The Cost of Misaligned Incentives: Evidence from the Funding Sources and Real Effects of Tax-Motivated Dividends

Kose John New York University kj1@stern.nyu.edu (212) 998-0337

Trent Krupa University of Connecticut trent.krupa@uconn.edu (860) 486-5987

Steven Utke University of Connecticut sutke@uconn.edu (860) 486-2374

May 19, 2022

Keywords: Investment, Agency Costs, Tax-Sensitivity, Dividend Payout Policy, Institutional Ownership, Shareholder-Level Taxes, JGTRRA, ATRA

JEL codes: G35, H24, H32

Data Availability: Data used in this study are available from public sources identified in the paper.

We gratefully acknowledge the support of our respective institutions. Krupa and Utke also acknowledge support from the Deloitte Foundation and the University of Connecticut School of Business Dean's Fund, respectively. This paper has benefitted from helpful comments from Sudipta Basu, Erik Beardsley (discussant), Heeick Choi (discussant), Assaf Eisdorfer, Chad Ham, Michelle Hanlon, Brad Hepfer, James Hines, Zach Kaplan, Todd Kravet, Cameron LaPoint (discussant), Alina Lerman, Jennifer Luchs-Nuñez, Frank Murphy, Linda Myers, Sarah Parsons, Vernan Rivera, John Robinson, Steven Savoy, Casey Schwab, Terry Shevlin, Maximilian Todtenhaupt (discussant), Simone Traini, Johannes Voget, Lingling Wang, Dave Weber, Sunny Yang, and workshop participants at the University of Connecticut, NHH Norwegian School of Economics, the 2019 AAA-Northeast Regional Meeting, the 2020 ATA Midyear Meeting, the 2020 EIASM Taxation Conference, and the 2020 NTA Annual Meeting. We thank Brian Bushee for making information on his, and his co-authors, classifications of institutional owners publicly available on his website.

The Cost of Misaligned Incentives: Evidence from the Funding Sources and Real Effects of Tax-Motivated Dividends

Abstract

Prior research finds firms pay special dividends before a tax increase ("tax-motivated dividends"). We find firms incur costs – reducing investment and repurchases – to pay these dividends, and these costs vary with shareholders' tax incentives. For example, when taxable insider ownership is high but other shareholders are primarily tax-insensitive (i.e., misaligned tax incentives), payers reduce R&D, consistent with misaligned payouts signaling managerial myopia which erodes shareholder value. Market responses to, and total factor productivity changes around, tax-motivated dividends support these conclusions. Additional analyses rule out alternative explanations. These findings add to our understanding of tax-based agency issues influencing real corporate decisions.

I. Introduction

Firms fund payouts (dividends and repurchases) with operating cash flow, debt, and equity (e.g., Farre-Mensa et al., 2018), but the funding of regular dividends appears to have little effect on corporate investment (Fama, 1974). In contrast to prior research, we study firms' funding sources for, and the related real effects of, "tax-motivated" special dividends, focusing on how funding sources and real effects vary with the tax incentives of shareholders. Specifically, insiders and other taxable shareholders receive direct tax benefits upon firms' payment of special dividends in the fourth quarter of 2012 (hereafter: tax-motivated dividends), prior to the dividend tax increase arising from the expiration of the Jobs and Growth Tax Relief and Reconciliation Act (JGTRRA). However, tax-motivated dividends do not provide direct tax benefits to tax-insensitive institutions. While only some shareholders receive direct tax benefits, all shareholders bear any costs of tax-motivated dividends. As such, we propose that taxmotivated dividend payers' mix of shareholders can indicate managers' motivation for paying the dividend. For example, tax-motivated payers with high taxable insider ownership and high tax-insensitive external ownership – that is, relatively more misalignment between insiders' and shareholders' taxes – may be motivated by managers', rather than shareholders', tax incentives indicating these managers' willingness to act myopically (e.g., use more costly funding sources).

Tax-motivated dividends likely differ from other dividends, which are associated with long-run changes to capital structure or signaling of firm fundamentals to investors. First, while firms typically have flexibility around the timing of payouts, tax-motivated dividends must be paid before a tax increase. This constraint is important around JGTRRA's expected 2013 expiration because of significant uncertainty as to whether, and to what extent, dividend tax rates would increase – especially given the extension of JGTRRA's original (2011) expiration date.

This uncertainty provided firms with little time to plan low-cost funding sources for taxmotivated dividends relative to typical dividends. Second, tax-motivated dividends allow some investors (including managers) to receive significant tax benefits. These benefits, along with the short planning window, likely induce some firms to fund the dividend, at least in part, by cutting investment. However, this result is not certain to hold. For investors, a dividend tax increase is most costly for cash that will be distributed in the near future, whereas the cost of a dividend tax increase is reduced for cash received over multi-year horizons or otherwise far into the future (Black, 1976; Scholes et al., 2015).¹ If *only* firms already planning distributions in the near future pay tax-motivated dividends, these firms likely have low cost funding sources available and we will find no effect of tax-motivated dividends on investment.

Our research design, using a difference-in-differences analysis including control variables for investment opportunities and firm fixed effects, is similar to investment studies such as Faulkender and Petersen (2012) and Wang et al. (2021). We also limit our sample to firms that pay dividends (regular or special) or repurchase at some point between 2008 and 2012 so that we compare funding sources and real effects for firm-quarters capable of paying dividends to those for firm-quarters paying *tax-motivated* dividends. Further, including firm fixed effects uses a firm as a control for itself, mitigating concerns that differing firm attributes drive results.

Using this design, we document several funding sources for tax-motivated dividends. First, we find firms decrease share repurchases in the period of, and immediately after, taxmotivated dividends (i.e., around the expiration of JGTRRA). Shifting intended distributions to an earlier period likely represents a low-cost funding source. Second, we find little evidence that firms issue debt or equity to fund these dividends, suggesting that financing frictions exist (e.g.,

¹ As an example of a near-term payout, \$1 of dividends paid the day before the expiration of JGTRRA is worth \$0.85 (1* [1 - 15%]) while \$1 paid the day after the expiration could be worth as little as \$0.57 (1* [1 - 43.4%]).

public bond markets might not be accessible in a timely manner) or that the cost of issuance exceeds the benefits of tax-motivated dividends. Third, and most importantly, we find that firms reduce capital expenditures and R&D to fund tax-motivated dividends, trading off investment to pay these dividends. Reducing investment represents a potentially greater cost to the firm than shifting repurchases to pay tax-motivated dividends.²

We next examine cross-sectional variation in funding sources, and related real effects, based on the ownership structure of tax-motivated dividend payers. We propose that ownership structure matters for two reasons: 1) direct tax benefits accrue only to taxable investors, not tax*insensitive* institutions (classified following Blouin et al., 2017), and 2) taxable insiders have disproportionate power in setting dividend policy (DeAngelo et al., 2008) which increases with their ownership level (Hanlon and Hoopes, 2014; Jacob and Michaely, 2017). Differing tax incentives across investors likely indicate conflicting preferences for tax-motivated dividends, potentially signaling managers' willingness to use different funding sources.

While greater insider ownership can align managers with equity holders (Jensen and Meckling, 1976), it can also insulate managers from external monitoring, increasing executives' ability to realize private benefits of control (Fama and Jensen, 1983; Shleifer and Vishny, 1986; Morck et al., 1988). We propose that managers of tax-motivated dividend payers with *high* insider but *low* taxable external investor ownership ("misaligned" payers)³ likely focus on *managers* ' tax incentives when paying tax-motivated dividends, even if costly (e.g., through reduced investment), given that a significant portion of outside investors do not receive direct tax

² Broadly, our results are consistent with pecking order theory (Myers and Majluf, 1984) where firms use internal sources first, then external debt then equity. See Wang et al. (2021) for similar discussion in the repurchases setting. However, in later analyses we find that the use of certain internal funding sources can be costly, indicating managerial myopia which is not considered in pecking order theory.

³ See Figure 3, Panel A for a 2x2 presentation of our classification of firms as misaligned, aligned, weakly aligned, and other. Figure 3, Panel B summarizes results for each classification.

benefits from the payment.⁴ Because we focus on measuring misaligned tax incentives, we use a measure of external tax-*insensitive* institutional ownership (*TII*) such that, for firms with high insider ownership, higher *TII* indicates fewer tax-sensitive investors and more misalignment.

We find that misaligned payers reduce R&D, but not capital expenditures, around the expiration of JGTRRA. This is consistent with these managers myopically using R&D as a risky discretionary expenditure that can be cut to meet immediate goals (Baber et al., 1991; Bushee, 1998, 2001). Further, we find total factor productivity (TFP, a measure of a firm's output given inputs from capital and labor) decreases for these firms, suggesting these R&D cuts represent myopic actions to fund dividends benefiting managers at the expense of the firm. Using the market reaction to tax-motivated dividend announcements, we find misaligned firms earn lower abnormal returns, which are more likely to be negative, than the average tax-motivated dividend payer despite misaligned payers making relatively large payouts. This suggests that the market understands that tax-motivated dividends are costly to firms with misaligned tax incentives.

Alternatively, for tax-motivated dividend payers with *low* insider ownership, managers' have weaker incentives for tax-motivated dividends and are less insulated from external monitors. Here, higher *TII* indicates more external monitoring; these sophisticated institutions monitor and influence managers (Coffee, 1991; Black, 1992), including managers' dividend decisions. While tax-insensitive institutions do not have direct tax preferences for tax-motivated dividends, they likely understand the benefits of tax-motivated dividends to other, tax-sensitive investors. Further, monitors have general preferences for dividends to reduce excess cash, limiting managers' ability to empire build (Stulz, 1990). We find that tax-motivated payers with

⁴ We do not argue that all firms with high insider ownership but low taxable (i.e., high tax-insensitive institutional) ownership will make decisions that myopically benefit executives. Rather, we use managers' revealed preference for paying a tax-motivated dividend when a significant portion external investors will not receive direct tax benefits as a signal of managers making the dividend decision while primarily focused on managers' own tax incentives.

low insider *and* low taxable (i.e., high tax-insensitive institutional) ownership ("weakly aligned" payers) reduce capital expenditures, but not R&D, around JGTRRA's expiration. Reducing capital expenditures is consistent with external monitors (i.e., tax-insensitive institutions) using dividend policy to preemptively reduce managers' ability to empire build, understanding that a dividend tax rate increase also increases the cost of monitoring in the future (Bertrand and Mullainathan, 2003; Chetty and Saez, 2010; Giroud and Mueller, 2010). Also consistent with monitoring, we find no decrease in TFP for weakly aligned payers, suggesting these payers fund tax-motivated dividends with low-cost reductions to capital expenditures.

We next explore the mechanisms underlying our results. As discussed above, cuts to capital expenditures could reflect monitors using tax rate changes to encourage dividends before tax increases make monitoring through dividends more costly (Chetty and Saez, 2010). An alternative explanation is that firms reduce capital expenditures to fund dividends only when financially constrained. Unlike cuts to capital expenditures, cuts to R&D to fund dividends – undertaken by misaligned firms and which we find to be costly – are not driven by monitoring and should only occur when firms are financially constrained. Absent constraints, firms would find funding sources other than R&D. This suggests that misaligned firms only cut R&D when financially constrained, whereas weakly aligned firms cut capital expenditures regardless of financial constraints due to monitoring. Our results support these explanations. These findings present a novel understanding of the real effects of dividend tax rate changes *and* suggest important, previously unexplored ways agency costs influence dividend policy.

We carefully rule out alternative explanations for our findings. First, using only firms that make payouts and including firm fixed effects rules out many alternative explanations driven by differences across firms. Second, most of our results focus on cross-sectional differences based

on the tax incentives of tax-motivated dividend payers' shareholders. Focusing on cross-sections also rules out most alternative explanations because a) within-firm changes in funding and investment following tax-motivated dividends would have to vary identically with, but be unrelated to, shareholders' tax incentives, and b) Desai and Jin (2011) find no evidence that the composition of shareholders, by tax incentives, is affected by non-tax firm attributes, suggesting that we likely document the real effects of firms responding to their existing shareholder base.

Third, we consider the possibility that tax-motivated dividends are endogenously paid due to simultaneous decreases in investment opportunities.⁵ We address this by controlling for investment opportunities (*MTB*) in our model. Further, descriptive analysis suggests that tax-motivated payers have *better* investment opportunities than other firms. Cross-sectional descriptives also indicate that misaligned payers have less cash and greater financial constraints than other tax-motivated payers and are more like firms not paying tax-motivated dividends than payers, suggesting that misaligned payers are "reaching" – thus, sacrificing investment – to obtain tax benefits for insiders. Further, cross-sectional results hold *within* the sample of tax-motivated payers, inconsistent with declining investment opportunities driving both payouts and lower investment. We also examine trends before *and* after the expiration of JGTRRA. We find parallel trends prior to the event, then a reduction to both R&D and capital expenditures over several quarters following the tax-motivated dividends, with a rebound to pre-payout parallel trends over the following years. This is consistent with payers cutting short-term investment to fund tax-motivated dividends rather than long-run changes to investment opportunities.

Fourth, our market reaction tests examining tax-motivated dividend announcements also rule out endogenous changes in investment opportunity driving results. While announcement

⁵ Even if tax-motivated dividends are endogenously determined overall, it is highly unlikely that the endogeneity (e.g., investment opportunities) *simultaneously* varies systematically in the cross-section with ownership structure.

returns are positive on average, returns become negative as the misalignment of tax incentives between insiders and external shareholders increases. This is inconsistent with these firms appropriately returning capital to shareholders due to lack of investment opportunities.

Fifth, in addition to firm fixed effects, we further rule out differences across firms by using a variety of observable attributes to match tax-motivated dividend payers (overall and, separately, for misaligned or weakly aligned payers) to the counterfactual group of firms that do not pay tax-motivated dividends. Results are robust across all matching strategies. Finally, we rule out the "old view" of dividend taxes as an alternative explanation. The "old view" suggests that dividend taxes increase the cost of capital, reducing investment. This explanation is unlikely in our setting because the dividend tax increase applies to *all* sample firms. That said, we address this concern in several ways. First, we limit our control group to only above-median yield regular dividend paying firms (i.e., those most likely affected by the "old view") and continue to find similar results. Second, we find that misaligned payers have lower regular dividend yields than other firms and are thus least likely to be affected by the "old view" overall.

This paper makes several contributions. First, we address the "big open challenge in corporate finance" by providing "evidence on how taxes affect market values and ... optimal financing decisions" (Fama, 2011, p. 8). We show that misaligned payers reduce investment, harming firms' market value and productivity. Our results contrast with Fama's (1974) finding that dividend and investment decisions are independent. Similarly, our results differ from recent Swiss evidence (Isakov et al., 2021) finding that dividend taxation does not affect investment The Swiss study also does not consider owners' differing tax incentives. To the best of our knowledge, we are the first to document *investment* tradeoffs from tax-motivated dividends, which differ from other payouts funded by current earnings, debt, and equity (Farre-Mensa et al.,

2018). Our study is also distinct from prior work on the effect of dividend taxes on equity cost of capital (e.g., Becker et al., 2013). Rather than evaluating effects of external investors' capital supply decisions, we evaluate effects of managers' funding decisions.

While prior research into the likelihood of a tax-motivated dividend assumes that insider ownership aligns managers with shareholders (Hanlon and Hoopes, 2014), we find that the effects of insider ownership varies with the tax incentives of outside shareholders. Our finding that managers incur costs to pay tax-motivated dividends when their tax incentives conflict with those of shareholders adds to the growing literature on tax-driven agency issues between insiders and shareholders with heterogeneous tax incentives (e.g., Yost, 2018; Hanlon et al., 2021; Krupa and Utke, 2021). Myopic behavior by misaligned tax-motivated dividend payers may indicate broader myopic behavior by these firms, a potentially fruitful area for future research.

Finally, our study answers Graham's (2003) and Hanlon and Heitzman's (2010) calls to further examine the real effects of taxes on corporate decisions, enhancing our understanding of costs that firms incur to adjust to shareholder-level tax incentives. While prior research shows that conflicting tax incentives affect firms' payout decisions (e.g., Manconi and Massa, 2013; Jacob and Michaely, 2017), our study is the first to connect these effects to firms' real decisions. Our results contrast with work suggesting shareholder-level taxes may not affect real outcomes (e.g., Yagan, 2015), and are relevant to policymakers considering dividend tax increases.

II. Setting

The 2003 Jobs and Growth Tax Relief and Reconciliation Act (JGTRRA, also known as the "Bush Tax Cuts") reduced the dividend tax rate from the ordinary rate of 38.6% to the preferential tax rate of 15%. However, this tax cut was temporary, with "sunset provisions" increasing the dividend tax rate to the ordinary income tax rate (39.6%) beginning in 2011. On

December 17, 2010, the 2011 expiration date was extended to 2013. High-income individuals also face a new 3.8% net investment income tax in 2013 under the Health Care and Education Reconciliation Act of 2010, for an expected maximum dividend tax rate of 43.4% in 2013.⁶

The years leading up to the (extended) 2013 JGTRRA expiration contained political uncertainty, making it difficult for firms to plan for shareholder-level tax changes. With control of Congress split between political parties and a competitive 2012 presidential election underway, there was significant uncertainty as to whether or to what extent dividend tax rates would increase in 2013. Immediately upon President Obama's re-election on November 6, 2012, House Republicans announced their objection to tax rate increases. It wasn't until January 2, 2013, that President Obama signed the American Taxpayer Relief Act (ATRA) of 2012 into law, resulting in a maximum dividend and capital gains tax rate of 20% (23.8% after considering the new net investment income tax), effective January 1, 2013. See Figure 1 for a timeline of events.

INSERT FIGURE 1 HERE

We use the period around JGTRRA's *expiration* (i.e., tax increase) to study the funding of tax-motivated dividends for several reasons.⁷ First, we can directly identify firms paying tax-motivated dividends in the fourth quarter of 2012. Second, the narrow window provides a clean identification of a firm's ownership structure at the time of the dividend decision, which avoids issues associated with simultaneous changes to both dividend policy and ownership structure faced by studies surrounding the enactment of JGTRRA (Blouin et al., 2011). Third, the uncertainty, the short planning window before the uncertain tax rate increase, and the possibility

⁶ Although we focus our discussion on the dividend tax rate increase, the expiration of JGTRRA also had the potential to (and did) increase the capital gains tax rate. However, any dividend tax rate increase was anticipated to equal or exceed any capital gains tax rate increase, up to the anticipated maximum rate of 43.4%.

⁷ Prior studies examine the 2003 JGTRRA dividend tax cut (e.g., Chetty and Saez, 2005; Blouin et al., 2011). However, that setting faces confounding economic events (e.g., Edgerton, 2013; Floyd et al., 2015; Yagan, 2015), making the 2013 JGTRRA expiration setting advantageous. See Hanlon and Hoopes (2014) for discussion.

of a nearly 30% tax rate benefit presents a setting unique from typical dividend payouts, and one where tax incentives, and variation in incentives, are likely important in firms' payout decisions.

III. Literature Review and Hypothesis Development

Firms distribute dividends for many reasons (Allen and Michaely, 2003), including signaling the firm's value (John and Williams, 1985; Miller and Rock, 1985), reducing agency costs (Rozeff, 1982; Easterbrook, 1984; Jensen, 1986; La Porta et al., 2000), providing earnings information (Nissim and Ziv, 2001; Ham et al., 2020, 2021), or modifying capital structure (Frank and Goyal, 2003; Fama and French, 2005; Grullon et al., 2011). Studies find that firms generally fund payouts through some combination of operating cash flow, debt, and equity (Vermaelen, 1981; Denis and Denis, 1993; Wruck, 1994; Farre-Mensa et al., 2018). However, research into dividend funding focuses on payouts where firms have flexibility in timing the payout, with years to evaluate capital needs and shareholder preferences (e.g., Graham et al., 2015; Lopez-Salido et al., 2017; Ma, 2018), which likely differs for tax-motivated dividends.⁸

Research also evaluates the influence of shareholder-level tax rate changes on dividends. These studies find that firms modify their dividend policy around these tax changes, including in the period after the enactment (Chetty and Saez, 2005), and prior to the expiration (Hanlon and Hoopes, 2014), of JGTRRA. Yet it is unclear how firms *fund* tax-motivated dividends, which differ from general dividends for the reasons discussed in Section 2 and the prior paragraph.

The relatively large (near 30%) tax benefit of paying a tax-motivated dividend could induce firms to incur opportunity costs of reduced investment to fund the dividend. Notably, the likelihood and magnitude of special dividends increased significantly in the fourth quarters of

⁸ Wang et al. (2021) examine funding sources for repurchases following legalization of repurchases. Their study fundamentally differs from ours because they do not examine heterogeneous tax incentives and instead propose that legalization simply leads firms to substitute repurchases for investment. Isakov et al. (2021) find Swiss dividend tax cuts do not affect investment, but do not examine heterogeneous tax incentives of managers versus shareholders.

