristics of firms that finance their discretionary payouts via firm-initiated equity issues. In columns 1, 3, and 5, we estimate probit models within the full sample of public firms in which the dependent variable is an indicator set equal to one for firms conducting equity-financed discretionary payouts; i.e., for firms for which min{*Firm-initiated equity issues*$_{it}$, DP_{it}} >> 0, where *DP* denotes a firm's discretionary payout. In columns 2, 4, and 6, we estimate fractional logit models in which the dependent variable is the fraction of a firm's discretionary payout that is financed through firm-initiated equity issues (i.e., min{*Firm-initiated equity issues*$_{it}$, DP_{it}}/DP_{it}), with only firms that pay a positive discretionary payout included in the analysis. All columns include year fixed effects. All variables are defined in Appendix A. The data on institutional ownership used in columns 3-4 are missing for 379 firms. For ease of interpretation, we report conditional marginal effects evaluated at the means of the independent variables. Robust standard errors clustered at the firm level are shown in italics beneath the coefficient estimates. We use ***, **, and * to denote significance at the 1%, 5%, and 10% level (two-sided), respectively.

Dependent variable:	**Equity-financed disc. payout?**	**% disc. payout fin. by equity**	**Equity-financed disc. payout?**	**% disc. payout fin. by equity**
	(1)	(2)	(3)	(4)
Size	0.005***	0.001	0.006***	0.003***
	0.000	*0.001*	*0.000*	*0.001*
Investment-grade credit rating	-0.008***	-0.013***	-0.009***	-0.015***
	0.002	*0.003*	*0.002*	*0.003*
Operating cash flow	-0.039***	-0.166***	-0.038***	-0.160***
	0.003	*0.008*	*0.003*	*0.008*
Investment (capex + acquisitions)	0.073***	0.157***	0.073***	0.153***
	0.003	*0.007*	*0.003*	*0.006*
Excess leverage	0.017***	0.070***	0.016***	0.066***
	0.003	*0.006*	*0.003*	*0.006*
Excess cash	-0.013***	-0.045***	-0.012***	-0.042***
	0.003	*0.006*	*0.003*	*0.006*
Tax cost of repatriating foreign earnings	-0.054***	-0.110***	-0.054***	-0.108***
	0.021	*0.038*	*0.021*	*0.038*
Market-to-book	-0.022	0.224***	-0.004	0.266***
	0.030	*0.070*	*0.031*	*0.069*
Idiosyncratic volatility	0.055***	0.247***	0.048***	0.228***
	0.007	*0.016*	*0.007*	*0.016*
Share of institutional investors			-0.014***	-0.028***
			0.003	*0.005*
χ^2 test: all coefficients = 0	1,155.7***	2,289.7***	1,144.1***	2,235.6***
No. observations	85,376	33,778	82,644	33,463
No. firms	10,127	6,086	9,748	5,977

INTERNET APPENDIX

(NOT INTENDED FOR PUBLICATION)

Table IA.1. Simultaneous payouts and security issues— breaking down the role of debt and equity.
This table examines which securities firms issue when they simultaneously pay out and raise capital during the same year. Panel A focuses on net debt issues (with *ND* defined as max{debt issued – debt repurchased, 0}); Panel B examines firm-initiated equity issues (denoted *FE*); and Panel C focuses on employee-initiated equity issues (denoted *EE*). Columns 1-5 examine total payout (*TP*); columns 6-9 focus on the non-discretionary component of total payout (*NP*), defined as the minimum of a firm's regular dividend and its prior-year regular dividend; and columns 10-13 focus on the discretionary component of total payout (*DP*), defined as the sum of share repurchases, regular dividend increases, and special dividends. Table 2 in the main body of the paper provides a condensed version of this table showing only annual figures averaged over all sample years to conserve space.

Panel A. Net debt issues.

	Total payout (*TP*)					**Non-discretionary payout (*NP*)**				**Discretionary payout (*DP*)**			
	Firm counts			*$ magnitudes*		*Firm counts*		*$ magnitudes*		*Firm counts*		*$ magnitudes*	
				Aggregate sum of min{*ND*, *TP*} over …				Aggregate sum of min{*ND*, *NP*} over …				Aggregate sum of min{*ND*, *DP*} over …	
Annual figures averaged over …	% public firms that issue *ND* & pay out capital	% *TP* payers that also issue *ND*	% firms issuing *ND* that also pay out capital	aggreg. sum of *TP*	aggreg. sum of *ND*	% public firms that issue *ND* & pay a non-disc. payout	% *NP* payers that also issue *ND*	aggreg. sum of *NP*	aggreg. sum of *ND*	% public firms that issue *ND* & pay a discret. payout	% *TP* payers that also issue *ND*	aggreg. sum of *DP*	aggreg. sum of *ND*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1989-1992	18.6%	40.7%	50.7%	39.4%	41.0%	14.3%	42.7%	45.7%	29.2%	14.2%	41.1%	45.3%	18.3%
1993-1996	18.3%	43.0%	45.5%	31.7%	31.6%	13.5%	45.9%	37.3%	20.9%	14.1%	43.2%	35.8%	15.6%
1997-2000	21.5%	45.7%	50.5%	37.9%	32.6%	12.6%	50.9%	50.8%	16.3%	18.6%	45.9%	40.3%	21.7%
2001-2004	13.4%	29.1%	48.2%	22.5%	29.1%	7.8%	32.7%	33.6%	17.0%	11.0%	28.5%	21.9%	17.3%
2005-2008	19.4%	36.5%	57.6%	23.7%	46.9%	12.1%	41.0%	37.5%	18.9%	17.1%	36.4%	25.8%	38.6%
2009-2012	17.9%	30.8%	61.7%	22.7%	50.5%	10.5%	34.0%	32.7%	26.0%	15.9%	30.6%	28.4%	40.2%
all years	18.2%	37.6%	52.4%	29.7%	38.6%	11.8%	41.2%	39.6%	21.4%	15.1%	37.6%	32.9%	25.3%

Panel B. Firm-initiated equity issues.

