What do firms do when dividend tax rates change? An examination of alternative payout responses

Citation: Hanlon, Michelle, and Jeffrey L. Hoopes. "What Do Firms Do When Dividend Tax Rates Change? An Examination of Alternative Payout Responses." Journal of Financial Economics 114, no. 1 (October 2014): 105–124.

As Published: http://dx.doi.org/10.1016/J.JFINECO.2014.06.004

Publisher: Elsevier BV

Persistent URL: http://hdl.handle.net/1721.1/119645

Version: Original manuscript: author's manuscript prior to formal peer review

What Do Firms Do When Dividend Tax Rates Change? An Examination of Alternative Payout Responses

Michelle Hanlon
MIT
mhanlon@mit.edu

Jeffrey L. Hoopes
The Ohio State University
hoopes@fisher.osu.edu

Draft: November 26, 2013

Abstract: This paper investigates whether investor-level taxes affect corporate payout policy decisions. We predict and find a surge of special dividends in the final months of 2010 and 2012, immediately before individual-level dividend tax rates were expected to increase. We also find evidence that immediately before the expected tax increases, firms altered the timing of their regular dividend payments by shifting what would normally be January regular dividend payments into December. To our knowledge this is the first evidence in the literature about the timing of regular dividend payments in response to tax law changes. For both actions (specials and shifting), we find that it was more likely for a firm to respond to individual-level tax rates if insiders owned a relatively large amount of the firm. Overall, our paper provides evidence that managers consider individual-level taxes in making payout decisions.

Keywords: Dividend taxes, payout policy
JEL Codes: G35, G38, G32

We appreciate comments from an anonymous referee, participants at the 2011 World Conference of the International Institute of Public Finance, 2011 BYU Accounting Symposium, MITax Reading Group, 2011 National Tax Association Meeting, and workshop participants at Arizona State University, University of Texas at Austin, University of Wisconsin-Madison, and the Arizona State University Tax Readings Group. We also thank Erlend Bø (discussant), Jennifer Blouin, Dane Christensen, Harry De Angelo, Lisa De Simone, Jesse Edgerton (discussant), Cristi Gleason, David Kenchington, Terry Shevlin, Nemit Shroff, Doug Skinner and Jake Thornock for comments on an earlier draft of the paper. Jeffrey Hoopes thanks the Deloitte Foundation, the Paton Foundation, and the Office of Tax Policy Research for their financial support.

1. Introduction

This paper examines whether corporate payout policy decisions are made in response to investor tax preferences. The goal of the firm is to maximize shareholder wealth but unambiguous evidence in the literature consistent with managers taking actions consistent with this goal is limited. We examine corporate payout behavior around two expected increases in individual-level dividend tax rates. We find that corporations responded by paying special dividends in advance of the tax rate increase and by shifting regular dividends into the expected lower-taxed-period. This evidence is consistent with corporations making decisions in response to investor-level taxes in order to maximize shareholder wealth.

The two tax rate events that we study are the expected individual-level dividend tax rate increases set to take effect on January 1, 2011 and January 1, 2013. As background, the Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA, aka the Bush Tax Cuts) lowered individual tax rates on ordinary, capital gain, and dividend incomes. Specifically, the tax rate on qualified dividends was lowered to a maximum of 15 percent. Previously the dividend tax rate was set equal to the ordinary income tax rate for the taxpayer receiving the dividends (e.g., the highest ordinary rate prior to JGTRRA was 39.6%). The lower tax rates (ordinary, capital, and dividend) established by JGTRRA were scheduled to expire (sunset) on December 31, 2010, after which the tax rates would increase back to pre-JGTRRA rates.