2010 and 2012, with public firms paying over \$7 billion to their shareholders in this short window of time (Hanlon and Hoopes, 2014). These dividends would have resulted in over \$1 billion in tax savings to tax-sensitive shareholders if dividend tax rates had increased from 15% to the maximum possible rate of 43.4% (Hanlon and Hoopes 2014).⁹ While some firms have resources available for other near-term distributions that they can accelerate to pay tax-motivated dividends, other firms are likely unprepared for the pending dividend tax increase but still face pressure to pay a dividend to provide tax benefits to shareholders.

However, not all firms paid special dividends during these periods (Hanlon and Hoopes 2014), indicating that tax-motivated dividends can generate costs.¹⁰ It is possible that only firms with excess cash or flexibility in their capital structure pay tax-motivated dividends. Non-payers may understand that the effect of an increase in dividend taxes decreases for payouts further in the future, making it unnecessary to trade off future investment to fund immediate tax-motivated dividends. Figure 2 outlines the conceptual difference between firms prepared to pay a tax-motivated dividend (e.g., using excess cash or cash already earmarked for future distribution) versus those who must incur costs to obtain tax benefits, including financially constrained firms. Given these various possibilities, we offer our first hypothesis in null form:

H1: Tax-motivated dividend payers do not reduce investments to fund these dividends.

INSERT FIGURE 2 HERE

Next, we evaluate how funding methods vary with a firm's ownership structure.

Heterogeneity in investors' tax-sensitivity affects a firm's dividend policy, particularly around

⁹ Hanlon and Hoopes (2014) find no evidence of a significant increase in repurchases during Q4, 2012. This may be driven by the fact that repurchases require shareholders to act to sell their shares before the tax increase, potentially only benefiting sophisticated (generally tax-insensitive) institutional investors.

¹⁰ Hanlon and Hoopes (2014) find that about 140 firms paid tax-motivated dividends (though we find this increases to about 190 firms if including financial services firms). In total, 1,329 CRSP firms paid dividends in the years around JGTRRA's expiration. That is, about 85% of dividend paying firms did not pay tax-motivated dividends.

tax rate changes (Chetty and Saez, 2005; Desai and Jin, 2011; Jacob and Michaely, 2017; Krupa and Utke, 2021). This suggests that costs and benefits of paying a tax-motivated dividend also vary with the tax attributes of shareholders, including insiders. We propose that the interaction between insiders' and external shareholders' tax incentives creates divergent incentives for a taxmotivated dividend, leading to different funding sources and thus different real effects from the dividend. We categorize ownerships structures into four categories based on the relative level of insider (high/low) and taxable (high/low) ownership, which we outline in Figure 3, Panel A.¹¹

INSERT FIGURE 3 HERE

Consider firms with relatively high insider ownership (the top row of Figure 3, Panel A) where it is likely that managers drive dividend decisions. External shareholder tax incentives vary with tax-sensitive (and correspondingly, tax-insensitive institutional) ownership (the columns of Figure 3, Panel A). Tax-motivated dividend payers with tax incentives that align between insiders and shareholders ("aligned" payers), measured as high insider and tax-sensitive ownership (top left quadrant of Figure 3, Panel A), likely pay dividends based on the tax incentives of their overall, mostly taxable, shareholder base. On one hand, these firms may be willing to incur the costs of reductions in future investment to pay tax-motivated dividends because a substantial number of shareholders realize up to a 30% tax benefit. On the other hand, given the aligned tax incentives, these firms may only pay tax-motivated dividends to maximize the value of the firm overall, so that these firms are most likely to pay within the confines of available resources intended to be returned to shareholders in the near future. As discussed earlier, tax benefits are highest for cash that would otherwise be distributed shortly after the tax

¹¹ 1) High insider but *low* taxable ownership (misaligned). 2) High insider ownership *and* high taxable ownership (aligned). 3) Low insider ownership *and* low taxable ownership (weakly aligned). 4) Low insider but high taxable ownership (other). We operationalize external investor tax incentives using tax*-insensitive* institutional ownership (*TII*), which allows us to measure the effects of more misaligned structures, our main focus.

rate increase; these aligned payers may be the most prepared for a potential tax-motivated dividend given the strong tax incentives of both managers and external shareholders.

As tax-insensitive ownership increases (i.e., high insider but *low* taxable ownership, top right quadrant of Figure 3), tax incentives between insiders and shareholders become misaligned. As such, insiders, rather than all investors, are the primary beneficiaries of a tax-motivated dividend, indicating that these insiders likely focus on their own tax benefits. Managers often have a significant portion of their wealth in their firm's equity (Jin and Kothari, 2008; Conyon et al., 2011) and face the highest tax rates (Armstrong et al., 2019). Thus, managers' overweighting their immediate tax benefits could result in myopia (e.g., larger cuts to future investments).

While greater insider ownership can align executive interests with those of shareholders (Jensen and Meckling, 1976; Dechow and Sloan, 1991), this relationship is not necessarily linear (Morck et al., 1988). For example, managers with larger ownership stakes are more likely to be insulated from external monitoring (Stulz, 1988) and may act myopically to expropriate firm wealth from other shareholders by maximizing their own utility (Bauer et al., 2019). Managers with significant ownership are also protected from adverse employment consequences (e.g., Morck et al., 1988). We argue that tax-motivated dividends, where insiders are the primary beneficiaries of the dividend ("misaligned" payers), likely arise from managers myopically focusing on their own tax incentives at the expense of firm value (e.g., by cutting investment).

Next, consider firms with relatively low insider ownership, where insiders likely have relatively less influence on dividend policy. In addition, there is a weaker alignment of incentives between management and shareholders (Jensen and Meckling, 1976) and managers may be less attuned to the tax incentives of investors. When insider ownership is low in the tax-motivated dividend setting, Krupa and Utke (2021) suggest that institutions act as outside monitors (e.g.,

Gillan and Starks, 2000; Hartzell and Starks, 2003; An and Zhang, 2013) to coordinate and encourage tax-motivated dividends. Tax-insensitive institutional investors are unlikely to receive direct tax benefits from a tax-motivated dividend, but may realize other non-tax benefits. For example, dividends can benefit firms by reducing excess cash available for managers to take perquisites and to empire-build (Jensen, 1986; Bertrand and Mullainathan, 2003; Malmendier and Tate, 2005; Giroud and Mueller, 2010; Pan et al., 2016).¹² Additionally, there are non-tax benefits of price appreciation associated with meeting the tax incentives of other, tax-sensitive investors (Hribar et al., 2019). Finally, institutions are aware of tax implications for individual investors and act to ensure that taxes are mitigated for their own fund investors (Bergstresser and Poterba, 2002; Dimmock et al., 2018). Thus, when both insider and taxable ownership is low (i.e., tax-insensitive institutional ownership is high) –the bottom right quadrant of Figure 3, Panel A ("weakly aligned" payers) – external monitors likely influence dividend funding sources.

Regardless of the funding method, we propose that a tax-motivated dividend results in non-zero costs associated with diversion of managerial time and attention. Therefore, paying a tax-motivated dividend where the benefit primarily accrues to insiders (i.e., misaligned payers; high insider but *low* taxable ownership), while outside shareholders shoulder the costs, signals myopic behavior by managers. Managers behaving myopically sharply discount future cash flows (Zwick and Mahon, 2017) and are thus more likely to justify short-term cuts to investment to fund a current period tax benefit. Executives' personal tax consequences also can alter their business and investment strategies (Yost, 2018; Armstrong et al., 2019). As such, we predict that payers with misaligned tax incentives are willing to fund their dividend, at least in part, by

¹² Chetty and Saez (2010) theorize that dividend taxes increase the cost of monitoring by reducing managers' willingness to pay dividends, which increases the risk of rent extraction. Isakov et al. (2021) find evidence that high taxes reinforce agency conflicts by keeping too much cash inside the firm. Thus, monitoring institutions may prefer payouts ahead of a tax rate increase to reduce the availability of resources from which managers could extract rent.

cutting investment. For the other ownership structures, there is no clear prediction for funding sources. We offer Hypothesis 2a (in the null) and Hypothesis 2b (in the alternative form):

H2a: For ownership structures other than a misaligned structure, the method of funding a tax-motivated dividend is not influenced by the tax sensitivity of a firm's owners.

H2b: Firms with misaligned tax incentives between managers and shareholders are willing to fund tax-motivated dividends, in part, by cutting investment.

We examine five potential funding sources: capital expenditures, R&D, debt, share repurchases, and equity. We focus on variation in the relation between tax-motivated dividends and either capital expenditures or R&D to gain insight into managers' investment behavior around the tax-motivated dividend. R&D represents a risky investment that can provide longterm positive value for risk-neutral investors (Chan et al., 1990; Coles et al., 2006). However, managers often cut R&D myopically to meet short term goals (Baber et al., 1991; Bushee, 1998; Kim and Lu, 2011; Vorst, 2016). Conversely, capital expenditures are less risky and provide managers with perquisites through empire building (Malmendier and Tate, 2005). Because capital expenditures are often associated with overinvestment, external monitors are more likely to encourage cuts to these investments (Richardson, 2006; Chava and Roberts, 2008) and monitors can utilize financing policies to do this (Stulz, 1990). While we do not make specific predictions regarding which investments are affected in H2a and H2b, in our analyses we use differences in affected investments to understand how ownership structure affects funding of taxmotivated dividends. We also perform further cross-sectional analyses to evaluate whether any observed investment cuts arise from governance attributes or from financial constraints.

Finally, we evaluate the market value implications of tax-motivated dividend payers' ownership structure. Hribar et al. (2019) find a significantly positive market reaction to the announcement of tax-motivated dividends, suggesting that the market favors firms that pay attention to shareholder-level taxes. We propose that the market reaction varies based on the

anticipated costs firms incur given the differing incentives of the firm's shareholder base. Based on our earlier discussion, we expect aligned (misaligned) tax-motivated dividend payers to earn higher (lower) announcement returns than other tax-motivated payers. Aligned (misaligned) firms likely pay tax-motivated dividends for value-added (myopic) reasons. Thus, the market will anticipate that aligned (misaligned) firms are maximizing shareholder value (behaving myopically and harming value). Therefore, we state our hypothesis in the alternative form.

H3: Market returns around the declaration of a tax-motivated dividend are higher (lower) for firms with aligned (misaligned) tax incentives between shareholders and insiders.

IV. Data and Sample Selection

We use a difference-in-differences design to evaluate the real effects of tax-motivated dividends. Although Hanlon and Hoopes (2014) examine dividends around the potential and actual expiration of JGTRRA in 2010 and 2012, respectively, we focus on firms that pay dividends in Q4 of 2012 because this allows for a clean pre-period that is not influenced by the recession of 2008/9.¹³ Following prior literature, we obtain data for all dividend-paying firm-quarters between 2010 and 2013 using the CRSP event database with share code 10 or 11. This eliminates mutual funds, American Depository Receipts (ADRs), real estate investment trusts (REITs), and firms incorporated outside of the United States (Hanlon and Hoopes, 2014). We code Q4 2012 *special* dividends, paid immediately prior to the expected expiration of JGTRRA, as tax-motivated dividends. We combine payments into a firm-quarter amount; for example, if a firm pays special dividends in November and December, we combine these into one larger quarterly dividend. This results in an initial sample of 121 quarterly special tax-motivated firm-dividends before dropping observations missing other variables. We merge these CRSP firm-

¹³ Q4 2012 contains the majority of tax-motivated quarterly firm-dividends (121, versus 65 for Q4, 2010). That said, in Online Appendix Section 11, we use a generalized difference-in-differences design over a longer time period less likely to be influenced by the 2008/9 recession, which includes 2010 tax-motivated dividends. Results are robust.

dividend observations with the Compustat quarterly universe from 2010 to 2013, which provides data for our funding sources and control variables. We exclude firms that are not publicly traded, missing SIC codes, or missing the necessary control variables. Because our tests focus, in part, on R&D and capital expenditures, we drop utilities (2-digit SIC = 49) and financial services firms (2-digit SIC between 60 and 67).¹⁴ We replace missing research and development with 0, but we do not replace missing capital expenditures with 0 (Coles et al., 2006).¹⁵

We require institutional ownership information in Q4, 2012 from the Thomson Reuters 13-F database. Many studies disagree on how to classify institutional investors' tax sensitivity, with some classifying all institutions as tax-insensitive and others classifying various groups of institutions (e.g., banks) as tax-sensitive or -insensitive (e.g., Grinstein and Michaely, 2005; Jin, 2006; Chyz and Li, 2012; Sikes, 2014). However, Blouin et al. (2017) develop and validate a new measure of tax-sensitivity based on institutions' revealed preferences through their trading activity. We use this classification to identify a firm's tax-insensitive institutional ownership.¹⁶

We obtain insider ownership from ExecuComp, which only covers S&P 1500 firms. Because H2 and H3 require Q4, 2012 ownership for tax-motivated dividend payers only, we hand collect missing insider ownership for 62 of the 110 tax-motivated payers, not missing other required data, from EDGAR proxy filings. We obtain insider ownership data for 60 of these 62 firms. Finally, to ensure that tax-motivated dividends are viable options for our firms, we require that firms make a distribution, either through a dividend (regular or special) or share repurchase, within the five-year period ending in 2012.¹⁷ Table 1 outlines the sample selection process. Panel

¹⁴ There are 20 tax-motivated dividends for financial services firms with insider and institutional ownership data. We drop these from the funding sources and real effects tests but include them in the market return tests (H3). ¹⁵ While we lose a significant number of observations if we do not recode missing R&D as 0, qualitative inferences from our primary test remain unchanged.

¹⁶ Brian Bushee makes this classification available at: http://acct.wharton.upenn.edu/faculty/bushee/IIclass.html.

¹⁷ We perform this step to avoid model misspecification from significant differences in investment and financing opportunities between distributing firms and those that never make a distribution. That is, absent this step, a

A (B) reports the full sample of firm-quarters including tax-motivated dividend payers and other firms (only tax-motivated dividend payers). After removing firm-quarters missing required data and dropping financials and utilities, we retain a sample of 35,401 firm-quarter observations for our primary tests of H1, H2a, and H2b. Of these, 1,373 firm-quarters represent a "treatment" sample of 88 tax-motivated dividend paying firms. We use these 88 firms to test H3.

INSERT TABLE 1 HERE

We present descriptive statistics for these datasets in Table 2. Appendix A contains full variable definitions. Panel A provides summary statistics for the full sample of 35,401 firmquarters (2,314 firms) while Panel B (C) provide statistics for the sub-samples of firm quarters that do not (do) pay tax-motivated dividends. As expected, tax-insensitive (insider) ownership is lower (higher) for tax-motivated payers than for firms not paying tax-motivated dividends, consistent with firms paying tax-motivated dividends based on shareholder-level taxes (Hanlon and Hoopes, 2014; Krupa and Utke, 2021).¹⁸ Importantly, there is significant variation in insider and tax-insensitive institutional ownership within each group of firms, indicating potential variation based on the interaction between these different types of owners.

INSERT TABLE 2 HERE

Tax-motivated payers are smaller and have lower leverage than firms that do not pay taxmotivated dividends. Tax-motivated payers also have greater profitability (*ROA*) and growth opportunities (*MTB*), suggesting that limited investment opportunities are not an explanation for tax-motivated dividends. Table 2, Panel D presents correlations between primary variables.

potential alternative explanation for our results is that payouts mechanically reduce investment for all payers. Results are qualitatively similar if we include all firms with available data, not only distributing firms.

¹⁸ For descriptive purposes, we compare the full sample with non-missing ExecuComp insider ownership to taxmotivated dividend payers with both ExecuComp and hand-collected insider ownership. Results are similar if we use only firms with non-missing ExecuComp data (untabulated).

However, we focus on within-firm differences in investments around the tax-motivated dividend. Thus, we defer discussion of main results to our regression analysis in Section V.¹⁹

V. Research Design and Results

5.1. H1: Method of Funding Tax-Motivated Special Dividends

To evaluate H1, proposing no relation between investment policy and tax-motivated dividends, we begin with the following difference-in-differences model:

$$y_{it} = \alpha + \beta_1 POST^*SPECIAL_PAID(SPECIAL) + \Sigma\beta_k Controls + \delta_i Firm + \delta_t Time + \epsilon_{it}$$
(1)

Following research on firm investment policy, we focus on quarterly research and development (*R&D*) and capital expenditures (*CAPX*) as our primary dependent variables for firm investment choices (e.g., Coles et al., 2006; Chava and Roberts, 2008; Pan et al., 2016; Almeida et al., 2017). We also examine quarterly debt financing (*DEBT*), repurchases (*RPCH*), and share issuance (*ISSUE*), following prior literature, to test if firms adjust capital structure or repurchases to finance tax-motivated dividends. *R&D*, *DEBT*, *RPCH*, and *ISSUE* are scaled by the firm's average assets in 2011. *CAPX* is scaled by the firm's average property plant and equipment in 2011. We scale all continuous variables to ensure that results are not influenced by differences in size between treatment (i.e., tax-motivated payers) and control firms. The constant 2011 scalar ensures that differences are driven by changes in the numerator and not by variation in assets arising from tax-motivated dividends. Appendix A contains full variable definitions.

SPECIAL_PAID (SPECIAL) equals the tax-motivated special dividend as a percentage of the firm's 2011 assets (an indicator) for the treatment firms. SPECIAL PAID (SPECIAL) is time

¹⁹ We present additional cash, dividend, and financial constraint descriptive statistics in Online Appendix Section 1, including an analysis by each "grouping" of tax-motivated payer discussed in Section 5.2. These statistics indicate that tax-motivated payers have better investment opportunities than other sample firms. Notably, misaligned payers are most similar to firms that do not pay tax-motivated dividends, except that they pay lower regular dividends.

invariant and absorbed by firm fixed effects.²⁰ *POST* is an indicator variable set equal to 1 for Q4, 2012 through Q4, 2013 and 0 otherwise. *POST* is absorbed by year-quarter fixed effects. Including firm and time fixed effects enables us to examine within-firm changes to investments and financing around tax-motivated dividends while controlling for general time related effects.

In addition to firm fixed effects, we include a firm's profitability (*ROA*), investment opportunities (*MTB*), debt to assets (*LEVERAGE*), and size (*ASSETS*) to control for factors that are likely to influence a firm's ability to finance tax-motivated dividends and the firm's investment environment (Adam and Goyal, 2008).²¹ Further, because these firm characteristics can change following the dividend tax rate increase, we interact each control variable with *POST*.²² β_1 represents our primary coefficient of interest, capturing the post-period effects of a tax-motivated dividend on firms' investment and financing.²³ If firms primarily fund tax-motivated dividends with excess cash or with cash flow, then β_1 will not differ from zero.

INSERT TABLE 3 HERE

Table 3, Panel A (B), provides the initial regression results using equation (1) to evaluate the average effects of the magnitude of (an indicator for) tax-motivated dividends on firms' post period investments (H1). Firms significantly reduce share repurchases (column 1) in the quarter

²⁰ For all difference-in-difference tests, we utilize firm fixed effects and cluster standard errors by firm, following Bertrand et al. (2004). However, recent research notes that there are potential issues with clustering on a fixed effect dimension (Cameron and Miller 2015). As such, we replicate all difference-in-difference tests using the suggested correction of within-estimator standard errors. All inferences are robust to this methodology.

²¹ We remove *LEVERAGE* for tests of *DEBT* because these are expected to co-vary with changes to debt financing. We remove *MTB* for tests of *RPCH* and *ISSUE* for similar reasons. In particular, with firm fixed effects, the numerator of *MTB* (shares outstanding*price) will co-vary with changes to repurchases or issuances, resulting in a mechanical relationship between the two variables. Importantly, DeAngelo et al. (2010) note that the explanatory relationship between *MTB* and equity offerings is modest, so this choice should not significantly influence our results. Across all tests, results are robust to controlling for Tobin's Q, which Kaplan and Perez-Cavazos (2021) use to measure investment opportunities and which we calculate following their definition, in place of *MTB*.
²² Results are robust to excluding these interactions between the control variables and *POST*.

²³ For H1, we primarily draw inferences from *SPECIAL_PAID* because it provides interpretation of the effect of *greater* payout on investment and financing. We also report H1 results using an indicator variable for a firm that pays a tax-motivated special dividend (*SPECIAL*). Results are robust. Because our cross-sectional tests (H2) rely on groupings (e.g., misaligned) and triple interaction terms, we generally use *SPECIAL* for tests of H2.

of and year following the tax-motivated dividend (p<0.05), suggesting that firms fund a portion of their tax-motivated dividend by pulling future near-term payouts forward.²⁴ Because this capital was intended to be distributed shortly after the tax rate increase, accelerating this distribution provides a large tax benefit, as described earlier. A one standard deviation increase in special dividends results in a quarterly reduction in share repurchases in the following period by 9.42 percent ([-0.0152*0.031]/0.005) of the full sample average quarterly repurchases.