	Total payout (*TP*)					Non-discretionary payout (*NP*)				Discretionary payout (*DP*)			
	Firm counts			*$ magnitudes*		*Firm counts*		*$ magnitudes*		*Firm counts*		*$ magnitudes*	
				Aggregate sum of min{*FE*, *TP*} over ...				Aggregate sum of min{*FE*, *NP*} over ...				Aggregate sum of min{*FE*, *DP*} over ...	
Annual figures averaged over ...	% public firms that issue *FE* & pay out capital	% *TP* payers that also issue *FE*	% firms issuing *FE* that also pay out capital	aggreg. sum of *TP*	aggreg. sum of *FE*	% public firms that issue *FE* & pay a non-disc. payout	% *NP* payers that also issue *FE*	aggreg. sum of *NP*	aggreg. sum of *FE*	% public firms that issue *FE* & pay a discret. payout	% *TP* payers that also issue *FE*	aggreg. sum of *DP*	aggreg. sum of *FE*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1989-1992	4.3%	9.4%	30.7%	8.2%	40.7%	2.6%	7.9%	9.0%	26.2%	3.1%	9.3%	9.1%	20.7%
1993-1996	4.1%	9.7%	22.9%	3.6%	14.2%	2.1%	7.2%	3.8%	8.6%	3.2%	9.8%	3.7%	7.0%
1997-2000	4.1%	8.8%	25.1%	2.2%	10.3%	1.4%	5.8%	2.6%	3.9%	3.4%	8.5%	2.3%	7.3%
2001-2004	3.3%	7.2%	23.4%	3.1%	18.4%	1.5%	6.1%	3.1%	7.2%	2.5%	6.6%	3.2%	11.9%
2005-2008	2.5%	4.8%	21.8%	1.3%	18.1%	1.3%	4.4%	2.7%	10.6%	1.8%	3.9%	0.7%	7.7%
2009-2012	2.9%	5.2%	23.8%	0.7%	11.0%	1.1%	3.7%	1.3%	7.9%	2.3%	4.7%	0.5%	6.2%
all years	3.5%	7.5%	24.6%	3.2%	18.8%	1.7%	5.9%	3.8%	10.8%	2.7%	7.1%	3.2%	10.1%

Panel C. Employee-initiated equity issues.

	Total payout (*TP*)					Non-discretionary payout (*NP*)				Discretionary payout (*DP*)			
	Firm counts			*$ magnitudes*		*Firm counts*		*$ magnitudes*		*Firm counts*		*$ magnitudes*	
				Aggregate sum of min{*EE*, *TP*} over ...				Aggregate sum of min{*EE*, *NP*} over ...				Aggregate sum of min{*EE*, *DP*} over ...	
Annual figures averaged over ...	% public firms that issue *EE* & pay out capital	% *TP* payers that also issue *EE*	% firms issuing *EE* that also pay out capital	aggreg. sum of *TP*	aggreg. sum of *EE*	% public firms that issue *EE* & pay a non-disc. payout	% *NP* payers that also issue *EE*	aggreg. sum of *NP*	aggreg. sum of *EE*	% public firms that issue *EE* & pay a discret. payout	% *TP* payers that also issue *EE*	aggreg. sum of *DP*	aggreg. sum of *EE*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1989-1992	23.0%	50.4%	56.2%	9.1%	83.5%	17.6%	52.9%	12.9%	72.7%	18.0%	53.1%	15.8%	54.8%
1993-1996	25.8%	60.6%	47.2%	10.9%	76.6%	18.0%	61.2%	16.5%	64.2%	20.7%	63.3%	16.2%	49.0%
1997-2000	31.7%	67.4%	49.6%	12.0%	68.2%	16.3%	65.7%	19.7%	41.9%	27.9%	69.0%	16.6%	58.8%
2001-2004	35.9%	77.9%	49.4%	13.9%	72.8%	18.0%	75.2%	21.3%	43.2%	31.2%	80.7%	18.8%	59.2%
2005-2008	44.0%	83.2%	56.8%	11.1%	85.9%	23.9%	80.8%	27.4%	51.6%	40.0%	85.5%	13.9%	81.3%
2009-2012	42.4%	74.2%	62.9%	9.8%	85.9%	22.3%	73.2%	19.3%	59.6%	38.5%	76.5%	14.1%	78.0%
all years	33.8%	69.0%	53.7%	11.2%	78.8%	19.4%	68.2%	19.5%	55.6%	29.4%	71.4%	15.9%	63.5%

Table IA.2. Do firms have sufficient internal funds to fund their payouts? Payout gaps defined over four-year intervals.

This table examines whether payout payers have sufficient internal funds to fund their payouts taking as given their level of profitability and investment. The table is analogous to Table 3 in the main body of the paper, with only one difference: In Table 3, payout gaps are defined annually; by contrast, here all sources and uses of funds are aggregated over four-year intervals, and we define a firm's four-year total payout gap as follows: $TPG^4_{it} \equiv \min\left\{\max\left\{\sum_{j=0}^{3} TP_{it+j} - \sum_{j=0}^{3}\left(FCF_{it+j} + CR_{it+j} + EE_{it+j}\right), 0\right\}, \sum_{j=0}^{3} TP_{it+j}\right\}$, and analogously for non-discretionary and discretionary gaps. *TP* is total payout; *NP* is the minimum of a firm's regular dividend and its prior-year regular dividend; *DP* is the sum of share repurchases, regular dividend increases, and special dividends; *FCF* is free cash flow; $CR \geq 0$ is the maximum cash reduction that would leave the firm with the predicted level of cash given its size, industry, and year; and *EE* captures employee-initiated equity issues. To estimate a firm's predicted cash, we first regress cash-to-assets on firm size and a full set of industry and year fixed effects. We then define predicted cash as the firm's actual assets times the maximum of the predicted cash-to-assets ratio from that regression and the cash-to-assets ratio of the firm in the first quintile of the cash distribution, thus avoiding negative and very low cash predictions.