Through late 2010 there was considerable uncertainty regarding extension of the low tax rate; deadlock in Congress made some deem it likely that no congressional action would be taken, the provisions would sunset, and the dividend rate would revert back to pre-JGTRRA levels (e.g. Bases, 2010).[1] Others believed that a compromise was likely, with the dividend tax

[1] For example, Bases (2010) reported that "Companies and investors have been left in limbo as Congress and the White House wrangle over whether to extend the Bush-era tax cuts on dividends…." Others merely assumed the extension would not happen.

rate to rise to 20 percent (Briginshaw, 2010; Norris, 2010). Finally, on December 17th, 2010, uncertainty around the investor-level dividend tax rate was completely resolved, and the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 (Jobs Act) was signed into law, extending the favorable 15 percent maximum dividend tax rate for the next two years.[2]

Then, in 2012, the JGTRRA rates were again set to expire, with the dividend tax rate potentially increasing to a rate as high as 39.6%. In addition, another tax on dividend income was set to go into effect on January 1, 2013 (the 3.8% tax on unearned net investment income mandated by the Patient Protection and Affordable Care Act of 2010). This meant that even if JGTRRA did not expire, the dividend tax rate would still increase by 3.8 percentage points for some taxpayers. In addition, the economy was perceived to be stronger and, thus, the sunset of JGTRRA considered more likely. Eventually, Congress reached a compromise, and President Obama signed into law a top dividend tax rate (and long-term capital gains rate) of 20% (with the additional 3.8% tax also applicable for certain 'high income' taxpayers).

Changing regular dividend policy in response to investor level taxes has been examined in prior literature with some mixed results (e.g., Gordon and Mackie-Mason (1990) and Bolster and Vahan (1991)). Recently, the enactment of JGTRRA provided a potentially fruitful setting to test the effect of investor-level tax rates on payout policy. For example, Chetty and Saez (2005) find an increase in dividend payments (including special dividends) following the enactment of JGTRRA and attribute it to the tax rate reduction. Blouin, Raedy and Shackelford (2011) also

---

For example, in a conference call for Scripps Networks Interactive Incorporated held on September 22, 2010, analyst Brian Karimzad asked, "As we get to January 1, we're probably going to see a hike up in the dividend tax rate….How is that kind of changing the tenor or the options you are considering, things like a special dividend that you may not normally think about?"

[2] While uncertainty was resolved with the Jobs Acts' passage on December 17th, substantial uncertainty had previously been resolved. On December 6th President Obama announced that a compromise had been reached and that the dividend tax rate would be extended. However, as late as December 4th, a bill that had already been passed in the House failed to pass in the Senate, receiving only 53 votes. As a result of this uncertainty that persevered up until shortly before the passage of the bill on December 17th, we assume all December 2010 dividends were issued with the possibility that the tax rate would increase. In our sample, there are no firms that declared and paid a dividend by year end that declared after December 17, 2010.

study the time period around JGTRRA and find that the percentage of total payout represented by regular dividends increased after JGTRRA, consistent with individual-level taxes affecting payout.

However, there are also several studies that attribute the increase in dividends following JGTRRA to other factors. For example, Edgerton (2012) documents that real estate investment trusts (REITS) increased dividends at the same rate as corporations. Dividends from REITs do not receive the preferential tax rate under JGTRRA, and therefore, Edgerton (2012) attributes the increase in dividend payouts at both REITs and non-REITs to factors other than taxes (e.g., profitability or investors' demand for cash).[3] Similarly, Julio and Ikenberry (2005) contend that the increase in dividends was merely a result of a change in firm composition over the studied time period. Finally, Floyd, Li, and Skinner (2012) conclude that dividends likely did not increase after 2003 due to individual-level taxes, but rather due to other factors (e.g., firm profitability). Chetty and Saez (2005) concede several limitations to the study: 1) their findings do not hold in a standard time series regression as a result of entry and exit effects and the concentrated nature of dividends and 2) other factors such as corporate profitability, investor demands for cash, and other economic events (e.g., corporate scandals) make causal inference in their study difficult. [4]

To the best of our knowledge, all studies examining JGTRRA find an increase in dividends, but, diverge over the cause of the increase. Clean inference depends upon knowing

[3] Further, Edgerton also documents that the ratio of dividend payouts to corporate earnings changed very little after the tax cut, consistent with the dividend increases resulting from increased firm profitability.