Tax-motivated dividends reduce both capital expenditures and R&D in the post period (p<0.10, column 2 and p<0.05, column 3). In economic terms, a one standard deviation increase in the special dividend results in a 4.62 percent ((-0.1073*0.031) / 0.072) quarterly decrease in capital expenditures and a 5.58 percent ((-0.0180*0.031) / 0.010) quarterly decrease in R&D versus the full sample average. Changes in *DEBT* and *ISSUE* (columns 4 and 5) are not statistically significant. In terms of dollar magnitude across financing and investment measures, a one standard deviation increase in the tax-motivated dividend *within the sample of payers* (0.124) – approximately \$81.76 million – is funded by about \$1.24 million in quarterly foregone repurchases (\$6.21 million over the 5 quarters of *POST*), \$5.34 million in quarterly foregone capital expenditures (\$26.70 million over 5 quarters), and \$1.47 million in quarterly forgone R&D expenditures during the post-period finance about 49.25 percent of the dividend (6.21+26.70+7.35 = 40.26 / 81.76). Taken together, the tests reject the null H1.

5.2. H2: Ownership Structure and Method of Financing Tax-Motivated Dividends

²⁴ Hanlon and Hoopes (2014) find that firms do not adjust repurchases in Q4, 2012. In later analyses (Figure 5), we find that repurchases decrease in Q2 – Q4 2013. Thus, results are consistent with Hanlon and Hoopes (2014). ²⁵ The dollar magnitude of payout equals the standard deviation of *SPECIAL_PAID* times the 2011 average assets of payers (659.4 million; Online Appendix Section 1, Panel C): 0.124*659.4. We calculate the dollar reduction to investment or repurchases as: the regression coefficient times the standard deviation of *SPECIAL_PAID* times the denominator of each dependent variable (2011 average assets or PPE of tax-motivated payers only, in millions). *RPCH*: (-0.0152*0.124)*659.4 = 1.24; *CAPX*: (-0.1073*0.124)*402.0 = 5.34; *R&D*: (-0.0180*0.124)*659.4 = 1.47.

We next examine the interaction between the firm's ownership structure (insider and taxinsensitive ownership) and firms' method of funding tax-motivated dividends. As the overall taxsensitivity (-insensitivity) of the firm's shareholders increases, the potential tax benefits of taxmotivated dividends increases (decreases), potentially affecting firms' willingness to use future investments to fund the dividends. As insider ownership increases, insiders likely have more power over the dividend decision and more willingness to take myopic actions in some cases.

We use two primary tests to evaluate the interaction between insiders and tax-insensitive institutions. First, we modify equation (1) by using only an indicator variable for tax-motivated dividend paying firms (*SPECIAL*), identifying "treatment" firms, and adding a firm-level variable for the tax-insensitive ownership (*TII*) at the time of a tax-motivated dividend decision (i.e., beginning of Q4 2012). We interact *TII* with *SPECIAL* to capture the effect of tax-insensitive institutional ownership on the tax-motivated dividend's funding source. We estimate this equation after removing tax-motivated dividend payers with either above or below median insider ownership (see Table 4, Panels A and B). This effectively conditions on the level of insider ownership for tax-motivated payers without unnecessarily dropping a significant number of control firms that are missing ExecuComp insider ownership.²⁶ Second, to separately examine how each of the four possible ownership structures (see Figure 3) affects funding sources, we split tax-motivated dividend payers into four equal groups based on the median level of insider ownership and median level of *TII* within each split of insider ownership (see Table 5).²⁷

Table 4, Panel A reports results when we remove tax-motivated dividend payers with

²⁶ The median split also eliminates complexity associated with a fourth difference. Results (untabulated) are qualitatively similar when requiring ExecuComp data, though this limits the sample to relatively large firms.
²⁷ Main results are robust to examining cross-sectional differences *within* tax-motivated payers (Online Appendix Section 2). This does not allow for a control group but enables us to examine the interactive effect of continuous measures of insider ownership and tax-insensitive institutional ownership on investment in the post period. Focusing only on tax-motivated payers also eliminates concerns that results are driven by endogenous payout choices.

above-median insider ownership in the fourth quarter of 2012.²⁸ By eliminating high insider ownership payers, the *SPECIAL*POST*TII* coefficient provides inferences on the effect of greater tax-insensitive ownership when insider ownership is relatively low (e.g., insiders have weaker tax incentives) and institutional investors are more likely to act as external monitors (our "weakly aligned" group – low insider *and* low taxable, meaning high *TII*, ownership). Column 1 (2) reports that weakly aligned payers decrease share repurchases (capital expenditures) in the post period, rejecting the null H2a. However, when insider ownership is low, we fail to find evidence that greater tax-insensitive institutional ownership is associated with R&D expenditures (column 3). Compared to R&D, capital expenditures typically carry lower, but more certain returns, and are often associated with overinvestment by managers (Chava and Roberts, 2008; Pan et al., 2016). This suggests a governance effect in weakly aligned payers (i.e., low insider and high tax-insensitive institutional ownership), with firms reducing capital expenditures to fund tax-motivated dividends. We explore this further in cross-sectional tests.

INSERT TABLE 4 HERE

Table 4, Panel B reports results when we remove tax-motivated dividend payers with insider ownership *below* the median in the fourth quarter of 2012. For these firms, insiders likely decide on tax-motivated dividends with limited influence from external monitors. This provides inferences on the effect of greater tax-insensitive institutional (i.e., lower taxable) ownership on funding sources for tax-motivated dividends when insider ownership is high, representing misaligned payers (*SPECIAL*POST*TII*). Misaligned payers' dividends are more likely related to insiders myopically focusing on their own taxes rather than all shareholders' taxes. We fail to find that misaligned payers' fund tax-motivated dividends by adjusting future repurchases

²⁸ The median insider ownership for tax-motivated dividend payers in the fourth quarter of 2012 is 12.7%.

(column 1) or capital expenditures (column 2). Instead, misaligned payers reduce R&D (column 3) and increase in debt (column 4) in the post period, supporting H2b. Reductions in R&D are often associated with managerial short-termism and risk-aversion (Baber et al., 1991; Dechow and Sloan, 1991; Bushee, 1998, 2001; Roychowdhury, 2006; Kim and Lu, 2011), suggesting that managers focusing on their own tax benefits cut risky and discretionary investments to obtain short-term benefits. This provides evidence that, similar to earnings management goals (e.g., Bhojraj et al., 2009), managers use R&D to meet myopic personal tax goals.

Finally, we sort the 88 tax-motivated dividend payers (*SPECIAL*) into four groups using the level of insider and taxable ownership (*TS*). We split the 88 firms into four groups of 22 based on above and below median insider ownership (12.7%, noted earlier) and then above and below median taxable (inversely measured using *TII*) ownership.²⁹ We interact each group with *POST* to examine the effect on post period investment and financing. Following the groupings in Figure 3, we label firms with above median *EXEC* and *TS* (i.e., low *TII*) as *ALIGN;* above median *EXEC* and below median *TS* (i.e., high *TII*) as *MISALIGN*; below median *EXEC* and *TS* (i.e., high *TII*) as *WEAK_ALIGN*; and low *EXEC* and high *TS* (i.e., low *TII*) as *OTHER*.³⁰

INSERT TABLE 5 HERE

Table 5, Panel A provides the difference-in-differences results for these four groups that are generally consistent with results in prior tables, which we do not repeat in detail. Notably, though, the *ALIGN* and *OTHER* groups have almost no significant changes to investment or financing in the post period. We further explore cash as a potential funding source in Section 6.3.

Panel B of Table 5 provides descriptive statistics for each category of payers' pre-period

 ²⁹ Below (above) median insider ownership firms have median tax-insensitive ownership of 65.44% (22.03%).
 ³⁰ This is an imperfect split of firms but it serves two important purposes. First, it enables us to gain comfort that the

prior results are not driven by unrealistic relationships between insider and tax-insensitive ownership. Second, it allows examination of univariate attributes of firms by group (Table 5, Panel B and Online Appendix Section 1).

observations for the variables in equation (1). *ALIGN* firms pay smaller tax-motivated dividends (8.24% of 2011 assets) than other payers, consistent with the conjecture that these firms focus on benefits to shareholders as a whole and pay tax-motivated dividends while factoring in constraints (such as future investments or available cash from planned future distributions). Aligned payers are significantly smaller and have lower leverage than other payers, though they have similar *ROA* and *MTB* to the group. *MISALIGN* firms are similar in size to other tax-motivated payers, but have significantly lower growth opportunities (*MTB*) and cash.³¹ *WEAK_ALIGN* firms are larger, with higher *ROA* and growth opportunities (*MTB*). Finally, the *OTHER* group has lower growth opportunities and higher cash than the rest of the payers.

Figure 3, Panel B summarizes all results. Taken together, Tables 4 and 5 provide evidence that weakly aligned ownership structures affect funding choices (rejecting the null H2a) and that misaligned structures lead to cuts in R&D (supporting H2b). The methods of funding tax-motivated dividends, and thus the potential real costs to firms, vary based on the firm's ownership structure. Results suggest that institutional investors utilize the tax change to induce reductions in capital expenditures for weakly aligned firms, while misaligned firms reduce R&D, a tactic that is often associated with myopic behavior as managers focus on short-term goals by sacrificing uncertain investments (Baber et al., 1991; Bushee, 1998; Kim and Lu, 2011). In later analyses, we examine whether governance mechanisms or financial constraints drive results.

5.3. H3: Variation in Market Reaction to Tax-Motivated Dividends based on Ownership Structure

To this point, results suggest that the reduction in R&D for misaligned payers arises from insiders myopically focusing on their own tax benefits. Results also suggest that aligned payers

³¹ Lower growth opportunities could indicate that misaligned payers' reduction in R&D is associated with misaligned firms "appropriately" returning capital to shareholders given potentially limited investment opportunities. We rule this out in tests of Hypothesis 3 (Section 5.3) and in robustness checks in Section 7.1.

made a lower cost decision to not adjust investment but to potentially use only available cash flow, or cash designated for distribution in the near future, to fund tax-motivated dividends. However, the profitability of each investment decision is unobservable. To better measure these effects, we examine the difference in market reactions to the announcement of tax-motivated dividends, which allows us to evaluate how the dividend decision affects shareholder value.³²

To test H3, we examine Fama and French (2015) five-factor model three-day cumulative abnormal returns (*CAR*) around the dividend declaration date [-1, 1] (Appendix A defines *CAR*), for the 88 tax-motivated dividend payers.³³ Table 6, Panel A presents the mean and median 3day *CAR* overall and by ownership grouping. Tax-motivated dividend announcements, as a whole, result in mean (median) announcement returns of 2.6% (1.5%) (p<0.01), consistent with Hribar et al. (2019). However, we find differences in returns for each group. As predicted, the *ALIGN* group has the most positive mean return of 4.3% (p<0.05), which is significantly larger than most other groups at the mean but not median. The *WEAK_ALIGN* group realizes mean and median returns (p<0.05). Also as expected, the *MISALIGN* group realizes mean and median returns that are lower than average and not significantly different from zero. Further, the *MISALIGN* returns are significantly lower than *each* of the other groups at the mean and median (p=0.132 versus *WEAK_ALIGN* mean, noting that group sizes of 22 reflect low power tests).³⁴

³² The market reaction to a corporate policy change can be attenuated if markets anticipate the policy change using observable firm characteristics prior to the event. This is most likely to be problematic when an event occurs with high probability and does not exhibit significant cross-sectional variation among firms. In our setting, the likelihood of a tax-motivated dividend is low and varies across firms, inhibiting the market's ability to fully impound the value implications prior to dividend announcement (Lanen and Thompson, 1988).

³³ 3 firm-quarter observations (6 firm distributions) are related to firms that pay two special dividends in the fourth quarter of 2012. To be consistent with the prior tests, we treat these as three observations and utilize the date of the first announcement return for these tests. However, results are insensitive to dropping all three firms.

³⁴ The returns to *MISALIGN* are also economically lower than *WEAK_ALIGN*. *MISALIGN* firms would have had \$340 (\$774) million more of aggregate market value had they earned the 1.1% (2.5%) higher announcement return of the *WEAK_ALIGN* firms at the mean (median). Calculated as: aggregate misaligned market value at the end of Q3, 2012 = \$30,949.38 million. 30,949.38 * 1.1% = \$340.4 million. 30,949.38 * 2.5% = \$773.7 million.

INSERT TABLE 6 HERE

While MISALIGN firms earn returns that are not statistically different from zero, we note that these are imperfect groupings and contain firms with more or less misalignment between insiders and outside shareholders.³⁵ Therefore, to further evaluate the value implications of these dividend announcements, we examine the continuous effect of increasing insider ownership and tax-insensitive institutional ownership in Panel B. Because TII and EXEC cannot both increase to 100 percent (the result when EXEC*TII = 1), we standardize these variables (TII STND and *EXEC* STND) so that each variable equals 1 when ownership increases by $\frac{1}{2}$ standard deviation above its mean value for the tax-motivated dividend paying firms, or an increase to 57.5% and 30.4%, respectively.³⁶ Column 1 presents results from regressing *CAR* on this interaction (TII STND*EXEC STND). We control for the amount of the distribution (SPECIAL PAID) because the payment size varies with ownership structure. Additionally, we control for firms' growth opportunities (TOBINQ) which may also be correlated with both returns and the ownership of the firm. Our primary inference derives from the test of TII STND*EXEC STND + *TH* STND + EXEC STND = 0 which provides the continuous effect on announcement returns for misaligned firms, with high insider but low taxable (i.e., high *TII*) ownership. Consistent with value eroding behavior for firms with misaligned incentives, this result is negative and significant at the 5% level, suggesting a 2.8% lower announcement return when executives likely myopically focus on their own tax incentives. Panel B, column 2 displays the results including an additional 20 financial services firms. While we exclude these firms from primary tests of investment, they represent an important component of the U.S. economy and likely face similar

³⁵ Notably, these near zero average returns are earned despite substantial payouts to shareholders (Table 5, Panel B). ³⁶ We standardize by ½ rather than 1 standard deviation so that the values of the underlying variables sum to less than 100% when each standardized variable equals 1, allowing interpretation of the interaction term. Results are robust other choices that lack ease of interpretation (i.e., standardize by 1 standard deviation or unstandardized).

potential shareholder and insider tax incentives as other firms. Overall, the results are similar.

In Table 6, Panel C, we examine the univariate likelihood of a negative return for the *MISALIGN* group. 50.0% of *MISALIGN* firms realize negative returns upon tax-motivated dividend announcement, a significantly higher likelihood than the rest of the sample (30.3%). *MISALIGN* firms similarly represent an outsize share of the negative returns in the bottom 25^{th} (< -0.008) and 10^{th} (< -0.028) percentiles of returns. Finally, in Table 6, Panel D, we re-perform the continuous analysis of Panel B, replacing the dependent variable with an indicator for firms realizing negative announcement *CARs*. The interaction of *TH_STND*EXEC_STND* is positive, suggesting the likelihood of negative returns increases as misalignment of tax incentives increases. Taken together, Table 6 strongly supports H3, suggesting that misaligned payers (i.e.., those reducing R&D to fund tax-motivated dividends) erode value and behave myopically.³⁷

VI. Additional Analyses

6.1. Financial Constraints

A natural question arising from our results is the extent to which they relate to financial constraints. Notably, if *MISALIGN* firms reduce R&D in order to fund tax-motivated dividends, it is more likely to occur when the firm is financially constrained. We examine the role of financial constraints using two measures. First, we split the *MISALIGN* group between firms with above (more constrained) and below (less constrained) median 'investment delay' scores (*HM_DELAY*) from Hoberg and Maksimovic (2015).³⁸ Second, we split the *MISALIGN* group between firms with (without) sufficient cash to cover capital expenditures (*Sufficiency*), based on

³⁷ To mitigate the possibility that the market reacts more negatively (less positively) to dividend announcements for *MISALIGN* firms due to some unobserved characteristic, we analyze market reactions to dividend announcements by tax-motivated dividend payers between Q1, 2009 and Q3, 2012. Online Appendix Section 3 presents results. In sum, we find no evidence that *MISALIGN* firms experience negative reaction to prior (i.e., non-tax-motivated) dividends. This provides comfort that there are not unobservable differences in *MISALIGN* firms' driving a subdued reaction. ³⁸ Higher *HM_DELAY* scores suggest that a firm is at risk of delaying investment due to liquidity issues. We thank Gerard Hoberg for making this measure available on his personal website.

Faulkender and Petersen (2012). Appendix A defines these variables. We perform similar splits for our *WEAK_ALIGN* firms. Recall that we propose that *WEAK_ALIGN* firms reduce capital expenditures due to external monitoring (e.g., Chetty and Saez, 2010). As such, we do not expect the level of financial constraints to affect *WEAK_ALIGN* firms' reduction in capital expenditures.

INSERT TABLE 7 HERE

Table 7 reports the results of this analysis. Panel A (B), column 1 indicates that the reduction to *R&D* concentrates among financially constrained *MISALIGN* payers when constraints are measured by *HM_DELAY* (*Sufficiency*).³⁹ In Panels A and B, columns 2, we perform the same splits on *WEAK_ALIGN* firms to examine their reduction in *CAPX*. Consistent with a monitoring role of external investors using the tax rate increase to reduce empire building, we find that the reduction to *CAPX* exists regardless of financial constraints.

6.2. The Effect on Firm Productivity

To provide additional insight into our finding that misaligned payers reduce R&D for myopic reasons while weakly aligned payers reduce capital expenditures for governance reasons, we examine the post-period effect on total factor productivity (TFP). TFP is used to evaluate a firm's output given capital and labor inputs.⁴⁰ We use TFP to measure the productivity effects of tax-motivated dividends' funding sources. Because TFP is an annual measure, we configure our sample into annual observations between 2010 and 2013, and set 2012 and 2013 as our post period. We examine the interactive effect of *TII* conditioning on above and below median insider ownership for tax-motivated dividend payers (analogous to Table 4) in Table 8, Panel A.⁴¹ We

³⁹ In an untabulated analysis, we find similar results using Altman Z-score partitioned above and below 3. We also find that the low returns for *MISALIGN* firms (in Table 6) concentrate in financially constrained firms (untabulated). ⁴⁰ See Syverson (2011) for a review of this measure and Imrohoroglu and Tuzel (2014) for an example of this measure's use in a firm-level setting. We thank Professor Tuzel for making her measure of TFP available online. ⁴¹ We remove *ROA* as a control since, while not the same underlying construct, it likely covaries mechanically with *TFP*.

also examine the effect on TFP by splitting the *SPECIAL* firms into the four groupings (analogous to Table 5) in Table 8, Panel B.

INSERT TABLE 8 HERE

Table 8, Panel A, column 1 displays the effect on TFP of increasing *TII* when insider ownership is low (weakly aligned firms). These firms decrease *CAPX* during the post period (Table 4, Panel A). However, despite this reduction, the effect on productivity in the post period is insignificantly different from zero. This supports our inference that institutional investors act as external monitors and encourage firms to use lower return investments to fund tax-motivated dividends. Column 2 displays the effect on *TFP* of increasing *TII* when insider ownership is high (capturing misaligned firms). These firms likely pay tax-motivated dividends for myopic reasons, cutting R&D (Table 4, Panel B). Consistent with results from the market reaction test, these firms realize a reduction in productivity in the post period (p<0.05). We repeat these tests in columns 3 and 4 using standardized measures of ownership (*TII STND*). Results are similar.

Table 8, Panel B, reports the effect of tax-motivated dividends on *TFP*, overall and splitting by ownership grouping. Column 1 reports the difference-in-differences result for *TFP*, suggesting that, on average, tax-motivated dividends are not associated with a significant reduction in productivity. However, column 2 reports a significant reduction to firm productivity for the *MISALIGN* group (p<0.01). Taken together, Table 8 indicates that the reduced R&D investment to pay tax-motivated dividends for misaligned firms reduces productive use of the firm's assets, consistent with myopic behavior by managers (Vorst 2016). Online Appendix Section 10 further examines investment efficiency. Consistent with Table 8, misaligned firms are less likely to invest efficiently after the tax-motivated dividend.

6.3. Cash Holdings

Thus far, we examine several funding sources, but have not examined cash balances. In Figure 4, we graph cash holdings (scaled by 2011 assets) over time for each group of taxmotivated payer versus the average scaled cash holdings of other sample firms (split into regular dividend payers in Q4 of 2012 and firms that have previously paid dividends but did not in Q4 of 2012, which we refer to as non-payers here for brevity). This analysis provides two important inferences. First, we confirm a drop in cash for each group of tax-motivated payers, and a steady increase (no drop) in cash for non-payers (regular payers) in Q4, 2012. Second, we can observe differences in cash holding characteristics between each group. The OTHER group appears most likely to have cash available to make a distribution as of Q3 2012, and these firms maintain a lower cash level following the tax-motivated dividend. ALIGN and WEAK ALIGN firms' cash holdings track closely through 2012, dropping at a similar rate from Q3 to Q4, 2012. While ALIGN firms appear to recover cash relatively quickly, WEAK ALIGN cash holdings recover slower, consistent with external monitors being influential in the distribution to reduce excess cash and overinvestment by managers. MISALIGN firms have cash balances in line with nonpayers (consistent with these firms making payments when their attributes suggest that they should not), and following the cash decrease from the tax-motivated dividend, remain at lower levels of cash. This is consistent with these firms' need to sacrifice future investments or increase debt to finance the tax-motivated dividend. Online Appendix Section 9 includes statistical tests of changes in cash balance by group. Results are consistent with Figure 4.