	Total payout gaps (TPG^4)				**Non-discretionary payout gaps (NPG^4)**				**Discretionary payout gaps (DPG^4)**			
	Counts		*\$ magnitudes*		*Counts*		*\$ magnitudes*		*Counts*		*\$ magnitudes*	
Four-year intervals	% public firms with a *TP* gap	% *TP* payers with a *TP* gap	Aggreg. sum of *TPG* over aggreg. sum of *TP* paid by all firms	Aggreg. sum of *TPG* over aggreg. sum of proactive security issues	% public firms with a *NP* gap	% *NP* payers with a *NP* gap	Aggreg. sum of *NPG* over aggreg. sum of *NP* paid by all firms	Aggreg. sum of *NPG* over aggreg. sum of proactive security issues	% public firms with a *DP* gap	% *DP* payers with a *DP* gap	Aggreg. sum of *DPG* over aggreg. sum of *DP* paid by all firms	Aggreg. sum of *DPG* over aggreg. sum of proactive security issues
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1989-1992	35.0%	50.6%	38.4%	42.9%	18.4%	40.0%	32.0%	21.8%	33.2%	50.9%	48.4%	21.1%
1993-1996	38.2%	58.3%	29.3%	34.0%	19.5%	47.0%	24.5%	15.7%	36.2%	58.3%	35.3%	18.2%
1997-2000	48.1%	65.3%	39.7%	39.3%	18.1%	52.3%	33.7%	12.3%	47.0%	65.4%	43.3%	27.0%
2001-2004	25.1%	35.9%	15.1%	23.6%	8.4%	26.0%	15.4%	9.4%	23.9%	35.7%	14.9%	14.1%
2005-2008	39.3%	52.7%	21.9%	51.9%	12.0%	31.5%	14.0%	8.2%	38.2%	52.3%	24.5%	43.7%
2009-2012	30.3%	40.2%	14.7%	38.9%	9.4%	24.0%	7.0%	6.6%	29.5%	40.0%	18.9%	32.2%
avg. of all intervals	36.0%	50.5%	26.5%	38.4%	14.3%	36.8%	21.1%	12.4%	34.7%	50.4%	30.9%	26.1%

Table IA.3. Do firms have sufficient internal funds to fund their payouts? Dividend gaps of dividend initiators.

This table examines whether dividend initiators have sufficient internal funds to fund their dividends taking as given their level of profitability and investment. Column 1 shows the fraction of regular dividend initiators that have a regular dividend gap and so cannot fund their initial regular dividend internally, i.e., the fraction of regular dividend initiators with $RDG_{it} \equiv \min\{\max\{RegDiv_{it} - (FCF_{it} + CR_{it} + EE_{it}), 0\}, RegDiv_{it}\} >> 0$. *RegDiv* is a firm's regular dividend, which excludes special dividends; *FCF* is free cash flow, the sum of operating and investment cash flow (the two main components of investment cash flow are capital expenditures and cash acquisitions, both of which are negative); $CR \geq 0$ is the maximum cash reduction that would leave the firm with the predicted level of cash given its size, industry, and year; and *EE* captures employee-initiated equity issues. As in Table 3, to estimate a firm's predicted cash, we first regress cash-to-assets on firm size and a full set of industry and year fixed effects. We then define predicted cash as the firm's actual assets times the maximum of the predicted cash-to-assets ratio from that regression and the cash-to-assets ratio of the firm in the first quintile of the cash distribution, thus avoiding negative and very low cash predictions. Column 2 shows the fraction of all regular dividends paid out by regular dividend initiators that is accounted for by regular dividend gaps. Column 3 shows the fraction of all capital raised by regular dividend initiators via security issues they initiate that is accounted for by regular dividend gaps.

	Dividend payout gaps of dividend initiators		
	Counts	*$ magnitudes*	
Annual figures averaged over …	% dividend initiators with a dividend gap	Aggreg. sum of dividend gaps over aggreg. sum of dividends paid by dividend initiators	Aggreg. sum of dividend gaps over aggreg. sum of proactive security issues by dividend initiators
	(1)	(2)	(3)
1989-1992	37.5%	47.7%	10.7%
1993-1996	35.0%	15.4%	8.9%
1997-2000	39.6%	22.4%	7.9%
2001-2004	13.1%	14.0%	2.1%
2005-2008	23.3%	13.7%	5.0%
2009-2012	16.1%	5.7%	5.3%
all years	27.4%	19.8%	6.7%

Table IA.4. The role of profitability and investment shocks in explaining payout gaps.
This table examines the extent to which active payout gaps are driven by firms with unusually low profits or high investment. The table replicates the analysis in Table 3 using four counterfactual definitions of active payout gaps. In Panel A, we assume that no firm is less profitable than the median firm in its industry and define $ATPG_{it}^{IndOcf} \equiv \min\{\max\{TP_{it} - (\max\{OCF_{it}, \textit{Industry median } OCF_{it}\} + ICF_{it} + CR_{it} + EE_{it}), 0\}, TP_{it}\}$, where *Industry median* OCF_{it} is the median ratio of operating cash flow/lagged assets in the firm's industry-year multiplied by the firm's lagged assets. (*TP* is total payout; *ICF* is investment cash flow; *CR* is cash reduction; and *EE* captures the proceeds of employee-initiated equity issues. Industry is defined at the 2-digit SIC level.) In Panel B, we assume that no firm is less profitable than it was in the previous year and define $ATPG_{it}^{LagOcf} \equiv \min\{\max\{TP_{it} - (\max\{OCF_{it}, OCF_{it-1}\} + ICF_{it} + CR_{it} + EE_{it}), 0\}, TP_{it}\}$. In Panel C, we assume that no firm invests more than the median firm in its industry and define $ATPG_{it}^{IndInv} \equiv \min\{\max\{TP_{it} - (OCF_{it} + \max\{ICF_{it}, \textit{Industry median } ICF_{it}\} + CR_{it} + EE_{it}), 0\}, TP_{it}\}$, where in *Industry median* ICF_{it}, we substitute CAPEX and acquisitions by the median ratio of (CAPEX + acquisitions)/lagged assets in the firm's industry-year multiplied by the firm's lagged assets. In Panel D, we assume that no firm invests more than it did in the previous year and define $ATPG_{it}^{LagInv} \equiv \min\{\max\{TP_{it} - (OCF_{it} + \max\{ICF_{it}, \textit{Lagged } ICF_{it}\} + CR_{it} + EE_{it}), 0\}, TP_{it}\}$, where in *Lagged* ICF_{it} we substitute CAPEX and acquisitions by their lagged values. Counterfactual non-discretionary and discretionary gaps are defined analogously, following their respective definitions in Table 3. Table 4 in the main body of the paper provides a condensed version of this table showing only annual figures averaged over all sample years to conserve space.