[4] Survey evidence suggests that the relation between investor-level tax rates and payout policy is not strong. For example, Brav, Graham, Harvey and Michaely (2008) reports that surveyed managers rank taxes as fifth in order of importance among factors that affect their dividend decisions (after factors such as the stability of cash flows and the historic level of dividends). Further, of managers at firms that initiated dividends in the three years surrounding JGTRRA, the average manager stated that the tax change had "a little" effect on the decision to increase/initiate dividends payments. Brav, Graham, Harvey and Michaely (2008) thus supports the sentiment in Brav, Graham, Harvey, and Michaely (2005), that investor level tax rates are at best of second order importance with respect to corporate payout policy. This is also consistent with previous survey work done after a prior tax rate reductions, which finds evidence that "cast[s] doubt on the notion that dividend policy is based on shareholders' tax rates (Abrutyn and Turner 1990, 493)."

exactly when to look for an increase in dividends, and being able to isolate taxes, rather than other factors, as the cause of changes in payout (Shevlin, 2008). These other factors include macro-economic conditions, preferences for dividends, and fluctuations in corporate earnings (corporate earnings increased following the recession of the early 2000s). To this end, Chetty and Saez (2005, 816) state that "future tax changes might allow identification of tax effects in an environment where such scandals are less relevant."

Our research setting allows us to draw a much stronger causal link between dividend taxes and payout response than has been achieved in prior studies because we look for evidence of increased payouts in a very narrow timeframe thus eliminating other factors that might also increase payout. For example, general trends such as increased demand for dividends because of accounting fraud, economic cyclicality, and changes in corporate earnings and cash flows/holdings are unlikely to affect our estimation, offering a sharp test. Further, the shifting of regular dividends from January into December has no other explanation that we can conceive of other than taxes.

In addition to the relatively clean setting in our study, we argue that it is important to recognize that firms have other options, beyond increasing or decreasing regular dividends, to increase shareholder value via payout policy changes in response to taxes. Our study examines two such alternative actions. First, the firm can pay a special dividend. A special dividend is a real cash outflow, but does not commit the firm to an ongoing dividend payout level and thus, may be a likely response.[5] Economic theory implies that firms may consider the after-tax benefit of paying dividends to their investors when considering whether to pay a dividend. In our setting, this would suggest a surge in special dividends prior to December 31, 2010 and prior to

[5] Prior literature provides evidence that equity markets punish cuts in regular dividends (Healy and Palepu, 1988; DeAngelo and DeAngelo, 1990). Further, Brav, Graham, Harvey and Michaely (2005, 491) find that 88.1 percent of surveyed managers agree or strongly agree that "there are negative consequences to reducing dividends."

December 31, 2012 because tax rates were expected to increase effective January 1, 2011 and 2013 (and because the dividends are 'special' they would not be expected to continue after the tax rate increase). As a result, we investigate whether there was an increase in special dividends immediately prior to the expected dividend tax rate increase.

Second, the firm can shift regular dividend payments in time to a low tax period. Such a response is consistent with an effort to increase shareholder value via minimizing shareholder taxes. Slemrod (1992) posits that responses to tax rate changes could occur in one of several forms, occurring in the following order: 1) the timing of economic transactions, 2) financial repackaging of transactions, and 3) real decisions.[6] Consistent with shareholder value maximization and with Slemrod's first potential behavioral response to taxation, firms that would have otherwise paid a regular dividend in January of 2011 or 2013 likely shifted those dividends to December of 2010 or 2012, taking advantage of what was perceived as the low-tax period.

Anecdotal evidence from corporate press releases exists for both types of responses. For example, Masimo issued a special dividend on December 21, 2010, and stated that "The special dividend is another step in demonstrating our commitment to enhancing stockholder value…the timing of this dividend will allow Masimo stockholders to take advantage of the current low dividend tax rate."[7] Similarly, U.S. Global Investors Inc. noted in a December 11, 2012 press release that they would "pay a one-time special Santa Claus dividend to fight the Fiscal Cliff Grinch." Further, a March 2012 Global CFO Survey indicated that, "Nearly 11 percent of dividend payers say they would pay their shareholders a large special dividend before the end of

[6] We are cognizant that in our setting we do not examine taxpayer behavior per se, as corporations do not remit the dividend tax, rather shareholders remit the tax. However, we think firms acting on behalf of shareholders will likely respond according to the same hierarchy.

[7] Press release dated November 22, 2010. Explicit mentions of tax motivations appear to be much more common in 2012 than in 2010 (see, for example, Cheng, 2012; Brown, 2012; and Chasen, 2012).