INSERT FIGURE 4 HERE

6.4. Dividend Shifting

While firms pay tax-motivated *special* dividends in Q4, 2012, Hanlon and Hoopes (2014) also show that some firms shift regular dividends from January 2013 into December 2012 to

provide tax benefits. Because shifting represents a small timing change, this may represent a low cost tax-motivated payout. That is, these firms should have funding readily available to fund the dividend, leading to no effect on investment (Fama 1974). Following prior literature, we examine typical January dividend payers and identify the 102 firms that omitted their January 2013 dividend by shifting the payment into December of 2012 (*DIV_SHIFT*).⁴² Because January payers are more likely to be frequent (e.g., monthly) dividend payers with fundamentally different investment opportunities than other dividend payers, we limit our sample to regular January payers, resulting in 3,519 firm-quarter observations, of which 1,621 observations represent firm-quarters for dividend shifters. We analyze the real effects of these distributions by replacing tax-motivated dividends with an indicator for dividend shifters in our main tests (H1, Table 3). Table 9 presents the results. Across all columns, we see no evidence of a post-period effect, indicating that (low-cost) dividend shifting does not affect investment.

INSERT TABLE 9 HERE

VII. Robustness Checks

7.1. Analysis of Identifying Assumptions and Reverse Causality

A potential concern with our analyses is that our funding and productivity results are driven by reverse causality, with managers of firms with limited future investment opportunities paying tax-motivated dividends which then naturally correlate with lower investment. However, it is unlikely that these concerns are descriptive in our study for several reasons. First, Hanlon and Hoopes (2014) identify this setting as ideal for exploring payouts specifically motivated to avoid a tax increase. As such, spurious changes to investment opportunities seem unlikely. Second, we control for time invariant, unobservable firm characteristics using firm fixed effects,

⁴² We remove 8 firms that are dividend shifters *and* make a special dividend payment in Q4, 2012 from this analysis.

and compare to the counterfactual of other firms that make shareholder payouts. Third, our finding that funding sources vary with the firm's shareholder mix is unlikely the result of differences in general investment opportunities; this would require investment opportunities to *simultaneously vary* with the *tax incentives* of a firm's owners at a specific point in time, which is unlikely (Desai and Jin 2011). Finally, to the extent that managers react to changing investment opportunities and make optimal distribution decisions, we should not observe significant differences in market reactions based on the tax motivation for the distribution.

To provide additional comfort regarding the identifying assumptions of our difference-indifferences analysis (e.g., parallel trends), we perform a trend analysis examining the investment and funding of tax-motivated dividend payers. Figure 5 plots the coefficient and 95% confidence interval for the interaction of SPECIAL PAID in each quarter for the significant variables in Table 3 – RPCH, CAPX, and R&D (Panels A to C) – between 2010 and 2016.⁴³ For this analysis, we extend the sample period through 2016 to examine the long-term effect of the dividend. If our findings are driven by reduced investment opportunities for tax-motivated payers (i.e., long-run changes to investment policy), we should observe a permanent decline in investment. In contrast, if tax-motivated dividends lead managers to sacrifice investment in the short-run to make the payments, we should see a reversal of the decline in investment in subsequent periods as investment returns to pre-period trends. First, we find a parallel trend between tax-motivated payers and the control group prior to the tax-motivated dividends, suggesting that there was no differential pre-period trend in investment. Next, we find a significant post-period decrease to RPCH (Panel A), CAPX (Panel B), and R&D (Panel C), consistent with our main results. Finally, our extended sample period shows a return to pre-period investment trends in Panels A, B, and

⁴³ To identify the cross-sectional difference between tax-motivated payers and other firms, we replace firm fixed-effects with industry fixed-effects and continue to include control variables.

C, suggesting that the immediate reduction to investment was due to the payout decision, which limits the likelihood that the distribution was made in anticipation of a reduction to investment opportunities. Online Appendix Section 12 reports these results for *DEBT*, *ISSUE*, and *TFP*. Consistent with main results, we see a parallel pre-period trend and no change in the post period.

INSERT FIGURE 5 HERE

To provide additional support for our parallel trends analysis, we re-perform our difference-in-differences tests by moving our sample period two years later (between 2012 and 2015; a falsification test) resulting in 34,322 firm-quarter observations.⁴⁴ We retain all Q4, 2012 ownership and payout data, but we modify the five quarter post period to run Q4, 2014 through Q4, 2015. The post-period effect on investment and funding sources (H1) and the interactive tests of ownership (H2) are insignificantly different from zero. Our falsification test replicates Tables 3 and 4 (Panels A and B) in Table 10, Panels A, B, and C respectively. These results suggest it is unlikely that our results reflect a time trend or unobservable difference.

INSERT TABLE 10 HERE

7.2. Additional Robustness Checks and Online Appendix

Another concern arises that the "old view" of dividend taxation drives results. This view suggests that an increase to dividend tax rates increases cost of capital, reducing investment. The "old view" is unlikely to drive our results for numerous reasons. First, the dividend tax increase affects all sample firms, which would not drive the *differences* we observe. Second, under the "old view," we should not observe the "rebound" in investment in Figure 5 because dividend tax rates are unchanged in the extended time period. Third, the "old view" should have the strongest negative effect for high dividend firms; under this view, these firms are most affected by the tax

⁴⁴ We focus on the period after (rather than before) the dividend distribution to avoid confounding issues associated with the potential 2011 tax rate change and the influence of the financial crisis.
penalty on their dividends. Online Appendix Sections 4 and 5 report results where we limit our counterfactual sample to regular dividend payers with above-median dividend yields between 2009 and 2012, and revisit H1 and H2. If the "old view" holds, these control firms should reduce investment, eliminating our results. However, results are robust, fully ruling out the old view.

Further, we employ a matching strategy to address differences across firms. While our primary analyses control for a) firm characteristics that are likely associated with investment and funding opportunities *and* b) firm fixed effects, we perform an additional robustness check by using coarsened exact matching (CEM). We match tax-motivated payers, both overall (H1) and focusing only on either *MISALIGN* or *WEAK_ALIGN* payers (H2), to control firms on Industry, *ROA*, *MTB*, and *ASSETS* (and *TII* and *EXEC* in some iterations). Online Appendix Sections 6, 7, and 8 provide details and report results, which mirror our main results.

VII. Conclusion

We examine the real effects of tax-motivated dividends. We find that tax-motivated payers shift share repurchases and forego investments in R&D and capital expenditures in order to fund tax-motivated dividends. Importantly, we find that conflicting shareholder tax incentives indicate differences in managers' willingness to use various funding methods for these dividends. Specifically, firms incur different costs if the distribution is influenced by external monitors versus insiders myopically focusing on their own short term tax incentives.

Further, we find that the costs incurred by misaligned tax-motivated dividend payers result in lower shareholder wealth compared to other firms paying tax-motivated dividends. This adds to the literature on taxes and corporate finance by finding negative effects associated with managerial myopia that is induced by executive-level taxes (Yost, 2018; Armstrong et al., 2019). This newly identified cost of dividend tax increases is also relevant in policymaking decisions.

35

References

- Adam, T., & Goyal, V. (2008). The investment opportunity set and its proxy variables. *The Journal of Financial Research*, 31 (1). 41-63.
- Allen, F., & Michaely, R. (2003). Chapter 7: Payout policy. In G. Constantinides, M. Harris, & R. Stulz, Handbook of the Economics of Finance: Volume 1, Part A (pp. 337-429). Elsevier.
- Almeida, H., Fos, V., & Kronlund, M. (2016). The real effects of share repurchases. *Journal of Financial Economics*, 119. 168-185.
- An, H., & Zhang, T. (2013). Stock price synchronicity, crash risk, and institutional investors. *Journal of Corporate Finance*, 21. 1-15.
- Armstrong, C., Glaeser, S., Huang, S., & Taylor, D. (2019). The economics of managerial taxes and corporate risk-taking. *The Accounting Review*, 94 (1). 1-24.
- Baber, W., Fairfield, P., & Haggard, J. (1991). The effect of concern about reported income on discretionary spending decisions: The case of research and development. *The Accounting Review*, 65 (4). 818-829.
- Baker, M., & Wurgler, J. (2004). A catering theory of dividends. *The Journal of Finance, 59 (3)*. 1125-1165.
- Bauer, R., Derwall, J., & Pankratz, N. (2019). Insider ownership, governance mechanisms, and corporate bond pricing around the world. *Unpublished Working Paper*. *Maastricht University*.
- Becker, B., Jacob, M., & Jacob, M. (2013). Payout taxes and the allocation of investment. *Journal of Financial Economics*, 107. 1-24.
- Bergstresser, D., & Poterba, J. (2002). Do after-tax returns affect mutual fund inflows? *Journal of Financial Economics*, 63. 381-414.
- Bertrand, M., Duflo, E., & Mullainathan, S. (2004). How much should we trust differences-in-differences estimation? *Quarterly Journal of Economics*, 119. 249-275.
- Bertrand, M., & Mullainathan, S. (2003). Enjoying the quiet life? Corporate governance and managerial preferences. *Journal of Political Economy*, 111. 1043-1075.
- Bhojraj, S., Hribar, P., Picconi, M., & McInnis, J. (2009). Making sense of cents: An examination of firms that marginally miss or beat analyst forecasts. *The Journal of Finance, 64 (5)*. 2361-2388.
- Biddle, G., Hilary, G., & Verdi, R. (2009). How does financial reporting quality relate to investment efficiency? *Journal of Accounting and Economics*, 48. 112-131.
- Black, F. (1976). The dividend puzzle. The Journal of Portfolio Management. 5-8.
- Black, B. (1992). Agents watching agents: The promise of institutional investor voice. UCLA Law Review 39, 49-76.
- Blouin, J., Bushee, B., & Sikes, S. (2017). Measuring tax-sensitive institutional investor ownership. *The Accounting Review, 92 (6).* 49-76.
- Blouin, J., Raedy, J., & Shackelford, D. (2011). Dividends, share repurchases, and tax clienteles: Evidence from the 2003 reductions in shareholder taxes. *The Accounting Review*, *86* (3). 887-914.
- Bushee, B. (1998). The influence of institutional investors on myopic R&D investment behavior. *The Accounting Review*, *73 (3)*. 305-333.
- Bushee, B. (2001). Do institutional investors prefer near-term earnings over long-run value? *Contemporary Accounting Research*, 18. 171-202.
- Cameron, C., & Miller, D. (2015). A practitioner's guide to cluster-robust inference. *The Journal of Human Resources, 50.* 317-372.
- Chan, S., Martin, J., & Kensinger, J. (1990). Corporate research and development expenditures and share value. *Journal of Financial Economics*, 26. 255-276.
- Chava, S., & Roberts, M. (2008). How does financing impact investment? The role of debt covenants. *The Journal of Finance, 63 (5).* 2085-2121.
- Chetty, R., & Saez, E. (2005). Dividend taxes and coporate behavior: evidence from the 2003 dividend tax cut. *Quarterly Journal of Economics*, 120. 791-833.
- Chetty, R., & Saez, E. (2010). Dividend and corporate taxation in an agency model of the firm. *American Economic Journal: Economic Policy, 2 (3).* 1-31.

- Chyz, J., & Li, O. (2012). Do tax sensitive investors liquidate appreciated shares after a capital gains tax rate reduction? *National Tax Journal*, 65 (3). 595-628.
- Coffee, J. (1991). Liquidity versus Control: The institutional investor as corporate monitor. *Columbia Law Review*, *91 (6)*. 1277-1368.
- Coles, J., Daniel, N., & Naveen, L. (2006). Managerial incentives and risk-taking. *Journal of Financial Economics*, 79. 431-468.
- Conyon, M., Core, J., & Guay, W. (2011). Are US CEOs paid more than UK CEOs? Inferences from risk-adjusted pay. *Review of Financial Studies*, 24 (2). 402-438.
- DeAngelo, H., DeAngelo, L., & Skinner, D. (2008). Controlling stockholders and payout policy. In E. G.M Constantinides, *Corporate Payout Policy* (pp. 125-134). Honover, MA: Now Publishers, Inc.
- DeAngelo, H., DeAngelo, L., & Stulz, R. (2010). Seasoned equity offerings, market timing, and the corporate lifecycle. *Journal of Financial Economics*, 95. 275-295.
- Dechow, P., & Sloan, R. (1991). Executive incentives and the horizon problem: An empirical investigation. *Journal of Accounting and Economics*, 14 (1). 51-89.
- Denis, D., & Denis, D. (1993). Managerial discretion, organizational structure, and corporate performance: A study of leveraged recapitalizations. *Journal of Accounting and Economics*, 16 (1). 209-236.
- Desai, M., & Jin, L. (2011). Institutional tax clienteles and payout policy. *Journal of Financial Economics*, 100. 68-84.
- Dimmock, S., Gerken, W., Ivkovic, Z., & Weisbenner, S. (2018). Capital gains lock-in and governance choices. *Journal of Financial Economics*, 127. 113-135.
- Easterbrook, F. (1984). Two agency-cost explanations of dividends. *American Economic Review*, 74. 650-659.
- Edgerton, J. (2013). Four facts about dividend payouts and the 2003 tax cut. *International Tax and Public Finance, 20.* 1-16.
- Fama, E. (1974). The empirical relation between the dividend and investment decisions of firms. *American Economic Review*, 64 (3). 304-318.
- Fama, E. (2011). My life in finance. Annual Review of Financial Economics, 3. 1-15.
- Fama, E., & French, K. (2005). Financing decisions: who issues stock? *Journal of Financial Economics*, 76 (3). 549-582.
- Fama, E., & French, K. (2015). A five-factor asset pricing model. *Journal of Financial Economics, 116* (1). 1-22.
- Fama, E., & Jensen, M. (1983). Separation of ownership and control. *The Journal of Law and Economics*, 26 (2). 301-325.
- Farre-Mensa, J., Michaely, R., & Schmalz, M. (2018). Financing payouts. Unpublished Working Paper. Cornell University and University of Michigan. 1-80.
- Faulkender, M. & Petersen, M. (2012). Investment and capital constraints: Repatriations under the American Jobs Creation Act. *Review of Financial Studies*, *25 (1)*. 3351-3388.
- Floyd, E., Li, N., & Skinner, D. (2015). Payout policy through the financial crisis: The growth of repurchases and the resilience of dividends. *Journal of Financial Economics, 118.* 299-316.
- Frank, M., & Goyal, V. (2003). Testing the pecking order theory of capital structure. *Journal of Financial Economics*, 67. 217-248.
- Gillan, S., & Starks, L. (2000). Corporate governance proposals and shareholder activism: the role of institutional investors. *Journal of Financial Economics*, *57*. 275-305.
- Giroud, X., & Mueller, H. (2010). Does corporate governance matter in competitive industries? *Journal* of Financial Economics, 95. 312-331.
- Graham, J. (2003). Taxes and Corporate Finance: A Review. *The Review of Financial Studies, 16 (4).* 1075-1129.
- Graham, J., Leary, M., & Roberts, M. (2015). A century of capital structure: The leveraging of corporate America. *Journal of Financial Economics*, 118 (3). 658-683.

- Greene, W. (2004). Fixed effects bias due to the incidental parameters problem in the tobit model. *Econometric Reviews, 23 (2).* 125-147.
- Grinstein, Y., & Michaely, R. (2005). Institutional holdings and payout policy. *The Journal of Finance*, 60 (3). 1389-1426.
- Grullon, G., Paye, B., Underwood, S., & Weston, J. (2011). Has the propensity to pay out declined? Journal of Financial and Quantitative Analysis, 46 (1). 1-24.
- Ham, C., Kaplan, Z., & Leary, M. (2020). Do dividends convey information about future earnings? Journal of Financial Economics, 136. 547-570.
- Ham, C., Kaplan, Z., & Utke, S. (2021). Attention to dividends, inattention to earnings? *Review of Accounting Studies, forthcoming.* 1-52.
- Hanlon, M., & Heitzman, S. (2010). A review of tax research. *Journal of Accounting and Economics*, 50. 127-178.
- Hanlon, M., & Hoopes, J. (2014). What do firms do when dividend tax rates change? An examination of alternative payout responses. *Journal of Financial Economics*, *114*. 105-124.
- Hanlon, M., Verdi, R., & Yost, B. (2021). Insider tax effects on acquisition structure and value. *The Accounting Review*, *96* (2). 333-363.
- Hartzell, J., & Starks, L. (2003). Institutional investors and executive compensation. *The Journal of Finance*, 58 (6). 2351 2373.
- Hoberg, G., & Maksimovic, V. (2015). Redefining financial constraints: a text-based analysis. *Review of Financial Studies, 28 (5).* 1312-1352.
- Hribar, P., Savoy, S., & Wilson, R. (2019). Pricing firms' responsiveness to shareholder tax incentives. Unpublished Working Paper. University of Iowa and University of Oregon.
- Huang, R., & Ritter, J. (2019). The puzzle of frequent and large issues of debt and equity. Unpublished Working Paper. Kennesaw State University and University of Florida.
- Imrohoroglu, A., & Tuzel, S. (2014). Firm-level productivity, risk, and return. *Management Science*, 60 (8). 2073-2090.
- Isakov, D., Pérignon, C., & Weisskopf, J.-P. (2021). What if dividends were tax-exempt? Evidence from a natural experiment. *Review of Financial Studies*, forthcoming.
- Jacob, M., & Michaely, R. (2017). Taxation and dividend policy: The muting effect of agency issues and shareholder conflicts. *Review of Financial Studies*, 30. 3176-3222.
- Jensen, M. (1986). Agency costs of free cash flow, corporate finance and takeovers. *American Economic Review*, *76*, 323-329.
- Jensen, M., & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 76 (2). 305-360.
- Jin, L. (2006). Capital gains tax overhang and price pressure. The Journal of Finance, 61 (3). 1399-1431.
- Jin, L., & Kothari, S. (2008). Effect of personal taxes on managers' decisions to sell their stock. *Journal of Accounting and Economics, 46.* 23-46.
- John, K., & Williams, J. (1985). Dividends, dilution, and taxes: A signalling equilibrium. *Journal of Finance, 40 (4)*, 1053-1070.
- Kaplan, Z., & Perez-Cavazos, G. (2021). Investment as the opportunity cost of dividend signaling. *The Accounting Review*. Forthcoming.
- Kim, E., & Lu, Y. (2011). CEO Ownership, external governance, and risk-taking. *Journal of Financial Economics, 102.* 272-292.
- Kothari, S. P., Laguerre, T., & Leone, A. (2002). Capitalization versus expensing: Evidence on the uncertainty of future earnings from capital expenditures versus R&D outlays. *Review of Accounting Studies*, 7. 355-382.
- Krupa, T., & Utke, S. (2021). Whose taxes matter for dividend payout policy? Insiders versus institutional owners. *University of Connecticut Working Paper*.
- La Porta, R., Lopez-deSilanes, F., Shleifer, A., & Vishney, R. (2000). Agency problems and dividend policies around the world. *Journal of Finance*, 55, 1-33.