	Active total payout gaps (*ATPG*)			**Active non-discretionary payout gaps (*ANPG*)**			**Active discretionary payout gaps (*ADPG*)**		
Annual figures averaged over ...	% *TP* payers with an active *TP* gap (1)	Aggreg. sum of *ATPG* over aggreg. sum of *TP* paid by all public firms (2)	Aggreg. sum of *ATPG* over aggreg. sum of active security issues (3)	% *NP* payers with an active *NP* gap (4)	Aggreg. sum of *ANPG* over aggreg. sum of *NP* paid by all public firms (5)	Aggreg. sum of *ANPG* over aggreg. sum of active security issues (6)	% *DP* payers with an active *DP* gap (7)	Aggreg. sum of *ADPG* over aggreg. sum of *DP* paid by all public firms (8)	Aggreg. sum of *ADPG* over aggreg. sum of active security issues (9)
Panel A. We assume that no firm is less profitable than the median firm in its industry.									
1989-1992	36.0%	38.5%	32.3%	31.7%	33.0%	16.7%	36.9%	46.6%	15.7%
1993-1996	40.3%	30.1%	24.0%	35.5%	24.6%	11.1%	41.0%	37.3%	13.0%
1997-2000	43.2%	36.9%	26.8%	35.9%	31.9%	8.6%	43.8%	40.0%	18.3%
2001-2004	23.3%	19.1%	19.9%	19.1%	17.1%	6.8%	23.4%	20.3%	13.0%
2005-2008	32.8%	20.6%	36.0%	21.4%	14.1%	6.2%	33.2%	22.6%	29.8%
2009-2012	25.3%	15.0%	28.7%	17.2%	8.5%	6.0%	25.5%	18.4%	22.7%
all years	33.5%	26.7%	27.9%	26.8%	21.5%	9.2%	34.0%	30.9%	18.7%
% of actual	80.8%	91.3%	91.3%	78.8%	88.6%	88.6%	82.5%	92.6%	92.6%

(cont.)

(cont.)

Panel B. We assume that no firm is less profitable than that same firm was in the previous year.

1989-1992	35.0%	34.9%	29.3%	30.3%	30.6%	15.5%	35.7%	40.8%	13.8%
1993-1996	39.5%	28.3%	22.6%	34.7%	23.9%	10.8%	39.6%	34.1%	11.9%
1997-2000	42.5%	33.6%	24.5%	34.3%	29.0%	7.9%	42.9%	36.4%	16.6%
2001-2004	23.1%	17.9%	18.7%	18.5%	16.0%	6.4%	23.1%	19.1%	12.3%
2005-2008	33.6%	19.7%	34.3%	22.4%	13.9%	6.0%	33.4%	21.5%	28.2%
2009-2012	25.0%	13.2%	25.5%	16.7%	7.9%	5.5%	24.9%	15.9%	20.0%
all years	33.1%	24.6%	25.8%	26.2%	20.2%	8.7%	33.3%	28.0%	17.1%
% of actual	79.9%	84.9%	84.9%	76.9%	83.5%	83.5%	80.7%	85.6%	85.6%

Panel C. We assume that no firm invests more than the median firm in its industry.

1989-1992	28.6%	25.8%	21.7%	22.8%	21.1%	10.8%	29.1%	32.3%	10.9%
1993-1996	33.2%	22.1%	17.6%	26.1%	18.6%	8.4%	33.4%	26.4%	9.2%
1997-2000	35.5%	24.7%	18.0%	25.1%	20.5%	5.6%	35.7%	27.2%	12.4%
2001-2004	18.5%	11.3%	11.9%	13.7%	9.6%	4.0%	18.1%	12.3%	7.9%
2005-2008	25.5%	14.6%	25.2%	14.8%	8.0%	3.4%	25.3%	16.6%	21.9%
2009-2012	19.1%	8.8%	16.9%	11.2%	3.3%	2.2%	18.8%	12.1%	14.7%
all years	26.7%	17.9%	18.6%	18.9%	13.5%	5.7%	26.8%	21.2%	12.8%
% of actual	64.5%	61.3%	61.3%	55.7%	54.6%	54.6%	64.9%	64.3%	64.3%

Panel D. We assume that no firm invests more than that same firm did in the previous year.