- Lanen, W., & Thompson, R. (1988). Price reactions as cash flow effect surrogates. *Journal of Accounting* and Economics, 10 (4). 311-334.
- Lopez-Salido, D., Stein, J., & Zakrajšek, E. (2017). Credit-market sentiment and the business cycle. *Quarterly Journal of Economics, 132 (3).* 1373-1426.
- Ma, S. (2018). Payout taxation and corporate investment: The agency channel. Yale Working Paper. 1-67.
- Malmendier, U., & Tate, G. (2005). CEO overconfidence and corporate investment. *The Journal of Finance, 60 (6)*. 2661 2700.
- Manconi, A., & Massa, M. (2013). A servant to many masters: Competing shareholder preferences and limits to catering. *Journal of Financial and Quantitative Analysis, 48 (6)*. 1693-1716.
- Miller, M., & Rock, K. (1985). Dividend policy under asymmetric information. *The Journal of Finance*, 40 (2). 1031-1051.
- Morck, R., Shleifer, A., & Vishny, R. (1988). Management ownership and market valuation. *Journal of Financial Economics*, 20. 293-315.
- Myers, S., & Majluf, N. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13. 187-221.
- Nissim, D., & Ziv, A. (2001). Dividend changes and future profitability. *The Journal of Finance, 56 (6)*. 2111-2133.
- Pan, Y., Wang, T., & Weisbach, M. (2016). CEO investment cycles. *Review of Financial Studies, 29.* 2955-2999.
- Richardson, S. (2006). Over-investment of free cash flow. Review of Accounting Studies, 11. 159-189.
- Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of Accounting and Economics, 42 (3).* 335-370.
- Rozeff, M. (1982). Growth, beta, and agency costs as determinants of dividend payout ratios. *The Journal* of *Financial Research*, 5 (3). 249-259.
- Scholes, Wolfson, Erickson, Hanlon, Maydew, & Shevlin. (2015). *Taxes and Business Strategy A planning approach: 5th Edition*. New York: Pearson.
- Shleifer, A., & Vishny, R. (1986). Large shareholders and corporate control. *Journal of Political Economy*, 94 (3). 461-488.
- Sikes, S. (2014). The turn-of-the-year effect and tax-loss-selling by institutional investors. *Journal of Accounting and Economics*, 57. 22-42.
- Stulz, R. (1988). Managerial control of voting rights: Financing policies and the market for corporate control. *Journal of Financial Economics*, 20. 25-54.
- Stulz, R. (1990). Managerial discretion and optimal financing policies. *Journal of Financial Economics*, 26. 3-27.
- Syverson, C. (2011). What determines productivity? Journal of Economic Literature, 49 (2). 326-365.
- Wang, Z., Yin, Q., & Yu, L. (2021). Real effects of share repurchases legalization on corporate behaviors. *Journal of Financial Economics*, 140. 197-219.
- Wruck, K. (1994). Financial policy, internal control, and performance Sealed Air Corporation's leveraged special dividend. *Journal of Financial Economics*, *36 (2)*. 157-192.
- Vermaelen, T. (1981). Common stock repurchases and market signaling: An empirical study. *Journal of Financial Economics*, 9 (2). 139-183.
- Vorst, P. (2016). Real earnings management and long-term operating performance: The role of reversals in discretionary investment cuts. *The Accounting Review*, *91* (4). 1219-1256.
- Yagan, D. (2015). Capital tax reform and the real economy: The effects of the 2003 dividend tax cut. *American Economic Review, 105 (12).* 3531-3563.
- Yost, B. (2018). Locked-in: The effect of CEOs' capital gains taxes on corporate risk-taking. *The Accounting Review, 93 (5).* 325-358.
- Zwick, E., & Mahon, J. (2017). Tax policy and heterogeneous investment behavior. *American Economic Review*, 107 (1). 217-248.

	Appendix A – v ariable Descriptions
Dividend Variabl	es
SPECIAL	A firm-level indicator variable set to 1 if the firm makes a distribution where the distribution in the fourth quarter of 2012 and the share code [SHRCD] is classified as 1262 or 1272 ("treatment" firms). All Compustat firms quarters related to firms that did not make a special dividend during this period are coded as 0.
SPECIAL_PAID	A firm-level measure of the magnitude of special dividends paid in the fourth quarter of 2012 scaled by the firms' average assets [ATQ] in calendar year 2011.
DIV_SHIFT	A firm-level indicator variable set to 1 if a traditional January dividend paying firm omits their January 2013 regular dividend distribution and instead pays a regular dividend in December of 2012.
Ownership Variab	les – Independent Variables of Interest
TH	The percentage of tax-insensitive institutional ownership as categorized by Blouin et al. (2017). This is calculated as the total shares owned by tax- insensitive institutions at the end of the third quarter of 2012 divided by the shares outstanding as reported by Compustat. Institutional ownership data comes from Thomson Reuters Institutional 13-F Holdings - S34 master file.
EXEC	The percentage of executive ownership for each firm-dividend observation. This is calculated as the total shares owned (options excluded) by executive owners during the month of the firm-dividend observation divided by the shares outstanding as reported by Compustat. Executive ownership data comes from ExecuComp - Monthly Updates Annual Compensation file. For <i>SPECIAL</i> firms with missing ExecuComp data, <i>EXEC</i> is calculated as the Class A ownership percentage of the firm's executives from the annual proxy statement closest to the fourth quarter of 2012.
TII_STND	The variable <i>TII</i> , defined above, transformed such that <i>TII_STND</i> equals 0 when at the mean <i>TII</i> and an increase from 0 to 1 represents an increase to <i>TII</i> that is $\frac{1}{2}$ a standard deviation above the mean.
EXEC_STND	The variable <i>EXEC</i> , defined above, transformed such that <i>EXEC_STND</i> equals 0 when at the mean <i>EXEC_STND</i> and an increase from 0 to 1 represents an increase to EXEC that is $\frac{1}{2}$ a standard deviation above the mean.
TS	The percentage of tax-sensitive ownership (i.e., tax-sensitive institutions and non-executive individuals). 1 minus <i>TII</i> minus <i>EXEC</i> . Because we are most interested in misaligned incentives, we empirically evaluate increases in <i>TII</i> but define the <i>TS</i> variable for discussion purposes.
POST	An indicator variable set to 1 during the fourth quarter of 2012 and the following four quarters of 2013.
MISALIGN: HI_EXEC_LO_TS	A firm-level indicator variable set to 1 if a <i>SPECIAL</i> firm has fourth quarter 2012 <i>EXEC</i> ownership greater than the median level for <i>SPECIAL</i> firms (12.7%) and <i>TII</i> greater than the median for this subset (22.1%).

Appendix A – Variable Descriptions

	Appendix A – variable Descriptions
ALIGN: HI_EXEC_HI_TS	A firm-level indicator variable set to 1 if a <i>SPECIAL</i> firm has fourth quarter 2012 <i>EXEC</i> ownership greater than the median level for <i>SPECIAL</i> firms (12.7%) and <i>TII</i> less than the median for this subset (22.1%).
WEAK_ALIGN: LO_EXEC_LO_TS	A firm-level indicator variable set to 1 if a <i>SPECIAL</i> firm has fourth quarter 2012 <i>EXEC</i> ownership less than the median level for <i>SPECIAL</i> firms (12.7%) and <i>TII</i> greater than the median for this subset (65.4%).
OTHER: LO_EXEC_HI_TS	A firm-level indicator variable set to 1 if a <i>SPECIAL</i> firm has fourth quarter 2012 <i>EXEC</i> ownership less than the median level for <i>SPECIAL</i> firms (12.7%) and <i>TII</i> less than the median for this subset (65.4%).
Control Variables	
ASSETS	The firm's assets in the prior quarter [ATQ].
ROA	The firm's current quarterly earnings before extraordinary items [IBQ] scaled by average assets.
MTB	The firm's market value of equity [PRCCQ*CSHOQ] divided by average assets.
LEVERAGE	The firm's long-term debt [DLTTQ] scaled by ASSETS.
TOBINQ	The firm's Tobin's Q calculated following Kaplan and Perez-Cavazos (2020) as ln((1+[PRCCQ*CSHOQ] + [DLTTQ] + [LTQ])/[ATQ])).
Dependent Variabl	es – H1 and H2
CAPX	The firm's capital expenditures [CAPXQ] scaled by the average 2011 net property plant and equipment [PPENTQ]. In the additional analysis using a generalized difference-in-differences design, this variable is scaled by the prior calendar year's average assets.
R&D	The firm's research and development expense [XRDQ] scaled by average four quarter 2011 assets [ATQ]. In additional analysis using a generalized difference-in-differences design, this variable is scaled by the prior calendar year's average assets.
DEBT	The firm's quarterly net change in debt. Following Huang and Ritter (2019), for firms with cash flow reporting formats 1 through 3, this is calculated as long- term debt issuance [DLTISQ] minus long-term debt reduction [DLTRQ] - current debt changes [DLCCHQ] scaled by average four quarter 2011 assets [ATQ]. For firms with cash flow reporting format 7, this is calculated as: long- term debt issuance [DLTISQ] minus long-term debt reduction [DLTRQ] + current debt changes [DLCCHQ] scaled by average four quarter 2011 assets [ATQ]. In additional analysis using a generalized difference-in-differences design, this variable is scaled by the prior calendar year's average assets.
RPCH	The cash flow from firm's quarterly share repurchases [PRSTKCQ] scaled by average four quarter 2011 assets [ATQ]. In additional analysis using a generalized difference-in-differences design, this variable is scaled by the prior calendar year's average assets.
ISSUE	The cash flow from firm's quarterly share issuance [SSTKQ] scaled by average four quarter 2011 assets [ATQ].

	Appendix A – Variable Descriptions
CHEQ	Cash and cash equivalents [CHEQ] scaled by average four quarter 2011 assets [ATQ]
Dependent Varial	bles - H3
CÂR	We use daily CRSP data for the 88 tax-motivated dividend payers with insider and institutional ownership data. Given the differences in size, growth, and profitability of each firm, we evaluate each firm's expected returns with the Fama and French (2015) five factor market model using the firm's daily returns over the prior year (calendar day t-405 through day t-40). We calculate abnormal returns (<i>AR</i>) and <i>CAR</i> as follows: $AR_i = r_{it} - r_{jt} \qquad (2)$ $CAR_i = \sum_{-1}^{1} AR_i \qquad (3)$ Where r_{it} represents the actual daily return for each firm that pays a tax- motivated dividend and r_{jt} represents the expected daily return for the same firm based on the market model. <i>CAR</i> represents the results of model (3) using [t-1,t+1] surrounding the announcement of a special dividend in the fourth quarter of 2012.
Negative Return	An indicator variable equal to 1 when CAR is less than 0.

Dependent Variables – Additional Analyses

TFP	A measure, in log form, of the effectiveness with which capital and labor are
	used in the firm's production process gathered from Professor Tuzel's personal
	website at https://sites.google.com/usc.edu/selale-tuzel/home?authuser=2. This
	is measured for each firm on an annual basis and controls for the effect of time
	and industry using a semiparametric procedure to estimate the parameters from
	a firm's production function using property, plant, and equipment (capital) and
	number of employees (labor) as inputs to a firm's sales.

Financial Constraint Variables – Additional Analyses

Financial Consti al	nt variabits – Additional Analyses
HM_DELAY	A measure of financial constraint from Hoberg and Maksimovic (2015). The authors use disclosure in firm's Capitalization and Liquidity Subsection of the MD&A to create a score of the firm's likely investment delays due to financing concerns. To increase sample size, we use the firm's most recently available <i>HM_DELAY</i> score prior to 2012. A higher score suggests greater delays to investment (i.e., more constraints).
Sufficiency	A measure of cash sufficiency following Faulkender and Peterson (2012). This is calculated as the firms' ability to cover capital expenditures using cash from operations: calculated as net income before interest expense minus capital expenditures (NI + XINT – CAPX). <i>Sufficiency</i> equals the percent of quarters during the pre-period that the firm can cover capital expenditures with net income. A firm is considered financially unconstrained if <i>Sufficiency</i> = 1, and constrained otherwise.

Figure 1: Timeline of Key Events Leading up to the Expiration of the JGTRRA Tax-Cuts in 2013



Figure 2: Conceptual Outline of Cash Usage and Reduction to Investments around the Q4, 2012 Tax-Motivated Dividend – Rationale for a Null H1 Panel A: Q4 Special Dividend Payers are Prepared for a Special Dividend to Investors



Panel B: Q4 Special Dividend Payers are Unprepared for a Special Dividend to Investors



This figure represents the conceptual possibility for the funding sources of a tax-motivated dividend. Firms that have excess cash available for distribution (Panel A) may make the distribution as the potential tax rate increase changes the net present value (NPV) of retaining capital. Alternatively, the limited ability to plan for the tax rate change, along with the potential for significant tax savings by paying a tax-motivated dividend prior to the tax rate increase, may encourage some firms to pay a distribution without excess cash available, using funding sources such as debt, equity, or investment to finance the distribution (Panel B).

Figure 3: Interaction between Shareholder Incentives and the Influence for Dividend Distribution Decision *Panel A: 2x2 Presentation of Ownership Incentives*

		Non-Ir	nsider Ownership
		Tax-Sensitive Ownership = High	Tax-Sensitive Ownership = Low
		Tax-Insensitive Institutional Ownership (TII) = Low	Tax-Insensitive Institutional Ownership (TII) = High
)wnership	High	ALIGN - Aligned Tax Incentives Between Insiders and Shareholders (High taxable insider and external ownership) - High Insider Ownership Diminishes Influence of External Monitors (i.e., <i>TII</i>) - Tax-Motivated Dividend Decision Likely Influenced by Overall Shareholder Tax Incentives	 MISALIGN Misaligned Tax Incentives between Insiders and Shareholders (High taxable insider ownership, low tax-sensitive external ownership) High Insider Ownership Diminishes Influence of External Monitors (i.e., <i>TII</i>) Tax-Motivated Dividend Decision Likely Influenced by Insider's Tax Incentives
Insider (Low	OTHER - Weakly Aligned Tax Incentives Between Insiders and Shareholders (High tax-sensitive ownership, but low taxable insider ownership) - Low Insider Ownership Allows Greater Role for External Monitors - Tax-Motivated Dividend Decision Likely Influenced by Overall Shareholder Tax Incentives	WEAK ALIGN - Weakly Aligned Tax Incentives between Insiders and Shareholders (High ownership by <i>TII</i>) - Low Insider Ownership Allows Greater Role for External Monitors - Tax-Motivated Dividend Decision Likely Influenced by External Monitors

Panel B: 2x2 Summary of Results for Funding Sources and Real Effects (Market Reaction, Productivity, and Investment Efficiency)

Tax-Sensitive Ownership = High Tax-Sensitive Ownership = Low Tax-Insensitive Institutional Ownership (TII) = Low Tax-Insensitive Institutional Ownership (TII) = High ALIGN MISALIGN - Funding Sources (excluding cash): No single significant source - Funding Sources (excluding cash): Debt & R&D (Table 4, Panel B, columns 3 (Table 4, Panel B, column 1; Table 5, Panel A, column 1) & 4; Table 5, Panel A, columns 3 & 4) - Announcement Returns: Positive (Table 6, Panel A) - Announcement Returns: Zero on average, Lower than other groups, More - Change to Productivity: None (Table 8, Panel A, column 2 & 4; likely negative as misalignment increases (Table 6, Panels A, B, C, & D) High Table 8, Panel B, column 2) - Change to Productivity: Decline (Table 8, Panel A, column 2 & 4; Table 8, **Insider Ownership** Panel B, column 2) - Change to Investment Efficiency: Decline (Online Appendix Section 10, Panel A); Become more likely to over-invest (Online Appendix Section 10, Panel B, column 2) **OTHER** WEAK ALIGN - Funding Sources (excluding cash): Marginal evidence of R&D - Funding Sources (excluding cash): Shifted Repurchases & Capital (only Table 5, Panel A, column 3; but not in Table 4, Panel A. Expenditures (Table 4, Panel A, column 1 & 2; Table 5, Panel A, column 1 & 2) column 3) - Announcement Returns: Positive (Table 6, Panel A) Low - Announcement Returns: Positive (Table 6, Panel A) - Change to Productivity: None (Table 8, Panel A, column 1 & 3) - Change to Productivity: None (Table 8, Panel A, column 1 & 3; - Change to Investment Efficiency: None (Online Appendix Section 10, Panel Table 8, Panel B, column 2) A); Become less likely to over-invest (Online Appendix Section 10, Panel B, column 2)

Non-Insider Ownership





Cash holdings represent cash and cash equivalents scaled by average 2011 assets. Tax-motivated dividend payers are split into *ALIGNED*, *MISALIGNED*, *WEAK_ALIGN*, and *OTHER*. Other firms that do not pay tax-motivated special dividends (non-paying [NP]) are split into Q4 2012 regular dividend payers (NP-Dividend) and non-payers (NP-Non_Dividend). Not that the NP-Non_Dividend payers, while not paying regular dividends in Q4 2012, did pay a dividend at least once between 2008 and 2012.

Figure 5 – Trends Analysis

Panel A: RPCH



Panel B: CAPX







This figure presents the coefficient and accompanying 95% confidence interval by quarter for our primary investment and financing variables from a cross-sectional regression otherwise similar to equation (1). We examine the trends during our sample pre-period (Q1, 2010 to Q3, 2012), our sample post period (Q4, 2012 to Q4, 2013), and an extended post period (Q1, 2014 to Q4, 2016) to evaluate the long-run effect of tax-motivated dividends on financing. Panel A presents repurchases. Panel B presents capital expenditures. Panel C presents R&D.

Table 1 Sample Selection						
Panel A: Sample Selection for Difference-in-Differences Tests						
Public Firm-Quarters (Firms) between 2010 and 2013	102,306 (8,054)					
With Data for Compustat Controls	82,744 (6,001)					
With Data for Institutional Ownership and, for Tax-Motivated						
Dividend Payers, Insider Ownership	54,832 (3,593)					
Non-Financial/Utilities	41,968 (2,763)					
Final Set of Dividend/Repurchase	. ,					
Firms (for H1, H2A, and H2B)	35,401 (2,314)					

Panel B: Sample Selection for Fourth Quarter 2012 Tax-Motivated Divid	lend Payers
Tax-Motivated Dividend Payer Firm-Quarters (Firms) between 2010 and 2013	1,888 (121)
With Data for Compustat Controls	1,804 (114)
With Data for Institutional Ownership	1,763 (110)
With Data for Insider Ownership (for additional H3 test) Final Set of Non-Financial/Utilities	1,737 (108)
(for H3)	1,373 (88)

Table 2 Univariate Analysis

Panel A: Descriptive Statistics – Full Sample								
VARIABLES	Ν	Mean	S.D.	P25	P75			
(1) SPECIAL	35,401	0.040	0.195	0.000	0.000			
(2) SPECIAL PAID	35,401	0.004	0.031	0.000	0.000			
(3) TII	35,401	0.506	0.302	0.230	0.760			
(4) EXEC PCT	19,781	0.044	0.090	0.004	0.034			
(5) ASSETS	35,401	6,327	18,763	214	3,447			
(6) ROA	35,401	0.005	0.052	0.001	0.023			
(7) MTB	35,401	1.438	1.536	0.599	1.701			
(8) LEVERAGE	35,401	0.176	0.200	0.000	0.279			
(9) CAPX	35,401	0.072	0.087	0.025	0.085			
(10) R&D	35,401	0.010	0.023	0.000	0.012			
(11) DEBT	35,401	0.004	0.042	-0.005	0.001			
(12) RPCH	35,401	0.005	0.014	0.000	0.002			
(13) ISSUE	35,401	0.007	0.041	0.000	0.002			

Panel B: Descriptive Statistics – Excluding Tax-Motivated Dividend Payers						Panel C: Descriptive	Statistics -	- Tax-Mot	ivated Div	idend Paye	ers	
VARIABLES	VARIABLES N Mean S.D. P25 P75 VARIABLES N Mean S.D. P25 P75										Mean Difference (C – B)	
						(2) SPECIAL_PAID	1,373	0.098	0.124	0.026	0.130	
(3) TII	34,028	0.508	0.303	0.236	0.763	(3) TII	1,373	0.444	0.263	0.214	0.669	-0.064 ***
(4) EXEC_PCT	18,408	0.031	0.062	0.003	0.027	(4) EXEC_PCT	1,373	0.210	0.189	0.046	0.371	0.178 ***
(5) ASSETS	34,028	6,535	19,095	223	3,632	(5) ASSETS	1,373	1,146	3,304	148	669	-5,390 ***
(6) ROA	34,028	0.005	0.053	0.001	0.023	(6) ROA	1,373	0.018	0.026	0.005	0.027	0.014 ***
(7) MTB	34,028	1.435	1.532	0.597	1.707	(7) MTB	1,373	1.522	1.625	0.652	1.562	0.087 **
(8) LEVERAGE	34,028	0.177	0.199	0.000	0.281	(8) LEVERAGE	1,373	0.135	0.225	0.000	0.199	-0.042 ***
(9) CAPX	34,028	0.072	0.087	0.026	0.085	(9) CAPX	1,373	0.068	0.087	0.022	0.081	-0.004 *
(10) R&D	34,028	0.011	0.023	0.000	0.012	(10) R&D	1,373	0.007	0.013	0.000	0.012	-0.003 ***
(11) DEBT	34,028	0.004	0.042	-0.005	0.001	(11) DEBT	1,373	0.003	0.039	-0.001	0.000	-0.001
(12) RPCH	34,028	0.005	0.014	0.000	0.003	(12) RPCH	1,373	0.004	0.011	0.000	0.001	-0.002 ***
(13) ISSUE	34,028	0.008	0.042	0.000	0.002	(13) ISSUE	1,373	0.003	0.016	0.000	0.001	-0.005 ***

Panel A: Descriptive Statistics – Full Sample

Table 2 (Continued) Univariate Analysis

	Panel D: Correlation Matrix											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) SPECIAL	1.000											
(2) SPECIAL_PAID	0.610***	1.000										
(3) TII	-0.307***	-0.196***	1.000									
(4) EXEC_PCT	0.505***	0.265***	-0.474***	1.000								
(5) ASSETS	-0.087***	-0.058***	-0.060***	-0.131***	1.000							
(6) ROA	0.033***	0.031***	0.105***	-0.010	0.029***	1.000						
(7) MTB	0.011	0.051***	0.067***	0.005	-0.101***	0.301***	1.000					
(8) LEVERAGE	-0.063***	-0.082***	0.062***	-0.104***	0.076***	-0.085***	-0.254***	1.000				
(9) CAPX	-0.005	-0.007	0.047***	0.049***	-0.070***	0.060***	0.281***	-0.124***	1.000			
(10) R&D	-0.019**	0.016*	-0.003	-0.033***	-0.060***	-0.122***	0.297***	-0.231***	0.257***	1.000		
(11) DEBT	-0.005	-0.006	0.021**	-0.004	-0.002	-0.031***	-0.004	0.189***	0.062***	-0.009	1.000	
(12) RPCH	-0.069***	-0.036***	0.110***	-0.080***	0.029***	0.203***	0.222***	-0.035***	0.076***	0.082***	0.105***	1.000
(13) ISSUE	-0.020**	-0.009	-0.009	-0.011	-0.033***	-0.029***	0.188***	-0.016*	0.143***	0.153***	-0.003	0.013