1989-1992	34.8%	32.8%	27.7%	29.8%	28.3%	14.7%	34.9%	38.9%	13.0%
1993-1996	36.0%	23.2%	18.5%	29.2%	18.1%	8.2%	36.3%	29.5%	10.3%
1997-2000	39.7%	28.1%	20.6%	29.5%	21.9%	5.9%	40.0%	31.9%	14.6%
2001-2004	21.8%	13.9%	14.3%	17.0%	11.9%	4.8%	21.4%	15.2%	9.5%
2005-2008	29.7%	15.7%	27.5%	18.0%	9.3%	4.1%	29.4%	17.8%	23.5%
2009-2012	22.2%	10.6%	20.2%	13.7%	4.1%	2.9%	22.0%	14.3%	17.4%
all years	30.7%	20.7%	21.5%	22.9%	15.6%	6.8%	30.7%	24.6%	14.7%
% of actual	74.1%	69.9%	69.9%	67.3%	62.8%	62.8%	74.4%	73.2%	73.2%

Table IA.5. Would firms with a payout gap still have to raise capital if they did not pay out?
This table investigates whether those firms with a discretionary payout gap identified in Table 3 have to raise capital as a direct consequence of their payout decision or whether, by contrast, these firms would have to raise capital anyway, even if their payout were zero. Specifically, column 1 shows the percentage of firms with a discretionary payout gap (i.e., $DPG_{it} \equiv \min\{\max\{DP_{it} - (FCF_{it} + CR_{it} + EE_{it} - NP_{it}), 0\}, DP_{it}\} >> 0$) that would have to raise capital even if their discretionary payout were zero (i.e., $(FCF_{it} + CR_{it} + EE_{it} - NP_{it}) << 0$). For those firms that would still have a funding gap and thus would have to raise capital even if their discretionary payout were zero, column 2 show the average magnitude of their discretionary payout relative to their total funding gap. Specifically, column 2 shows the average of the ratio $DP_{it} / (DP_{it} - (FCF_{it} + CR_{it} + EE_{it} - NP_{it}))$ across all firms with a discretionary payout gap such that $(FCF_{it} + CR_{it} + EE_{it} - NP_{it}) << 0$. (Analogous results for total and non-discretionary payouts are available upon request.)

	Discretionary payout gaps (*DPG*)	
Annual figures averaged over ...	% firms with a *DP* gap that would still have to raise capital even if *DP* = 0 (1)	For firms that would still have to raise capital even if *DP* = 0, avg. ratio of *DP* / (*DP* + non-payout-driven funding gap) (2)
1989-1992	80.8%	20.9%
1993-1996	81.8%	19.2%
1997-2000	77.3%	23.6%
2001-2004	71.9%	22.3%
2005-2008	58.6%	24.5%
2009-2012	63.3%	22.2%
all years	72.3%	22.1%

Table IA.6. Costs associated with financed discretionary payouts: Only firms that would not have to raise capital if their discretionary payout were zero.

This table examines the costs associated with discretionary payouts financed via net debt issues (Panels A and B) and firm-initiated equity issues (Panel C), calculated as in Table 5. The sample here is limited only to those firms that would *not* have to raise capital if their discretionary payout were zero, as defined in Table IA.5 For these firms, we include both the fixed and marginal components of issuance costs.

Panel A. Transaction costs associated with debt-financed discretionary payouts.

	One-time debt-issuance transaction costs			Present value of current and future debt-issuance transaction cots		
	Average cost per $1 of debt-financed discret. payout, in $ cents	Average cost per firm-year with debt-financed discret. payout, in $ million	Aggregate cost for all firms with debt-financed discret. payout, in $ million	Average cost per $1 of debt-financed discret. payout, in $ cents	Average cost per firm-year with debt-financed discret. payout, in $ million	Aggregate cost for all firms with debt-financed discret. payout, in $ million
	(1)	(2)	(3)	(4)	(5)	(6)
1989-1992	0.75	0.454	71.0	2.51	1.123	173.3
1993-1996	0.68	0.537	91.2	2.74	1.868	323.5
1997-2000	0.57	0.761	188.1	2.37	2.239	557.5
2001-2004	0.54	0.781	133.5	3.99	4.486	767.0
2005-2008	0.46	1.439	382.3	1.99	4.461	1,176.1
2009-2012	0.69	2.106	462.9	3.75	8.694	1,967.7
all years	0.62	1.013	221.5	2.89	3.812	827.5

Panel B. Deadweight bankruptcy costs associated with debt-financed discretionary payouts.

		Deadweight bankruptcy cost only, building on Hennessy and Whited (2007) estimates			Deadweight bankruptcy cost + one-time debt transaction costs			Deadweight bankruptcy cost + present value of current and future debt transaction costs		
	Firm average, percentage point increase in default probability	Average cost per $1 of debt-financed discret. payout, in $ cents	Average cost per firm-year with debt-financed discret. payout, in $ million	Aggregate cost for all firms with debt-financed discret. payout, in $ million	Average cost per $1 of debt-financed discret. payout, in $ cents	Average cost per firm-year with debt-financed discret. payout, in $ million	Aggregate cost for all firms with debt-financed discret. payout, in $ million	Average cost per $1 of debt-financed discret. payout, in $ cents	Average cost per firm-year with debt-financed discret. payout, in $ million	Aggregate cost for all firms with debt-financed discret. payout, in $ million
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1989-1992	0.31%	1.47	0.105	16.9	2.23	0.559	87.9	3.99	1.229	190.2
1993-1996	0.16%	0.57	0.149	22.2	1.25	0.683	112.0	3.31	2.011	341.6
1997-2000	0.59%	1.90	0.827	203.9	2.47	1.556	383.2	4.26	2.982	737.5
2001-2004	0.16%	1.10	0.564	92.4	1.64	1.350	225.0	5.08	5.037	846.4
2005-2008	0.40%	1.33	1.058	298.3	1.79	2.497	680.6	3.32	5.519	1,474.4
2009-2012	0.11%	0.77	0.290	75.4	1.46	2.388	534.8	4.50	8.931	2,024.0
all years	0.29%	1.19	0.499	118.2	1.81	1.505	337.2	4.08	4.285	935.7

Panel C. Equity-issuance costs associated with equity-financed discretionary payouts.