This table presents descriptive statistics for the sample of firm-quarters between 2010 and 2013. These variables are utilized in the difference-in-differences tests of the real effects of tax-motivated dividend distributions. We winsorize all continuous variables at 1% and 99% to mitigate the effects of miscoding or outliers. In Panel A, we present the summary statistics for the sample as a whole. Panel B (C) presents summary statistics for the sub-samples separated by those that do not (do) pay a special dividend in Q4, 2012. Panel D presents the pairwise correlation matrix of all main variables. In Panels C and D, *=p<0.05, **=p<0.01, **=p<0.001

Effect of Q4, 2012 Special Dividends on Investment and Financing Panel A: Analysis using the Magnitude of Payout									
	(1)	(2)	(3)	(4)	(5)				
VARIABLES	RPCH	CAPX	R&D	DEBT	ISSUE				
SPECIAL_PAID*POST	-0.0152**	-0.1073***	-0.0180***	0.0048	0.0011				
	(-2.12)	(-2.75)	(-4.56)	(0.39)	(0.18)				
ASSETS*POST	0.0000	-0.0000***	-0.0000	0.0000*	0.0000				
	(0.99)	(-4.51)	(-1.06)	(1.84)	(0.94)				
MTB*POST		0.0119***	0.0020***	0.0014***					
		(6.70)	(7.71)	(2.72)					
ROA*POST	0.0061**	0.0883**	0.0121	0.0277*	-0.0163				
	(2.57)	(2.19)	(1.25)	(1.69)	(-0.58)				
LEVERAGE*POST	-0.0001	0.0210***	0.0003		0.0020				
	(-0.11)	(2.83)	(0.39)		(0.77)				
ASSETS	0.0000*	0.0000***	0.0000***	-0.0000***	-0.0000				
	(1.78)	(5.95)	(2.74)	(-4.41)	(-1.52)				
MTB		-0.0009	-0.0005*	-0.0016***					
		(-0.52)	(-1.70)	(-3.09)					
ROA	0.0047**	0.0636*	-0.0192***	-0.0366***	-0.0530***				
	(2.49)	(1.74)	(-2.73)	(-3.72)	(-2.73)				
LEVERAGE	0.0009	0.0316**	0.0023**		0.0097*				
	(0.77)	(2.56)	(2.04)		(1.83)				
Constant	0.0020***	0.0350***	0.0089***	0.0051***	0.0066***				
	(4.75)	(8.16)	(16.09)	(3.42)	(5.45)				
Observations	35,401	35,401	35,401	35,401	35,401				
Adjusted R-squared	0.387	0.460	0.884	0.031	0.179				
Fixed Effects	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter				
Cluster	Firm	Firm	Firm	Firm	Firm				

 Table 3

 Effect of Q4, 2012 Special Dividends on Investment and Financing

 Panel A: Analysis using the Magnitude of Payout

		Panel B: Analysis using a	n Indicator for Payout	0	
	(1)	(2)	(3)	(4)	(5)
VARIABLES	RPCH	CAPX	R&D	DEBT	ISSUE
SPECIAL *POST	-0.0021***	-0.0103*	-0.0014**	0.0032	0.0008
	(-2.69)	(-1.93)	(-2.56)	(1.24)	(0.69)
ASSETS*POST	0.0000	-0.0000***	-0.0000	0.0000*	0.0000
	(0.94)	(-4.50)	(-1.02)	(1.93)	(0.99)
MTB*POST		0.0118***	0.0020***	0.0014***	
		(6.67)	(7.67)	(2.71)	
ROA*POST	0.0062**	0.0875**	0.0119	0.0271*	-0.0164
	(2.58)	(2.17)	(1.23)	(1.65)	(-0.58)
LEVERAGE*POST	-0.0001	0.0214***	0.0004		0.0021
	(-0.08)	(2.88)	(0.47)		(0.77)
ASSETS	0.0000*	0.0000***	0.0000***	-0.0000***	-0.0000
	(1.78)	(5.97)	(2.76)	(-4.41)	(-1.52)
MTB		-0.0010	-0.0005*	-0.0016***	
		(-0.53)	(-1.72)	(-3.10)	
ROA	0.0047**	0.0638*	-0.0192***	-0.0364***	-0.0530***
	(2.47)	(1.74)	(-2.72)	(-3.71)	(-2.72)
LEVERAGE	0.0009	0.0315**	0.0023**		0.0097*
	(0.76)	(2.56)	(2.03)		(1.83)
Constant	0.0020***	0.0350***	0.0089***	0.0051***	0.0066***
	(4.75)	(8.16)	(16.08)	(3.42)	(5.45)
Observations	35,401	35,401	35,401	35,401	35,401
Adjusted K-squared Fixed Effects	0.387/ Firm/Vear-Quarter	0.459 Firm/Year-Quarter	0.884 Firm/Year-Quarter	0.031 Firm/Year-Quarter	0.179 Firm/Year-Quarter
Cluster	Firm	Firm	Firm	Firm	Firm

Table 3 (Continued)					
Effect of Q4, 2012 Special Dividends on Investment and Financing					

This table reports the results of the difference-in-differences analysis of the effects of payments of tax motivated dividends on investment and financing (*RPCH*, *CAPX*, *R&D*, *DEBT*, and *ISSUE*) in the post period. Panel A reports results using *SPECIAL_PAID*, representing special dividends paid in Q4, 2012 (scaled by 2011 average assets), and equal to 0 for firms that do not pay special dividends during this period. Panel B reports results using *SPECIAL*, an indicator variable set to 1 for firms that pay a special dividend in Q4, 2012, and 0 otherwise. *POST* equals 1 for Q4, 2012 and the following four quarters. The baseline effect of *POST* is absorbed by the year-quarter fixed effects. Similarly, the baseline effect of *SPECIAL_PAID* and *SPECIAL* are absorbed by firm fixed effects. Standard errors are clustered by firm. Cluster robust t-statistics are in parentheses. Reported p-values are based on two-tailed tests.

Effects of Q4 2012 Special Dividends by Tax-Insensitive Institutional Ownership – Conditioned on Insider Ownership								
Panel A: Tax-Motivated Dividend Paying Firms with Below Median Insider Ownership								
	(1)	(2)	(3)	(4)	(5)			
VARIABLES	RPCH	CAPX	R&D	DEBT	ISSUE			
SPECIAL*POST*TII	-0.0067*	-0.0635***	-0.0044	0.0089	0.0043			
[Reflecting "Weakly Aligned" Firms]	(-1.89)	(-3.10)	(-1.33)	(1.02)	(0.89)			
TII*POST	0.0019***	0.0070	0.0012*	-0.0023	-0.0017			
	(3.16)	(1.44)	(1.91)	(-1.19)	(-1.06)			
SPECIAL*POST	0.0010	0.0205	0.0007	-0.0026	-0.0027			
	(0.48)	(1.44)	(0.32)	(-0.60)	(-0.91)			
Constant	0.0021***	0.0347***	0.0090***	0.0054***	0.0067***			
	(4.83)	(8.00)	(15.97)	(3.53)	(5.41)			
Observations	34,716	34,716	34,716	34,716	34,716			
Adjusted R-squared	0.389	0.460	0.884	0.030	0.179			
Controls	Yes	Yes	Yes	Yes	Yes			
Fixed Effects	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter			
Cluster	Firm	Firm	Firm	Firm	Firm			

Table 4
Effects of Q4 2012 Special Dividends by Tax-Insensitive Institutional Ownership – Conditioned on Insider Ownership
Panel A: Tax-Motivated Dividend Paving Firms with Below Median Insider Ownership

Panel B	: Tax-Motivated Divid	dend Paying Firms w	ith Above Median In	sider Ownership	
	(1)	(2)	(3)	(4)	(5)
VARIABLES	RPCH	CAPX	R&D	DEBT	ISSUE
SPECIAL*POST*TII	0.0044	-0.0164	-0.0055**	0.0328**	0.0067
[Reflecting "Misaligned" Firms]	(1.06)	(-0.45)	(-2.12)	(2.05)	(0.84)
TII*POST	0.0019***	0.0069	0.0012*	-0.0023	-0.0018
	(3.18)	(1.44)	(1.93)	(-1.18)	(-1.07)
SPECIAL*POST	-0.0020	0.0025	0.0011	-0.0063	-0.0006
	(-1.59)	(0.19)	(1.26)	(-1.21)	(-0.24)
Constant	0.0021***	0.0353***	0.0089***	0.0052***	0.0067***
	(4.95)	(8.16)	(16.05)	(3.42)	(5.40)
Observations	34,718	34,718	34,718	34,718	34,718
Adjusted R-squared	0.390	0.461	0.885	0.031	0.179
Controls	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter
Cluster	Firm	Firm	Firm	Firm	Firm

 Table 4 (Continued)

 Effects of Q4 2012 Special Dividends by Tax-Insensitive Institutional Ownership – Conditioned on Insider Ownership

 Panel B: Tax-Motivated Dividend Paying Firms with Above Median Insider Ownership

This table reports the results of the difference-in-differences analysis of the effects of payments of tax-motivated dividends on investment and financing (*RPCH*, *CAPX*, *R&D*, *DEBT*, and *ISSUE*) in the post period, performing a cross-sectional examination based on both insider ownership and tax-insensitive institutional ownership. *SPECIAL* represents an indicator variable set to 1 for firms that pay a special dividend in Q4, 2012, and 0 otherwise. In Panel A, *SPECIAL* is conditioned on low (below-median) Q4, 2012 insider ownership for tax-motivated special dividend paying firms. In Panel B, *SPECIAL* is conditioned on high (above-median) Q4, 2012 insider ownership for tax-motivated special dividend paying firms. In Panel B, *SPECIAL* is conditioned on high (above-median) Q4, 2012 insider ownership for tax-motivated special dividend paying firms. *TII* represents a firm-level control for tax-insensitive institutional ownership in Q4, 2012. Because we are most interested in misaligned incentives, we evaluate increases in *TII* rather than *TS* to ease interpretation. *POST* equals 1 for Q4, 2012 and the following four quarters. The baseline effect of *SPECIAL* (*POST*) is absorbed by the firm (year-quarter) fixed effects. We include a full interaction of *POST* with controls. Standard errors are clustered by firm. Cluster robust t-statistics are in parentheses. Reported p-values are based on two-tailed tests.

Panel A: Ownership Category Multivariate Results							
	(1)	(2)	(3)	(4)	(5)		
VARIABLES	RPCH	CAPX	R&D	DEBT	ISSUE		
HI EXEC HI TS*POST	-0.0017	-0.0037	-0.0004	-0.0063	0.0008		
[ALIGN GROUP]	(-1.53)	(-0.29)	(-0.55)	(-1.40)	(0.34)		
HI_EXEC_LO_TS*POST	-0.0008	-0.0047	-0.0022***	0.0129**	0.0029		
[MISALIGN GROUP]	(-0.78)	(-0.49)	(-3.85)	(1.96)	(1.04)		
LO_EXEC_LO_TS*POST	-0.0032*	-0.0331***	-0.0000	0.0049	0.0001		
[WEAK_ALIGN GROUP]	(-1.79)	(-3.82)	(-0.00)	(1.06)	(0.06)		
LO_EXEC_HI_TS*POST	-0.0027	-0.0001	-0.0026*	0.0007	-0.0003		
[OTHER GROUP]	(-1.42)	(-0.01)	(-1.70)	(0.23)	(-0.16)		
Constant	0.0020***	0.0350***	0.0073***	0.0051***	0.0067***		
	(4.76)	(8.18)	(11.65)	(3.44)	(5.45)		
Observations	35,401	35,401	35,401	35,401	35,401		
Adjusted R-squared	0.387	0.460	0.881	0.031	0.179		
Controls	Yes	Yes	Yes	Yes	Yes		
Fixed Effects	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter		
Cluster	Firm	Firm	Firm	Firm	Firm		
Panel B: Descriptive Statistics for	or the Pre-Period Q4, 2012 Special	Dividend Paying Groups					
	ALIGN	MISALIGN	WEAK_ALI	GN	OTHER		
<u>N=</u>	234	242	240		237		
SPECIAL_PAID	0.0824**	0.1094	0.0969		0.1138*		
ASSETS	180.1292***	1244.3014	1548.6667**	**	1145.8110		
ROA	0.0158	0.0166	0.0243***	•	0.0148		
MTB	1.3117	1.0847***	2.1885***	•	1.0768***		
CASH	0.2527	0.1916***	0.2530		0.3078***		
LEVERAGE	0.0566***	0.1537**	0.1745***	•	0.1338		

 Table 5

 Effects of Q4 2012 Special Dividends by Ownership Category

Panel A of this table reports the results of the difference-in-differences analysis of the effects of payments of tax-motivated dividends on investment and financing (*RPCH*, *CAPX*, *R&D*, *DEBT*, and *ISSUE*) in the post period. In this analysis, we split the indicator variable for special dividend paying firms (*SPECIAL*) into four categories based on the mix of insider and tax-insensitive institutional ownership. *POST* equals 1 for Q4, 2012 and the following four quarters. The baseline effect of *POST* is absorbed by the year-quarter fixed effects. The baseline effect of each category is absorbed by firm fixed effects. We include a full interaction of *POST* with controls. Standard errors are clustered by firm. Cluster robust t-statistics are in parentheses. Panel B provides additional descriptive statistics for each category of special dividend payer. P-values in Panel B are based on the statistical difference between each category and the average value for all the other groups of special dividend paying firms. Reported p-values are based on two-tailed tests.

Table 6Announcement Abnormal Returns

	All Groups	ALIGN	MISALIGN	WEAK ALIGN	OTHER
N=	88	22	22	22	22
Mean	0.026*** [0.00]	0.043** [0.02]	0.004 [0.64]	0.015** [0.01]	0.039*** [0.00]
Median	0.015*** [0.00]	0.013	0.000 [0.84]	0.025*** [0.00]	0.039*** [0.00]
Test of	Differences: Misalign	ed vs the other categories (p	rediction: <i>MISALIGN < ALIGN</i>	, WEAK_ALIGN, and OTH	IER)
Mean Diff.	MISALIGN = All p=0.032**	MISALIGN= ALIGN p=0.045**	MISALIGN= WEAK_ALIGN p=0.132	MISALIGN = OTHER p=0.013**	
Median Diff.	p=0.015**	p=0.053*	p=0.075*	p=0.013**	
l est o	1 Differences: Aligned	t vs the other categories (pre	ediction: ALIGN > MISALIGN,	WEAK_ALIGN, and OTHE	<i>(K)</i>
Mean Diff.	ALIGN = All p=0.067*	ALIGN = MISALIGN p=0.045**	$ALIGN = WEAK_ALIGN$ p=0.099*	$\begin{array}{l} ALIGN = OTHER\\ p=0.444 \end{array}$	
Median Diff.	p=0.269	p=0.053*	p=0.333	p=0.292	
Panel B: 3 Da	y Announcemen	t Returns by Interact	ion of Ownership		
			(1)	(2)	
VARIABLES		Expected	CAR	CAR	
		Sign			
TII_STND*EX	EC_STND	(-)	-0.0055**	-0.0048	**
EXEC STND			(-1.95) -0.0092*	(- 2.05 -0.0085) **
TH STND			(-1.93) -0.0134**	(-2.18) **
			(-2.24)	(-2.41)
SPECIAL_PAID			0.0113 (1.44)	0.0080)
TOBINQ			-0.0363*	-0.0297	7*
Constant			0.0321*	(-1.75 0.0272) *
			(1.74)	(1.76)	
TEST:		(-)	-0.0281**	-0.0254*	***
TII_STND*EXI TII_STND + EX	$EC_STND + \\ KEC_STND = 0$		[0.01]	[0.01]	
Observations			88	108	
Adjusted R-squa	ured		0.101	0.084	
Financial Servic	es		No	Yes	

Panel A: 3 Day Announcement Returns By Grouping

Panel C: Univariate Evidence of I	Negative Returns o	f Misaligned Dividend	Payers	
`	Likelihood of No	egative Return (< 0.00	0)	
MISALIGN 0.500	Remaining Sample 0.303		Pred. +	Difference 0.197** (1.68)
Lik	elihood of Return	at 25th Percentile (<	-0.008)	
MISALIGN 0.409	Remaining Sample 0.212		Pred. +	Difference 0.197** (1.84)
Lik	elihood of Return	at 10th Percentile (<	-0.028)	
MISALIGN 0.182 Panal D: Likalihood of Nagati	Remaining 0.07	Sample 6	Pred. +	Difference 0.106* (1.42)
Tunei D. Likeunoou oj Negui	ve Keiurns by Ini	(1)	<u>р</u>	(2)
VARIABLES	Expected Sign	Negative Return		Negative Return
TII_STND*EXEC_STND	(+)	0.0281**		0.0296**
EXEC_STND		(1.71) 0.0198		(1.92) 0.0440 (1.24)
TII_STND		(0.47) 0.0592 (1.17)		(1.24) 0.0865* (1.92)
SPECIAL_PAID		-0.0256		-0.0132
TOBINQ		-0.0710 (-0.46)		-0.0625
Constant		0.5433*** (3.24)		0.5092*** (3.48)
TEST: <i>TII_STND*EXEC_STND</i> + <i>TII_STND</i> + <i>EXEC_STND</i> =	(+) 0	0.1071 [0.11]		0.1601** [0.03]
Observations Adjusted R-squared		88 0.045		108 0.047
Financial Services		No		Yes

		Та	ble 6 (Co	ontin	ued)	
	An	nounce	ement Ab	onori	mal Retur	ns
 		-				

This table reports the average cumulative abnormal returns [-1,1] around the announcement of special dividends in the fourth quarter of 2012. Cumulative abnormal returns (*CAR*) are based on the Fama French 5 Factor Model using the prior calendar year's returns. Robust t-statistics are in parentheses. F-test probabilities are reported in brackets. Panel A displays the abnormal returns by categorization of *SPECIAL* firms. Panel A also tests whether the *MISALIGN* (*ALIGN*) group return is less (greater) than the men and median return for all groups or the return of each of the other groups (one-tailed p-values). Panel B reports cross sectional results for *SPECIAL* firms' *CAR* regressed on standardized Q4, 2012 tax-insensitive institutional ownership (*TII_STND*) and standardized insider ownership (*EXEC_STND*). Panel C provides descriptive evidence of the likelihood that *SPECIAL* firms' *CAR* is negative (*CAR* < 0) regressed on the effect of standardized ownership variables. Because we are most interested in misaligned incentives, we evaluate increases in *TII* rather than evaluating *TS* to ease interpretation. Reported p-values are based on two-tailed (one-tailed) tests (where predicted).

Panel A: High and Low Hivi Score for Delayed Invest	ment Due to Finan	icing Constraints
	(1)	(2)
VARIABLES	R&D	CAPX
<i>HI_EXEC_HI_TS_HIGHDELAY *POST</i>	-0.0025***	
[MISALIGN GROUP High HM_DELAY Score]	(-2.72)	
HI EXEC HI TS LOWDELAY*POST	-0.0005	
[MISALIGN GROUP Low HM_DELAY Score]	(-0.50)	
LO_EXEC_LO_TS_HIGHDELAY *POST		-0.0426***
[WEAK_ALIGN GROUP High HM_DELAY Score]		(-3.03)
LO_EXEC_LO_TS_LOWDELAY*POST		-0.0255***
[WEAK_ALIGN GROUP Low HM_DELAY Score]		(-2.61)
Constant	0.0089***	0.0351***
	(16.08)	(8.18)
Observations	35,401	35,401
R-squared	0.892	0.495
Other Ownership Categories*Post	Yes	Yes
Controls	Yes	Yes
Fixed Effects	Firm/Year-	Firm/Year-
	Quarter	Quarter
Cluster	Firm	Firm

 Table 7

 Analysis of Financial Constraints

 Panel A: High and Low HM Score for Delayed Investment Due to Financing Constraints

	(1)	(2)
VARIABLES	R&D	CAPX
HI_EXEC_HI_TS_LOWCF*POST	-0.0021**	
[MISALIGN GROUP Low Sufficiency]	(-2.56)	
<i>HI_EXEC_HI_TS_HIGHCF *POST</i>	-0.0008	
[MISALIGN GROUP High Sufficiency]	(-0.51)	
LO EXEC LO TS LOWCE *POST		-0.0331***
IWEAK ALIGN GROUP Low Sufficiency		(-2.97)
LO EXEC LO TS HIGHCE *POST		-0.0332***
IWEAK ALIGN GROUP High Sufficiency		(-3,33)
Constant	0.0089***	0.0350***
	(16.08)	(8.18)
Observations	35.401	35.401
R-squared	0.892	0.495
Other Ownership Categories*Post	Yes	Yes
Controls	Yes	Yes
Fixed Effects	Firm/Year-Quarter	Firm/Year-Quarter
Cluster	Firm	Firm

Table 7 (Continued)Analysis of Financial ConstraintsPanel B: High and Low Cash Sufficiency Over Pre-Period Quarters

This table re-creates the analysis performed in Table 5 (cross-sectional analysis by category of payer), focusing specifically on *MISALIGN* (Column 1) and *WEAK_ALIGN* (Column 2) firms. Panel A reports the results of the difference-in-differences analysis after separating *MISALIGN* and *WEAK_ALIGN* firms by pre-period investment delay scores made available by Hoberg and Maksimovic (2015) (*HM_Delay* Scores). Observations within each group are partitioned on high (higher constraints) and low (lower constraints) *HM_DELAY* scores, split by median *HM_DELAY* scores within tax-motivated dividend paying firms. Panel B reports results for *MISALIGN* and *WEAK_ALIGN* firms with Low versus High Cash *Sufficiency*. Cash *Sufficiency* is calculated following Faulkender and Petersen (2012) as the percent of quarters during the pre-period that a firm is able to cover capital expenditures (NI + Interest Expense – CAPX). We classify a firm as High *Sufficiency* if it is able to cover capital expenditures during each of the pre-period quarters, and Low *Sufficiency* otherwise. *POST* equals 1 for Q4, 2012 and the following four quarters. The baseline effect of each category (*POST*) is absorbed by the firm (year-quarter) fixed effects. We include a full interaction of *POST* with controls. Standard errors are clustered by firm. Cluster robust t-statistics are in parentheses. Reported p-values are based on two-tailed tests.