	Equity-issuance transaction costs (one-time)			Equity-issuance costs including transaction costs & adverse selection premia, building on Hennessy and Whited (2007) estimates		
	Average cost per $1 of debt-financed discret. payout, in $ cents	Average cost per firm-year with debt-financed discret. payout, in $ million	Aggregate cost for all firms with debt-financed discret. payout, in $ million	Average cost per $1 of debt-financed discret. payout, in $ cents	Average cost per firm-year with debt-financed discret. payout, in $ million	Aggregate cost for all firms with debt-financed discret. payout, in $ million
	(1)	(2)	(3)	(4)	(5)	(6)
1989-1992	4.98	2.375	109.3	21.36	4.166	191.3
1993-1996	5.22	1.817	53.0	25.41	3.414	98.0
1997-2000	5.45	1.559	63.1	26.14	2.510	101.6
2001-2004	4.97	3.261	127.1	22.02	6.488	252.4
2005-2008	4.59	2.766	48.8	18.51	5.011	88.6
2009-2012	4.90	1.268	31.8	14.33	3.012	73.3
all years	5.02	2.174	72.2	21.29	4.100	134.2

Table IA.7. Costs associated with financed discretionary payouts: Only firms that would still have to raise capital even if their discretionary payout were zero.

This table examines the costs associated with discretionary payouts financed via net debt issues (Panels A and B) and firm-initiated equity issues (Panel C), calculated as in Table 5. The sample here is limited only to those firms that would still have to raise capital even if their discretionary payout were zero, as defined in Table IA.5 For these firms, we only include the marginal component of issuance costs.

Panel A. Transaction costs associated with debt-financed discretionary payouts.

	One-time debt-issuance transaction costs			Present value of current and future debt-issuance transaction cots		
	Average cost per $1 of debt-financed discret. payout, in $ cents	Average cost per firm-year with debt-financed discret. payout, in $ million	Aggregate cost for all firms with debt-financed discret. payout, in $ million	Average cost per $1 of debt-financed discret. payout, in $ cents	Average cost per firm-year with debt-financed discret. payout, in $ million	Aggregate cost for all firms with debt-financed discret. payout, in $ million
	(1)	(2)	(3)	(4)	(5)	(6)
1989-1992	0.68	0.361	139.6	2.32	0.849	317.5
1993-1996	0.66	0.259	116.6	2.58	0.684	308.1
1997-2000	0.54	0.457	271.5	2.22	1.469	849.6
2001-2004	0.53	0.287	66.2	3.88	1.791	409.8
2005-2008	0.50	0.723	197.3	2.27	2.361	634.8
2009-2012	0.70	0.459	87.6	3.99	2.249	439.3
all years	0.60	0.424	146.5	2.88	1.567	493.2

Panel B. Deadweight bankruptcy costs associated with debt-financed discretionary payouts.

		Deadweight bankruptcy cost only, building on Hennessy and Whited (2007) estimates			Deadweight bankruptcy cost + one-time debt transaction costs			Deadweight bankruptcy cost + present value of current and future debt transaction costs		
	Firm average, percentage point increase in default probability	Average cost per $1 of debt-financed discret. payout, in $ cents	Average cost per firm-year with debt-financed discret. payout, in $ million	Aggregate cost for all firms with debt-financed discret. payout, in $ million	Average cost per $1 of debt-financed discret. payout, in $ cents	Average cost per firm-year with debt-financed discret. payout, in $ million	Aggregate cost for all firms with debt-financed discret. payout, in $ million	Average cost per $1 of debt-financed discret. payout, in $ cents	Average cost per firm-year with debt-financed discret. payout, in $ million	Aggregate cost for all firms with debt-financed discret. payout, in $ million
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1989-1992	0.42%	3.55	0.754	324.9	4.22	1.115	464.5	5.87	1.604	642.3
1993-1996	0.16%	1.58	0.102	46.1	2.23	0.360	161.8	4.16	0.785	352.0
1997-2000	0.72%	4.57	1.526	835.0	5.11	1.977	1,100.0	6.78	2.984	1,669.2
2001-2004	0.29%	2.91	0.807	183.9	3.44	1.082	245.7	6.79	2.508	564.0
2005-2008	0.62%	3.88	1.917	515.7	4.39	2.641	712.9	6.16	4.281	1,150.2
2009-2012	0.14%	1.76	0.274	64.3	2.46	0.734	152.0	5.75	2.526	503.6
all years	0.39%	3.04	0.897	328.3	3.64	1.318	472.8	5.92	2.448	813.6

Panel C. Equity-issuance costs associated with equity-financed discretionary payouts.

	Equity-issuance transaction costs (one-time)			Equity-issuance costs including transaction costs & adverse selection premia, building on Hennessy and Whited (2007) estimates		
	Average cost per $1 of debt-financed discret. payout, in $ cents	Average cost per firm-year with debt-financed discret. payout, in $ million	Aggregate cost for all firms with debt-financed discret. payout, in $ million	Average cost per $1 of debt-financed discret. payout, in $ cents	Average cost per firm-year with debt-financed discret. payout, in $ million	Aggregate cost for all firms with debt-financed discret. payout, in $ million
	(1)	(2)	(3)	(4)	(5)	(6)
1989-1992	5.07	1.229	86.0	7.76	2.360	167.3
1993-1996	5.16	0.463	51.3	8.46	0.797	88.9
1997-2000	5.16	0.771	87.1	8.79	1.591	178.9
2001-2004	5.03	0.937	50.4	8.83	1.734	95.2
2005-2008	4.41	1.261	46.0	8.79	2.687	97.1
2009-2012	4.53	0.438	15.2	8.59	0.779	27.0
all years	4.89	0.850	56.0	8.54	1.658	109.1

Table IA.8. Characteristics of discretionary payout payers.

The table shows the results of a Tobit model in which the dependent variable is a firm's discretionary payout scaled by the beginning-of-year market value of the firm's equity (Panel A) or by beginning-of-year assets (Panel B). All variables are defined in Appendix A. (Data on activist hedge funds are only available for years 1995-2011, which is why the sample size in columns 2-3 is smaller.) Columns 1-3 include year fixed effects; columns 3-7 instead include a linear time trend because the set of year fixed effects is highly collinear with the macroeconomic control variables. The table reports the coefficient estimates of the Tobit model, which capture the estimated marginal effect of each independent variable on the non-truncated latent dependent variable. Robust standard errors clustered at the firm level are shown in italics beneath the coefficient estimates. We use ***, **, and * to denote significance at the 1%, 5%, and 10% level (two-sided), respectively.

Panel A. Discretionary payout scaled by market value of equity.

Dependent variable:	**Discretionary payout / market value of equity**						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Size	0.008***	0.008***	0.008***	0.008***	0.008***	0.008***	0.008***
	0.000	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*
Investment-grade credit rating	0.007***	0.009***	0.009***	0.007***	0.007***	0.007***	0.007***
	0.001	*0.002*	*0.002*	*0.001*	*0.001*	*0.001*	*0.001*
Operating cash flow	0.085***	0.087***	0.087***	0.085***	0.084***	0.084***	0.085***
	0.003	*0.004*	*0.004*	*0.003*	*0.003*	*0.003*	*0.003*
Investment (capex + acquis.)	-0.033***	-0.036***	-0.036***	-0.031***	-0.031***	-0.030***	-0.032***
	0.003	*0.003*	*0.003*	*0.002*	*0.002*	*0.002*	*0.002*
Excess leverage	-0.037***	-0.034***	-0.034***	-0.037***	-0.037***	-0.037***	-0.037***
	0.002	*0.003*	*0.003*	*0.002*	*0.002*	*0.002*	*0.002*
Excess cash	0.026***	0.024***	0.024***	0.026***	0.026***	0.025***	0.026***
	0.003	*0.003*	*0.003*	*0.003*	*0.003*	*0.003*	*0.003*
Tax cost repat. foreign profits	0.030***	0.034***	0.035***	0.039***	0.036***	0.034***	0.034***
	0.010	*0.011*	*0.011*	*0.010*	*0.010*	*0.010*	*0.010*
Market-to-book	-0.305***	-0.293***	-0.296***	-0.317***	-0.297***	-0.289***	-0.306***
	0.027	*0.029*	*0.029*	*0.027*	*0.026*	*0.026*	*0.026*
Firm target. by act. hedge fund		0.010***					
		0.002					
Ind. target. by act. hedge fund			0.077***				
			0.013				
Output gap				0.279***			
				0.016			
Real GDP growth					0.216***		
					0.017		
Credit spread						-0.707***	
						0.086	
Term spread							-0.521***
							0.023
χ^2 test: all coefficients = 0	124.9***	117.1***	118.0***	349.7***	339.9***	336.9***	360.5***
No. observations	85,505	60,892	60,892	85,505	85,505	85,505	85,505
No. firms	10,135	8,466	8,466	10,135	10,135	10,135	10,135

Panel B. Discretionary payout scaled by total assets.

Dependent variable:	Discretionary payout / total assets						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Size	0.010***	0.010***	0.010***	0.010***	0.010***	0.010***	0.010***
	0.000	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*
Investment-grade credit rating	0.011***	0.014***	0.014***	0.011***	0.011***	0.011***	0.011***
	0.002	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*
Operating cash flow	0.130***	0.138***	0.137***	0.130***	0.130***	0.129***	0.130***
	0.005	*0.006*	*0.006*	*0.005*	*0.005*	*0.005*	*0.005*
Investment (capex + acquis.)	-0.046***	-0.052***	-0.052***	-0.043***	-0.042***	-0.041***	-0.044***
	0.003	*0.004*	*0.004*	*0.003*	*0.003*	*0.003*	*0.003*
Excess leverage	-0.056***	-0.055***	-0.055***	-0.056***	-0.056***	-0.056***	-0.056***
	0.003	*0.004*	*0.004*	*0.003*	*0.003*	*0.003*	*0.003*
Excess cash	0.030***	0.029***	0.029***	0.030***	0.030***	0.029***	0.030***
	0.003	*0.004*	*0.004*	*0.003*	*0.003*	*0.003*	*0.003*
Tax cost repat. foreign profits	0.107***	0.119***	0.120***	0.119***	0.115***	0.113***	0.112***
	0.016	*0.019*	*0.019*	*0.016*	*0.016*	*0.016*	*0.016*
Market-to-book	0.423***	0.447***	0.445***	0.408***	0.429***	0.438***	0.421***
	0.041	*0.047*	*0.047*	*0.041*	*0.041*	*0.041*	*0.041*
Firm target. by act. hedge fund		0.010***					
		0.003					
Ind. target. by act. hedge fund			0.094***				
			0.017				
Output gap				0.333***			
				0.019			
Real GDP growth					0.268***		
					0.020		
Credit spread						-0.907***	
						0.105	
Term spread							-0.618***
							0.029
χ^2 test: all coefficients = 0	107.0***	105.4***	105.8***	292.3***	285.8***	281.4***	303.4***
No. observations	85,505	60,892	60,892	85,505	85,505	85,505	85,505
No. firms	10,135	8,466	8,466	10,135	10,135	10,135	10,135

Table IA.9. Simultaneous payouts and security issues—excluding firms with incentives to avoid repatriation taxes.
This table examines the extent to which firms that do not have an incentive to repatriate their foreign cash simultaneously pay out and raise capital during the same fiscal year. The table is analogous to Table 1 in the main body of the paper, with the only difference being that here we exclude all firm-years for which the tax cost of repatriating the foreign profits they earned in the previous year, defined as the product of the firms' foreign earnings times the statutory U.S. tax rate of 35% minus the firms' foreign tax credits, is positive.