I allel A. All	i anei A. Analysis by Low versus ingn insider Ownersnip									
	(1)	(2)	(3)	(4)						
VARIABLES	TFP (Low Insider	TFP (High Insider	TFP (Low Insider	TFP (High Insider						
	Ownership)	Ownership)	Ownership)	Ownership)						
Three-Way Interaction Reflects:	WEAK_ALIGN	MISALIGN	WEAK_ALIGN	MISALIGN						
SPFC14I *PAST*TH	-0.2695	-0 2426**								
Si Leine i Ost in	(1.26)	(1.08)								
TU*DOST	(-1.50)	(-1.96)								
111 1 031	(0.70)	(0.0202)								
SDECIAI *DOST*TIL STND	(0.70)	(0.71)	0.0254	0.0218**						
SFECIAL FOST III_SIND			-0.0334	-0.0318						
TH STND*DOST			(-1.30)	(-1.98)						
III_SIND FOST			0.0020	0.0027						
CDECIAI *DOCT	0 1511	0.0574	(0.70)	(0.71)						
SPECIAL "POSI	(1.08)	0.0574	0.0514	-0.0503						
TD (T)	(1.08)	(1.21)	(0.50)	(-1.01)						
	0.110	0.40544	0.004	0.00011						
TII_SIND*SPECIAL *POST	-0.118	-0.185**	-0.004	-0.082**						
+ SPECIAL *POST = 0	[0.13]	[0.04]	[0.98]	[0.04]						
Constant	-0.3940***	-0.3941***	-0.3940***	-0.3941***						
	(-12.86)	(-12.91)	(-12.86)	(-12.91)						
Observations	6 813	6 8 2 6	6 813	6 876						
Controls	0,015 Vec	0,820 Ves	Ves	0,820 Vec						
A divisted D servered	0.800	0.810	1 05	0.810						
Aujustea K-squarea	0.809 Einna/Vaan	U.81U Einne/Vaan	0.809 Einn /Vaan	U.81U Einne/Vaan						
Charter	Firm/Year	Firm/ Year	Firm/ Y ear	Firm/ Year						
Cluster	Firm	Firm	Firm	Firm						

Table 8Q4 2012 Special Dividend Payers and Total Factor Productivity
Panel A: Analysis by Low versus High Insider Ownership

Panel B: Analysis by Category						
	(1)	(2)				
VARIABLES	TFP	TFP				
SPECIAL*POST	-0.0270					
	(-1.42)					
HI_EXEC_HI_TS*POST		-0.0039				
[ALIGN GROUP]		(-0.10)				
HI EXEC LO TS*POST		-0.0507***				
[MISALIGN GROUP]		(-2.78)				
LO EXEC LO TS*POST		-0.0749				
[WEAK_ALIGN GROUP]		(-1.51)				
LO EXEC HI TS*POST		0.0426				
<i>OTHER GROUP</i>		(0.77)				
Constant	-0.7014***	-0.7019***				
	(-13.25)	(-13.33)				
Observations	6,859	6,859				
Adjusted R-squared	0.808	0.808				
Controls	Yes	Yes				
Fixed Effects	Firm/Year	Firm/Year				
Cluster	Firm	Firm				

Table 8 (Continued)Q4 2012 Special Dividend Payers and Total Factor ProductivityPanel B: Analysis by Category

This table reports the results of the difference-in-differences analysis of the effects of payments of tax-motivated special dividends on total factor productivity (*TFP*) in the post period. Panel A reports a cross-sectional examination of the association between post period *TFP* and tax-insensitive institutional ownership, split on insider ownership levels. Columns 1 and 2 (3 and 4) report *TII* (*TII_STND*). *SPECIAL* represents an indicator variable set to 1 for firms paying a special dividend in Q4, 2012, and 0 otherwise. This analysis is conditioned on low (below-median) Q4, 2012 insider ownership for tax-motivated special dividend paying firms in column 1 (3) and high (above-median) Q4, 2012 insider ownership for tax-motivated special dividend paying firms in column 2 (4). *TII* (*TII_STND*) represents a firm-level control for the (standardized) tax-insensitive institutional ownership in Q4, 2012. Because we are most interested in misaligned incentives, we evaluate increases in *TII* rather than *TS* to ease interpretation. Panel B reports the difference-in-differences analysis by category. *TFP* is calculated on an annual basis and this test is modified to use firm-year observations, resulting in a smaller number of observations than in our main tests. *POST* equals 1 for the calendar year 2012 and 2013 and 0 in the pre-period. The baseline effect of *POST* is absorbed by the year-quarter fixed effects. The baseline effect of *SPECIAL*, or of the individual groupings, is absorbed by firm fixed effects. We include a full interaction of *POST* with controls. Standard errors are clustered by firm. Cluster robust t-statistics are in parentheses. F-test probabilities are reported in brackets. Reported p-values are based on two-tailed tests.

Table 9							
	Falsification – Dividend Shifters						
	(1)	(2)	(3)	(4)	(5)		
VARIABLES	RPCH	САРХ	R&D	DEBT	ISSUE		
DIV SHIFT*POST	-0.0012	-0.0051	-0.0001	0.0021	0.0003		
-	(-1.07)	(-0.93)	(-0.22)	(0.74)	(0.31)		
Constant	0.0050***	0.0334***	0.0027***	0.0187***	0.0050***		
	(3.07)	(4.28)	(4.91)	(4.08)	(3.55)		
Observations	3,519	3,519	3,519	3,519	3,519		
Adjusted R-squared	0.341	0.449	0.685	0.010	0.041		
Fixed Effects	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter		
Cluster	Firm	Firm	Firm	Firm	Firm		

This table presents the results of an analysis of the effect of firms shifting dividends from January 2013 into December 2012 on investment and financing (*RPCH*, *CAPX*, *R&D*, *DEBT*, and *ISSUE*) in the post period. *DIV_SHIFT* represents a firm-level indicator variable for traditional January dividend payers that omit a dividend distribution in January 2013 and instead make a regular distribution in December 2012. We limit our sample to firms that are traditional January dividend payers to mitigate sample misspecification from firms that are unlikely to have similar investment or financing environments as a broader population of Compustat firms. *POST* equals 1 for Q4, 2014 and the following four quarters. The baseline effect of *DIV_SHIFT* (*POST*) is absorbed by the firm (year-quarter) fixed effects. We include a full interaction of *POST* with controls. Standard errors are clustered by firm. Cluster robust t-statistics are in parentheses.

	Panel A: Effec	t of O4. 2012 Special	Dividends Applied to 04.	2014	
	(1)	(2)	(3)	(4)	(5)
VARIABLES	RPCH	CAPX	R&D	DEBT	ISSUE
SPECIAL_PAID*POST	-0.0006	0.0008	-0.0013	0.0025	-0.0004
	(-0.79)	(0.22)	(-1.58)	(1.16)	(-1.16)
Observations	34,322	34,322	34,322	34,322	34,322
Adjusted R-squared	0.434	0.472	0.890	0.088	0.233
Controls	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Firm/Year-Quarter Fir	rm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter
Cluster	Firm	Firm	Firm	Firm	Firm
Panel B: Effe	cts of Q4, 2012 Special Divid	ends by Tax-Insensiti	ve Institutional Owners	hip (Conditioned on Lo	w Insider
	(1)	<i>Ownersnip) Appliea</i> (2)	<u>to Q4, 2014</u> (3)	(4)	(5)
VARIABLES	RPCH	CAPX	R&D	DEBT	ISSUE
	14 011			0001	
SPECIAL*TII*POST	0.0037	-0.0235	0.0023	-0.0094	-0.0066
	(1.01)	(-0.87)	(0.83)	(-0.83)	(-0.87)
Observations	33 669	33 669	33 669	33 669	33 669
Adjusted R-squared	0.395	0.435	0.881	0.021	0.191
Controls	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Firm/Year-Quarter	Firm/Year-Quarte	r Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter
Cluster	Firm	Firm	Firm	Firm	Firm
Panel C: Effec	cts of Q4, 2012 Special Divide	ends by Tax-Insensiti	ve Institutional Owners	hip (Conditioned on Hig	gh Insider
		Ownership) Applied	to Q4, 2014		
	(1)	(2)	(3)	(4)	(5)
VARIABLES	RPCH	САРХ	R&D	DEBT	ISSUE
SPFCIAL*TII*POST	-0.0074	-0.0349	-0.0030	-0.0120	-0.0097
SI LEML IN 1051	-0.0074	(-1.09)	-0.0030	(-0.48)	-0.0097
	(-1.00)	(-1.07)	(-0.07)	(-00)	(-1.56)
Observations	33,660	33,660	33,660	33,660	33,660
Adjusted R-squared	0.396	0.434	0.882	0.033	0.176
Controls	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Firm/Year-Quarter	Firm/Year-Quarte	r Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter
Cluster	Firm	Firm	Firm	Firm	Firm

 Table 10

 Trend Analysis - Falsification Test

 nel 4: Effect of 04, 2012 Special Dividende Amilied to 04, 20

This table reports the results of a falsification test for the firms that paid a special dividend in Q4, 2012. We move the dataset forward two years and test the post period effect of tax-motivated pseudo-payment on investment and financing (*RPCH*, *CAPX*, *R&D*, *DEBT*, and *ISSUE*) as if the dividend was paid Q4, 2014. Panel A reports the falsification test for H1 (revisiting Table 3). Panels B and C report the falsification test for H2, split on low and high insider ownership respectively (revisiting Table 4, Panels A and B). *SPECIAL_PAID* represents the special dividend paid in Q4, 2012 (as a percentage of 2011 average assets), and 0 for firms that do not pay special dividends during this period. *SPECIAL* represents an indicator variable set to 1 for firms paying a special dividend in Q4, 2012, and 0 otherwise. *TII* represents a firm-level control for the tax-insensitive institutional ownership in Q4, 2014. and the following four quarters. The baseline effect of *SPECIAL (POST)* is absorbed by the firm (year-quarter) fixed effects. We include a full interaction of *POST* with controls. Standard errors are clustered by firm. Cluster robust t-statistics are in parentheses. Reported p-values are based on two-tailed tests.

				Tax-N	Motivated 1	Pavers – By Category	V
	Non-payers	Tax-Motivated Pay	ers Align	ed Mis	aligned	Weak Aligned	Other
N=	23,426	953	234	,	242	240	237
Pct Sufficient Cash	0.6108	0.6424	0.709	0.	6186	0.7818	0.7665
Cash	0.1869	0.2503	0.252	.7 0.	1916	0.2530	0.3078
Qtrly Reg Dividend	0.0022	0.0008	0.000	2 0.	0000	0.0019	0.0001
ROA	0.0056	0.0174	0.015	8 0.	0166	0.0243	0.0148
МТВ	1.4063	1.4463	1.311	7 1.	0847	2.1885	1.0768
Р	anel B: Finan	cial Ratio Analysis by	Tax-Motivated	Payer Categor	y in the Po	ost-Period	
				Tax-N	Iotivated I	Payers – By Category	7
	Non-payers	Tax-Motivated Pay	ers Aligi	ned Mi	saligned	Weak Aligned	Other
N=	10,602	420	10)	110	108	102
Pct Sufficient Cash	0.5577	0.6628	0.67	68 ().5586	0.7451	0.7196
Cash	0.2089	0.2505	0.25	99 ().1709	0.2154	0.3206
Qtrly Reg Dividend	0.0035	0.0015	0.00	10 (0.0000	0.0043	0.0005
ROA	0.0026	0.0175	0.02	13 ().0133	0.0212	0.0193
MTB	1.4956	1.7369	1.61	01 1	1.3791	2.5883	1.3621
		Panel C: Tax-M	otivated Payou	ts by Category			
				Tax-Motivat	ed Payers	– By Category	
	Tax-Moti	vated Payers A	Aligned	Misaligned		Weak Aligned	Other
N=		88	22	22		22	22
Average Payout (in millions)	\$	65.94	\$5.72	\$88.09		\$77.56	\$92.39
Special Paid Scaled by 2011 Asset	s C	0.100	0.076	0.116		0.096	0.112
2011 Assets (in millions)	\$6	559.40	\$75.26	\$759.40		\$807.92	\$824.91
Aggregate Payout (in millions)	\$5.	.802.72	5125.85	\$1,937.98		\$1,706.32	\$2,032.48

ONLINE APPENDIX Online Appendix Section 1 Panel A: Financial Ratio Analysis by Tax-Motivated Paver Category in the Pre-Period

Panel A (B) presents descriptive statistics based on the 11 (5) quarters ending prior to (beginning) Q4 2012, by tax-motivated payer category. Recall that "non-payers" are firms that make payouts, but do not pay tax-motivated dividends. Table 5, Panel B also reports *ROA* and *MTB* for the pre-period by category of payer, mirroring Panel A here. Overall, tax-motivated dividend payers *do not* appear to have weaker investment opportunities than non-payers. Panel C reports the aggregate payout in Q4 2012 for the tax-motivated payers, by payer category. Note that the Special Paid in this table differs slightly from that reported in Table 2, Panel C because Panel C here includes only the Q4 2012 payouts (e.g., one observation per firm) whereas Table 2, Panel C uses an unbalanced sample of firm-quarters. *Pct Sufficient Cash* is the percent of quarters during the pre-period (or post-period) that a firm has sufficient cash to cover investment (Net income + interest – capx; Faulkender and Peterson, 2012). *Cash* is quarterly cash and cash equivalents scaled by assets. *Qtrly Reg Dividend* is defined as the total amount of regular dividends distributed during a quarter scaled by assets. *ROA* is defined as income before extraordinary items scaled by assets.

	(1)	(2)	(3)	(4)	(5)
VARIABLES	RPCH	CAPX	R&D	DEBT	ISSUE
EXEC*TII*POST	0.0414**	0.1552	-0.0220**	0.1436*	0.0535
[Reflecting "Misaligned" Firms]	(2.10)	(1.09)	(-2.03)	(1.69)	(1.21)
EXEC*POST	-0.0097	-0.0688	0.0082*	-0.0094	-0.0007
	(-1.57)	(-1.37)	(1.72)	(-0.43)	(-0.07)
TII*POST	-0.0067*	-0.0529**	0.0037	0.0060	-0.0009
[Reflecting "Weakly Aligned" Firms]	(-1.65)	(-2.00)	(1.22)	(0.44)	(-0.18)
Constant	0.0014	0.0556***	0.0077***	-0.0024	-0.0020
	(1.19)	(4.47)	(5.21)	(-0.78)	(-0.68)
Observations	1,373	1,373	1,373	1,373	1,373
Controls	Yes	Yes	Yes	Yes	Yes
Adjusted R-squared	0.279	0.451	0.841	0.055	0.128
Fixed Effects	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter
Cluster	Firm	Firm	Firm	Firm	Firm

Online Appendix Section 2 Cross-sectional Analysis of Ownership Interaction within Tax-Motivated Dividend Payers Only

This table reports the effect of ownership (*TII* and *EXEC*) on post period investment and financing outcomes specifically within the *SPECIAL* firms. *POST* equals 1 for Q4, 2012 and the following four quarters. The baseline effect of *POST* is absorbed by the yearquarter fixed effects. Because we remove firms that do not pay tax-motivated special dividends, we are able to interact *EXEC*TII*. *EXEC*TII*POST* represents the influence of increased misalignment of tax incentives on financing outcomes (e.g., misaligned firms). *TII*POST* represents the effect of increasing institutional ownership when *EXEC* approaches 0 (e.g., weak aligned firms). Results are consistent with our primary analyses, suggesting that as misalignment increases, R&D decreases in the post period. Alternatively, when "weak alignment" increases, *CAPX* decreases in the post period. We include a full interaction of *POST* with controls. Standard errors are clustered by firm. Cluster robust t-statistics are in parentheses. Reported p-values are based on two-tailed tests.

200 unu 20 , 2	oli (Standar allea Stanters	
	(1)	(2)
VARIABLES	3 DAY	3 DAY
TII_STND*EXEC_STND	0.0014	0.0069*
	(1.08)	(2.61)
EXEC_STND	-0.0029	-0.0049
	(-0.85)	(-0.37)
TII STND	-0.0035	0.0016
—	(-0.96)	(0.14)
PAYOUT	0.3466	0.5762
	(1.22)	(1.71)
TOBINQ	-0.0082	-0.1415
~	(-0.98)	(-1.69)
Constant	0.0144	0.1645
	(1.86)	(2.26)
TEST: TII STND*EXEC STND +	-0.0050	0.0036
$EXEC_STND + TII_STND = 0$	[0.44]	[0.89]
Observations	370	38
Adjusted R-squared	0.070	0.400
Sample	All Prior Div., Q1 2009	Prior Specials, Q1 2009
1	to Q3 2012	to Q3 2012
Fixed Effects	Firm/Year-Quarter	Firm/Year-Quarter
Cluster	Firm	Firm

Online Appendix Section 3 Analysis of Reaction to Previous Dividend Announcements by Ownership between Q1, 2009 and O3, 2012 (Standardized Ownership)

This table reports the analysis of the interactive effect of standardized ownership tax sensitivity (*EXEC* and *TII*, as of Q4 2012) on the dividend announcement *CAR*s of firms that pay taxmotivated dividends (i.e., *SPECIAL* = 1) for those firms' dividends announced between Q1, 2009 and Q3, 2012. The purpose of this analysis is to rule out the possibility that, unrelated to taxmotivated dividends, tax-motivated payers with different ownership structures simply have differing dividend announcement returns. Column 1 uses announcement *CAR*s for prior dividend announcements for all dividend types (regular and special) for firms that pay tax motivated dividends, finding that tax sensitivity of the owners is unrelated to the price reaction. Column 2 uses announcement *CAR*s for prior special dividends. Interestingly, Column 2's interaction between *TII_STND*EXEC_STND* is positive (p<0.10) for prior special dividends, suggesting that non-tax motivated special dividends paid among this group are typically positive for firm value (in contrast to the negative effect for tax-motivated dividends paid by these firms). Cluster robust t-statistics are in parentheses. P-values are in brackets. Reported p-values are based on two-tailed tests.

Online Appendix Section 4							
Main Res	Main Results (H1) – Comparison to High Dividend Paying Firms (Above Median Regular Dividend Payout)						
	(1)	(2)	(3)	(4)	(5)		
VARIABLES	RPCH	CAPX	R&D	DEBT	ISSUE		
SPECIAL_PAID*POST	-0.0128* (-1.77)	-0.0602* (-1.90)	-0.0107** (-2.57)	0.0008 (0.06)	-0.0062 (-1.22)		
Constant	0.0028***	0.0235***	0.0042***	0.0063**	0.0043**		
	(2.93)	(3.96)	(7.09)	(2.43)	(2.26)		
Observations	10,247	10,247	10,247	10,247	10,247		
Adjusted R-squared	0.422	0.454	0.824	0.040	0.131		
Controls	Yes	Yes	Yes	Yes	Yes		
Fixed Effects	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter		
Cluster	Firm	Firm	Firm	Firm	Firm		

This table reports the results of the difference-in-differences analysis of the effects of payments of tax-motivated dividends on investment and financing (*RPCH*, *CAPX*, *R&D*, *DEBT*, and *ISSUE*) in the post period, similar to Table 3, Panel A. Counterfactual firms are limited to a subset of firms that make regular dividends greater than the median amount paid, scaled by 2011 assets, during the pre-period. *SPECIAL_PAID* represents special dividends paid in Q4, 2012 (scaled by 2011 average assets), and 0 for firms that do not pay special dividends during this period. *POST* equals 1 for Q4, 2012 and the following four quarters. The baseline effect of *SPECIAL_PAID* (*POST*) is absorbed by the firm (year-quarter) fixed effects. We include a full interaction of *POST* with controls. Standard errors are clustered by firm. Cluster robust t-statistics are in parentheses. Reported p-values are based on two-tailed tests.

Category Results (H2) – Comparison to High Dividend Paying Firms (Above Median Regular Dividend Payout)						
	(1)	(2)	(3)	(4)	(5)	
VARIABLES	RPCH	CAPX	R&D	DEBT	ISSUE	
HI_EXEC_HI_TS*POST	-0.0011	0.0043	0.0004	-0.0078*	-0.0008	
[ALIGN GROUP]	(-0.89)	(0.34)	(0.68)	(-1.82)	(-0.37)	
HI_EXEC_LO_TS*POST	-0.0003	0.0004	-0.0011**	0.0107	0.0015	
[MISALIGN GROUP]	(-0.25)	(0.05)	(-2.07)	(1.62)	(0.53)	
LO EXEC LO TS*POST	-0.0028	-0.0205***	0.0008	0.0048	-0.0012	
[WEAK_ALIGN GROUP]	(-1.52)	(-2.77)	(1.24)	(1.07)	(-0.86)	
LO_EXEC_HI_TS*POST	-0.0022	0.0062	-0.0018	-0.0013	-0.0030	
[OTHER GROUP]	(-1.14)	(0.60)	(-1.17)	(-0.40)	(-1.55)	
Constant	0.0028***	0.0238***	0.0041***	0.0064**	0.0044**	
	(2.94)	(4.02)	(6.92)	(2.49)	(2.27)	
Observations	10.247	10,247	10,247	10,247	10.247	
Adjusted R-squared	0.422	0.454	0.823	0.040	0.131	
Controls	Yes	Yes	Yes	Yes	Yes	
Fixed Effects	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter	
Cluster	Firm	Firm	Firm	Firm	Firm	

Online Appendix Section 5 Category Results (H2) – Comparison to High Dividend Paying Firms (Above Median Regular Dividend Payout

This table reports the results of the difference-in-differences analysis of the effects of payments of tax-motivated dividends on investment and financing (*RPCH*, *CAPX*, *R&D*, *DEBT*, and *ISSUE*) in the post period, similar to Table 5. Counterfactual firms are limited to those that pay regular dividends greater than the median amount paid during the pre-period, scaled by 2011 assets. In this analysis, we split the indicator variable for special dividend paying firms (*SPECIAL*) into four categories based on the mix of insider and tax-insensitive institutional ownership. *POST* equals 1 for Q4, 2012 and the following four quarters. The baseline effect of each grouping (*POST*) is absorbed by the firm (year-quarter) fixed effects. We include a full interaction of *POST* with controls. Standard errors are clustered by firm. Cluster robust t-statistics are in parentheses. Reported p-values are based on two-tailed tests.

Online Appendix Section 6							
N	Matching (CEM) Dividend Payers on Industry, Size, ROA, and MTB – Revisiting H1						
	(1)	(2)	(3)	(4)	(5)		
VARIABLES	RPCH	CAPX	R&D	DEBT	ISSUE		
SPECIAL_PAID*POST	-0.0186**	-0.0922*	-0.0184***	0.0169	-0.0035		
	(-2.00)	(-1.94)	(-4.07)	(1.10)	(-0.52)		
POST	0.0039***	0.0229***	0.0013**	0.0126***	0.0010		
	(4.54)	(3.59)	(2.57)	(3.45)	(0.62)		
Constant	0.0026***	0.0204**	0.0080***	0.0104***	0.0040***		
	(3.22)	(2.57)	(14.43)	(4.49)	(3.54)		
Observations	14,231	14,231	14,231	14,231	14,231		
Adjusted R-squared	0.289	0.454	0.888	0.027	0.076		
Controls	Yes	Yes	Yes	Yes	Yes		
Fixed Effects	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter		
Cluster	Firm	Firm	Firm	Firm	Firm		

This table reports the results of the difference-in-differences analysis of the effects of payments of tax-motivated dividends on investment and financing (*RPCH*, *CAPX*, *R&D*, *DEBT*, and *ISSUE*) in the post period, repeating Table 3, Panel A in a matched sample. *SPECIAL_PAID* represents special dividends paid in Q4, 2012 (scaled by 2011 average assets), and 0 for firms that do not pay specials during this period. Counterfactual firms are limited to a subset of firms that are matched to dividend distribution firms on industry (FF30), *SIZE*, *ROA*, and *MTB*. *POST* equals 1 for Q4, 2012 and the following four quarters. The baseline effect of *SPECIAL_PAID* (*POST*) is absorbed by the firm (year-quarter) fixed effects. We include a full interaction of *POST* with controls. Standard errors are clustered by firm. Cluster robust t-statistics are in parentheses. Reported p-values are based on two-tailed tests.

	H2	
	(1)	(2)
VARIABLES	R&D	CAPX
HI EXEC LO TS*POST	-0.0014**	
[MISALIGNED GROUP]	(-2.06)	
LO_EXEC_LO_TS*POST		-0.0281**
[WEAK_ALIGNED GROUP]		(-2.53)
Constant	0.0091***	-0.0098
	(6.41)	(-0.39)
Observations	5,657	3,658
Adjusted R-squared	0.908	0.528
Sample Matched to	MISALIGNED	WEAK_ALIGNED
Other Ownership Categories*Post	Yes	Yes
Controls	Yes	Yes
Fixed Effects	Firm/Year-Quarter	Firm/Year-Quarter
Cluster	Firm	Firm

Online Appendix Section 7 Matching (CEM) on Ownership Category by Industry, ROA, MTB, and SIZE – Revisiting

This table reports the results of the difference-in-differences analysis of the effects of payments of tax-motivated dividends on investment in the post period, specifically examining *R&D* for *MISALIGNED* (Column 1) and *CAPX* for *WEAK_ALIGNED* (Column 2) dividend payers, similar to Table 5, Panel A. Counterfactual firms are limited to a subset of firms that are matched specifically to *MISALIGNED* (Column 1) or *WEAK_ALIGNED* (Column 2) firms on industry (FF30), *SIZE*, *ROA*, and *MTB*. *POST* equals 1 for Q4, 2012 and the following four quarters. The baseline effect of each group (*POST*) is absorbed by the firm (year-quarter) fixed effects. We include a full interaction of *POST* with controls. Standard errors are clustered by firm. Cluster robust t-statistics are in parentheses. Reported p-values are based on two-tailed tests.
Matching (CEM) on Ownership Category by EXEC and TII – Revisiting H2				
	(1)	(2)		
VARIABLES	R&D	CAPX		
HI EXEC LO TS*POST	-0.0029*			
[MISALIGNED GROUP]	(-1.95)			
LO_EXEC_LO_TS*POST		-0.0483***		
[WEAK_ALIGNED GROUP]		(-2.70)		
Constant	0.0103***	0.0354***		
	(3.62)	(5.54)		
Observations	7,497	13,828		
Adjusted R-squared	0.910	0.536		
Sample Matched to	MISALIGNED	WEAK_ALIGNED		
Controls	Yes Yes			
Fixed Effects	Firm/Year-Quarter Firm/Year-Quarter			
Cluster	Firm Firm			

Online Appendix Section 8 Astabing (CEM) on Ownorship Catagory by EXEC and TH – Povisiting

This table reports the results of the difference-in-differences analysis of the effects of payments of tax-motivated dividends on investment in the post period, specifically examining *R&D* for *MISALIGNED* (Column 1) and *CAPX* for *WEAK_ALIGNED* (Column 2) dividend payers, similar to Table 5, Panel A (however, we do not control for various ownership types in each model because we match on ownership type). Counterfactual firms are limited to a subset of firms that are matched specifically to *MISALIGNED* (Column 1) or *WEAK_ALIGNED* (Column 2) firms on *EXEC* and *TII* ownership. *POST* equals 1 for Q4, 2012 and the following four quarters. The baseline effect of each group (*POST*) is absorbed by the firm (year-quarter) fixed effects. We include a full interaction of *POST* with controls. Standard errors are clustered by firm. Cluster robust t-statistics are in parentheses. Reported p-values are based on two-tailed tests.

Online Appendix Section 9 Analysis of Cash Holdings

To provide statistical tests associated with our Figure 4 analysis of cash holdings, we re-perform our main analyses from Table 3 (untabulated) by replacing the dependent variable with cash and cash equivalents (*CHEQ*) scaled by average 2011 assets. We find that cash does not significantly decrease, on average, in the post-period suggesting that firms use the other financing sources we previously identified to fund their tax-motivated dividends while maintaining their cash balances. When we split this analysis into groups as in Table 5, presented below, we find that only the *WEAK_ALIGN* group has a statistically negative relationship with cash (p<0.01). This is consistent with institutional owners using the tax-motivated distribution as an opportunity to reduce available cash ahead of the tax rate increase (Chetty and Saez 2010).

	(1)		
VARIABLES	CASH		
HI_EXEC_HI_TS*POST	-0.0238		
[ALIGN GROUP]	(-0.77)		
HI EXEC LO TS*POST	-0.0174		
[MĪSALIĠN ĠROUP]	(-0.53)		
LO_EXEC_LO_TS*POST	-0.0582***		
[WEAK_ALIGN GROUP]	(-3.05)		
LO_EXEC_HI_TS*POST	-0.0023		
[OTHER GROUP]	(-0.05)		
Constant	0.1800***		
	(25.94)		
Observations	35,401		
Controls	Yes		
Adjusted R-squared	ed R-squared 0.821		
Fixed Effects	Firm/Year-Quarter		
Cluster	Firm		

This table reports the results of the difference-in-differences analysis of the effects of payments of tax-motivated dividends on *CASH* (Compustat: CHEQ) scaled by 2011 assets. In this analysis, we split the indicator variable for special dividend paying firms (*SPECIAL*) into four categories based on the mix of insider and tax-insensitive institutional ownership. *POST* equals 1 for Q4, 2012 and the following four quarters. The baseline effect of each grouping (*POST*) is absorbed by the firm (year-quarter) fixed effects. We include a full interaction of *POST* with controls. Standard errors are clustered by firm. Cluster robust t-statistics are in parentheses. Reported p-values are based on two-tailed tests.

Online Appendix Section 10 Analysis of Investment Efficiency

We also examine the change in investment efficiency in the *POST* period for each ownership structure (i.e., grouping) for tax-motivated payers. Following Richardson (2006) and Biddle et al. (2009), we regress investment (*CAPX* + R&D) on cash, leverage, revenue growth, and size by industry and quarter.¹ Following Biddle et al. (2009), we rank the residuals by quartile and set an indicator variable to 1 if a firm's residual falls in the two middle quartiles (2 and 3), representing firms at their "expected" investment level. The bottom (top) quartile represents under- (over-)investors. First, we run a linear probability model examining the likelihood that a firm falls within the two middle quartiles, retaining firm and quarter fixed effects along with our initial control variables. We report results in Panel A below. We find that the *WEAK_ALIGN* group does not become more or less likely to invest efficiently in the post period. However, we find that the *MISALIGN* group becomes approximately 11% less likely to invest efficiently in the post period.

Next, we examine the likelihood of each ownership category being over- or underinvestors in the pre- and post-periods using a multinomial logit model. We report results in Panel B below. We find *WEAK_ALIGN* firms are significantly less likely to over-invest (column 2) in both the pre- (*WEAK_ALIGN* coefficient) and post-periods (*WEAK_ALIGN* + *WEAK_ALIGN*POST*). These results are consistent with *WEAK_ALIGN* firms' tax-motivated dividends being driven by institutional investors acting as external monitors, using dividend policy to monitor investment. Conversely, we find *MISALIGN* firms are no more or less likely to under- (column 1) or over-invest (column 2) in the *pre*-period (i.e., the main effect on *MISALIGN*). However, in the post-period, the *MISALIGN* group is significantly more likely to *over* invest (column 2, *MISALIGN* + *MISALIGN*POST*). This is likely driven by a lack of reduction to *CAPX* in the post-period for *MISALIGN* firms. Thus, while misaligned payers cut *R&D* following the tax-motivated dividend, they are reluctant to cut *CAPX*. Reducing *R&D* while maintaining *CAPX* levels is consistent with managerial myopia.

¹ Independent variables are lagged by the prior four quarters. Cash (Compustat: CHEQ) and leverage (Compustat: DLTTQ) are scaled by size (i.e., assets [ATQ]). Revenue growth is calculated as the percentage change in revenue (Compustat: REVT) from four quarters prior. Industry is measured using Fama French 48 industries.

Panel A: Expected Investment			
(1)			
VARIABLES	Expected Investment Level		
HI EXEC HI TS*POST	0.0742		
[ALIGN GROUP]	(0.87)		
HI EXEC LO TS*POST	-0.1097*		
[MĪSALIĠN ĠROUP]	(-1.83)		
LO EXEC LO TS*POST	0.0175		
[WEAK_ALIGN GROUP]	(0.22)		
LO_EXEC_HI_TS*POST	-0.1448**		
[OTHER GROUP]	(-2.14)		
Constant	0.4941***		
	(32.25)		
Observations	35.401		
R-squared	0.403		
Controls	Yes		
Fixed Effects	Firm/Year-Quarter		
Cluster	Firm		

Online Appendix Section 10 (Continued) Analysis of Investment Efficiency

This table presents the analysis of changes to "Expected Investment Level" for each group of tax motivated dividend payers. Expected investment is set to 1 if investment falls within the middle two quartiles (2 and 3) from the first stage regression of CAPEX+R&D on cash, leverage, revenue growth, size, industry, and quarter (Biddle et al. 2009). *POST* equals 1 for Q4, 2012 and the following four quarters. The baseline effect of each grouping (*POST*) is absorbed by the firm (year-quarter) fixed effects. We include a full interaction of *POST* with controls. Standard errors are clustered by firm. Cluster robust t-statistics are in parentheses. Reported p-values are based on two-tailed tests.

Panel B: Multinomial Logit Model of Under and Over Investment					
	(1)	(2)			
VARIABLES	Underinvest	Overinvest			
ALIGN*POST	-0.3148	-0.8622*			
	(-0.83)	(-1.78)			
MISALIGN*POST	-0.1104	0.5941**			
	(-0.32)	(2.33)			
OTHER*POST	0.5998**	0.6131			
	(2.15)	(1.18)			
WEAK_ALIGN*POST	-0.3170	0.2315			
	(-0.98)	(0.42)			
ALIGN	0.2833	-0.7994*			
	(0.69)	(-1.92)			
MISALIGN	-0.1041	0.1120			
	(-0.26)	(0.32)			
OTHER	0.5126	-0.6172**			
	(1.58)	(-2.04)			
WEAK ALIGN	-0.1228	-0.8914***			
—	(-0.37)	(-2.59)			
Constant	-0.8303***	-1.0756***			
	(-11.85)	(-16.19)			
TEST: MISALIGN +	-0.2145	0.7061***			
MISALIGN*POST = 0	[0.94] [0.00]				
TEST: WEAK ALIGN +	0.4398	-0.6599*			
$WEAK_ALIGN*POST = 0$	[0.27]	[0.07]			
Observations	35,401	35,401			
Fixed Effects	FF48/Year-Ouarter	FF48/Year-Ouarter			
Controls	Yes	Yes			
Cluster	Firm Firm				

Online Appendix Section 10 (Continued) Analysis of Investment Efficiency

This table presents the results of a multinomial logit regression. Underinvest = 1 (Overinvest = 1) if firm investment falls within the bottom (top) quartile based on the first stage regression outlined in Panel A. The comparison category represents firm-year observations within the "Expected Investment Level" of the middle two quartiles. In this multinomial logit model, we replace firm fixed effects with Fama French 48 industry fixed effects to avoid the incidental parameters problem (Greene 2004). *POST* equals 1 for Q4, 2012 and the following four quarters. The baseline effect of each grouping (*POST*) is absorbed by the firm (year-quarter) fixed effects. We include a full interaction of *POST* with controls. Standard errors are clustered by firm. Cluster robust Z-statistics are in parentheses. P-values are in brackets. Reported p-values are based on two-tailed tests.

Online Appendix Section 11 Effect of Tax Versus Non-Tax Motivated Special Dividends – Generalized Difference-in-Differences Model

Our analyses suggest that firms are willing to fund tax-motivated dividends by reducing subsequent investment. However, it is not clear how the costs of tax-motivated dividends differ from traditional (non-tax motivated) *special* dividends. Farre-Mensa et al. (2018) suggest that firms often fund discretionary payouts through debt and equity issuance to realign capital structure and satisfy various goals, but they do not examine investment implications of these decisions.²

We use a generalized difference-in-differences test to examine the real effects of special dividends between 2006 and 2017. We begin in 2006 to avoid special dividends associated with the 2003 JGTRRA dividend tax cut. Because we examine differences between the effects of tax versus non-tax motivated special dividends, we limit this sample to dividend payers. We identify two types of special dividends. We classify special dividends paid during the fourth quarter of 2010 and 2012 as "tax-motivated" dividends (Hanlon and Hoopes, 2014).³ We classify other special dividends during this window as "non-tax motivated."⁴ We use the same dependent variables and covariates from our primary analysis.⁵ We continue to find that tax-motivated dividends result in a significant post period reduction to capital expenditures, R&D, and repurchases. These reductions are significantly more negative than reductions associated with non-tax motivated dividends (p=0.022, p=0.051, and p=0.000 respectively), and the only significant post-period investment effect for non-tax motivated dividends is a reduction to R&D, which is generally consistent with Fama's (1974) finding that most dividends do not affect investment.

² Almeida et al. (2016) find that firms reduce capital expenditures and R&D in order to fund accretive *repurchases* to avoid an earnings miss. Wang et al. (2021) similarly examine funding of repurchases.

³ We include Q4, 2010 distributions since this generalized difference-in-differences analysis does not require specific emphasis on a pre-period, which, for 2010 would likely be influenced by the financial crisis.

⁴ To the extent that non-tax motivated dividends are indeed made for tax-related reasons, it would bias against finding differences between the two types of special dividend payments.

⁵ In our primary tests, we scale capital expenditures by net property, plant, and equipment in 2011. For simplicity, and because Compustat assets are better populated than property, plant, and equipment over this extended sample period, we scale capital expenditures by assets in this generalized difference-in-differences design.

Online Appendix Section 11 (Continued) Effect of Tax Versus Non-Tax Motivated Special Dividends

	(1)	(2)	(3)	(4)	(5)
VARIABLES	RPCH	CAPX	R&D	DEBT	ISSUE
TAX_SPECIAL	-0.0010***	-0.0008**	-0.0010**	-0.0013	-0.0002
	(-2.72)	(-2.21)	(-2.08)	(-1.12)	(-0.42)
NON TAX SPECIAL	0.0001	-0.0001	-0.0002**	-0.0002	-0.0002*
	(0.54)	(-1.06)	(-2.09)	(-0.96)	(-1.79)
Test: TAX SPECIAL =	-0.0011***	-0.0007**	-0.0080*	-0.0011	0.0000
NON_TAX_SPECIAL	[0.00]	[0.02]	[0.05]	[0.34]	[0.97]
Observations	62,944	62,944	62,944	62,944	62,944
Controls	Yes	Yes	Yes	Yes	Yes
Adjusted R-squared	0.273	0.533	0.771	0.021	0.126
Fixed Effects	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter	Firm/Year-Quarter
Cluster	Firm	Firm	Firm	Firm	Firm

This table presents the results of a generalized difference-in-differences test of the effect of special dividends on financing and investments using a firm-quarter panel of dividend paying firms between 2006 and 2017. *TAX_SPECIAL* and *NON_TAX_SPECIAL* represents the magnitude of a special dividend payout during the fourth quarter of 2010 or 2012 (all other special dividends) scaled by prior quarter assets. These variables are set equal to their values for the following four quarters, 0 otherwise. This is analogous to *TREAT*POST* where *TREAT* is subsumed by firm fixed effects and *POST* is subsumed by time fixed effects. Standard errors are clustered by firm. Cluster robust t-statistics are in parentheses. Reported p-values are based on two-tailed tests.

Online Appendix Section 12 Trends Analysis for Remaining Variables – Debt, Issuance, and TFP



Panel A: Debt Issuance

Panel B: Equity Issuance



Panel C: Total Factor Productivity



This figure presents the coefficient and accompanying 95% confidence interval by quarter for the additional dependent variables that do not realize a significant change in the post payout period. We examine the trends during our sample pre-period, our sample post period, and an extended post period to evaluate the long-run effect on financing. Panel A presents debt issuance. Panel B presents equity issuance. Panel C presents total factor productivity. We do not provide an extended post period for total factor productivity because our data ends in 2013.