	Total payout (*TP*)					**Non-discretionary payout (*NP*)**				**Discretionary payout (*DP*)**			
	Firm counts			*$ magnitudes*		*Firm counts*		*$ magnitudes*		*Firm counts*		*$ magnitudes*	
				Aggregate sum of min{*SI*, *TP*} over …				Aggregate sum of min{*SI*, *NP*} over …				Aggregate sum of min{*SI*, *DP*} over …	
Annual figures averaged over …	% public firms that pro-actively raise & pay out capital	% *TP* payers that also pro-actively raise capital	% firms pro-actively raising capital that also pay out capital	aggreg. sum of *TP*	aggreg. sum of *SI*	% public firms that pro-actively raise capital & pay a non-disc. payout	% *NP* payers that also pro-actively raise capital	aggreg. sum of *NP*	aggreg. sum of *SI*	% public firms that pro-actively raise capital & pay a discret. payout	% *DP* payers that also pro-actively raise capital	aggreg. sum of *DP*	aggreg. sum of *SI*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1989-1992	19.8%	45.6%	43.8%	45.6%	37.3%	14.5%	46.8%	51.8%	26.1%	15.0%	46.0%	51.1%	16.3%
1993-1996	19.6%	48.4%	37.8%	35.1%	24.4%	13.4%	49.6%	38.3%	15.7%	14.9%	48.3%	41.1%	11.9%
1997-2000	22.3%	50.1%	42.3%	41.6%	25.5%	11.8%	52.8%	52.3%	12.7%	19.2%	50.2%	45.8%	16.9%
2001-2004	14.3%	33.3%	37.4%	22.8%	18.2%	7.4%	35.4%	27.9%	9.1%	11.8%	32.5%	24.3%	11.4%
2005-2008	18.1%	38.2%	42.8%	23.0%	30.6%	10.7%	41.8%	30.0%	9.3%	15.4%	37.2%	25.6%	26.5%
2009-2012	16.8%	33.0%	43.6%	20.2%	30.8%	8.9%	34.8%	29.9%	16.2%	14.3%	32.1%	23.5%	23.3%
all years	18.5%	41.4%	41.3%	31.4%	27.8%	11.1%	43.5%	38.4%	14.8%	15.1%	41.0%	35.2%	17.7%
Comparison with baseline results when all firms are included (from Table 1):													
all years	20.3%	42.0%	45.8%	31.8%	34.6%	12.7%	44.4%	41.7%	18.9%	16.8%	41.8%	35.1%	22.7%

Table IA.10. Do market-timing motives help explain debt-financed payouts? Additional results. This table examines whether debt-financed discretionary payouts are more frequent and larger when high loan officer sentiment or corporate credit growth indicates that debt may be overvalued, and low market-to-book indicates that equity could be undervalued. (We obtain similar results if we control for stock market sentiment instead of market-to-book.) The models we estimate in the odd and even columns are analogous to those we estimate in columns 1 and 2 of Table 10, respectively. The coefficient estimates of the firm-level control variables are very similar to those in Table 6; thus, we do not report them here to conserve space. For ease of interpretation, we report conditional marginal effects evaluated at the means of the independent variables. The fraction of loan officers tightening standards is the fraction of domestic banks tightening standards for C&I loans to large and middle-market firms, available at https://www.federalreserve.gov/boarddocs/snloansurvey; we compute aggregate corporate credit as the sum of corporate debt securities and loans using Table L103 from the Federal Reserve's Flow of Funds. All other variables are defined in Appendix A. Robust standard errors clustered at the firm level are shown in italics beneath the coefficient estimates. We use ***, **, and * to denote significance at the 1%, 5%, and 10% level (two-sided), respectively.

Dependent variable:	**Debt-financed disc. payout?**	**% disc. payout fin. by debt**	**Debt-financed disc. payout?**	**% disc. payout fin. by debt**
	(1)	(2)	(3)	(4)
Debt-market conditions				
Fraction loan officers tightening standards	-7.064***	-9.621***		
	0.629	*1.392*		
Aggregate corporate credit growth			2.929***	4.192***
			0.169	*0.377*
Equity-market conditions				
Market-to-book	-0.901***	-5.267***	-0.919***	-5.290***
	0.111	*0.387*	*0.103*	*0.377*
Additional controls	yes	yes	yes	yes
χ^2 test: all coefficients = 0	4,145.5***	1,878.2***	4,957.0***	2,163.3***
No. observations	71,793	29,130	85,505	33,832
No. firms	9,163	5,603	10,135	6,091

Table IA.11. Business cycle conditions and equity-financed discretionary payouts.

This table examines the relationship between business cycle conditions and firms' decision to equity-finance their discretionary payouts. The models we estimate in the odd and even columns are the same we estimate in columns 1 and 2 of Table 11, respectively, with only two differences: (1) each column adds one business cycle control; and (2) we do not include year fixed effects and instead add a linear time trend. (We introduce the business cycle controls one at a time and include a linear time trend instead of year fixed effects to avoid multicollinearity problems.) The coefficient estimates of the firm-level control variables are very similar to those in Table 11; thus, we do not report them here to conserve space. For ease of interpretation, we report conditional marginal effects evaluated at the means of the independent variables. All variables are defined in Appendix A. Robust standard errors clustered at the firm level are shown in italics beneath the coefficient estimates. We use ***, **, and * to denote significance at the 1%, 5%, and 10% level (two-sided), respectively.

Dependent variable:	**Equity-financed disc. payout?**	**% disc. payout fin. by equity**	**Equity-financed disc. payout?**	**% disc. payout fin. by equity**	**Equity-financed disc. payout?**	**% disc. payout fin. by equity**	**Equity-financed disc. payout?**	**% disc. payout fin. by equity**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Output gap	-0.052*	-0.416***						
	0.029	*0.056*						
Real GDP growth			0.015	-0.195***				
			0.035	*0.066*				
Credit spread					0.160	0.750**		
					0.188	*0.355*		
Term spread							0.158***	0.803***
							0.047	*0.091*
Additional controls	yes	yes	yes	yes	yes	yes	yes	yes
χ^2 test: all coefficients = 0	993.7***	1,790.7***	992.8***	1,760.6***	993.8***	1,768.7***	1,000.7***	1,807.7***
No. observations	85,505	33,832	85,505	33,832	85,505	33,832	85,505	33,832
No. firms	10,135	6,091	10,135	6,091	10,135	6,091	10,135	6,091