2012, ahead of the scheduled [tax] increase in 2013." Corporate press releases also mentioned dividend shifting. For example, on October 28, 2010, Sara Lee Corporation stated that, given the "uncertainty surrounding the renewal of the current dividend tax rates," its board had "decided to accelerate the payment of the dividend by one week so that stockholders can benefit from the lower dividend tax rate that is currently set to expire at calendar year end."

We find evidence of an increase in special dividends and the shifting of normal dividends in response to the expected tax increase in 2010 and 2012. The economic magnitude of our results is significant. Our coefficient estimates indicate that in November and December of 2010 (2012), twice (four times) as many firms in our sample paid a special dividend relative to all other months in the sample. To provide a numerical interpretation, the data show that there were $7.065 billion in additional special dividends paid in November and December of 2010 and 2012 relative to those same months in 2009 and 2011. Applying a tax rate of 15% rather than 35% (one expected rate outcome), the tax savings were roughly $1.41 billion. In addition, our data show that by shifting dividends from January to December around the tax acts, the firms saved shareholders roughly $2.1 billion in taxes in expectation.[8] Our results suggest that corporations respond to individual-level tax rate changes and act with the intent to maximize shareholder wealth.

We also test cross-sectional variation in the response to the expected tax increase by examining whether payout responses are more likely for firms with more insider ownership. DeAngelo, DeAngelo, and Skinner (2008) state that payout decisions are related to preferences of controlling shareholders. Supporting this claim, prior literature reports that firms with greater

[8] In 2010, when the shifting response is weaker, our estimates imply that shareholders would have saved $338 million in taxes as a result of the shifted dividends. These estimates of economic magnitude of tax savings assume that the entire investor base is taxable. For example, if we assume that only half of the dividends are paid to taxable individuals, the estimated tax savings would be roughly half of the amounts we list above based on a simple computation.

insider ownership are more sensitive to investor-level dividend tax rate changes (for example, see Chetty and Saez, 2005 and Blouin, Ready, and Shackelford, 2011). In addition, anecdotal evidence suggests that traders are cognizant of the willingness of insiders' to issue tax motivated special dividends (Cheng, 2012). As a result, we investigate whether managers with large shareholdings may have been more willing to issue special dividends or shift normal dividends, either with the motive of accruing benefits for themselves (with other shareholders as an unintended beneficiary), or because their large holdings had aligned their incentives with those of shareholders.[9] In either case, we predict that larger insider holdings are related to a greater likelihood of paying a special dividend, or shifting regular dividends.[10] We find evidence consistent with our prediction.

We conduct a battery of additional analyses and robustness tests, all of which support our main findings. The additional analyses include tests of other tax rate changes dating back to 1980. While these tests are subject to some additional limitations, the results suggest that the magnitude of the individual-level tax rate change is associated with the strength of the payout response. We also conduct preliminary tests on whether the payout responses are more likely consistent with agency conflicts or incentive alignment. We utilize cross sectional variation in governance and find that well-governed firms are more likely to respond to the tax rate changes. We also point to a concurrent paper by Hribar, Savoy, and Wilson (2013) that presents evidence consistent with positive shareholder returns upon the announcement of a special dividend at the end of 2012. All of this evidence is consistent with corporations responding to individual-level

[9] The press often attributed these payments to managerial opportunism. Driebusch (2010) states, "For executives with large holdings in their company's shares, the [tax induced special] payouts aren't entirely altruistic." T. Boone Pickens suggests that managers don't pay dividends to benefit shareholders. He describes a board meeting of Union Oil Company of California where a board member suggested paying a dividend. The CEO "responded with typical managerial disdain for shareholders: 'Have you lost your @#$%&! mind? Why would we give people we don't know a bunch of money (Pickens, 2008, 22)?'".

[10] We do not test the level of institutional holdings because the prediction for institutional holdings is contingent on the tax status of the institution (and its investors), which is difficult to measure (Desai and Jin, 2011). Some papers overcome this miscoding by hand collecting the institution type for their small samples (Chetty and Saez, 2005) or avoiding the period after 1998 altogether (Desai and Jin, 2011). None of these methods are practical in our setting.

tax rate changes and also that firm managers are responding with the intent to maximize shareholder wealth.

Graham (2003) states that a better understanding is needed of whether corporate actions are affected by investor-level taxes. Our paper contributes to the literature by providing some unambiguous evidence in this regard. The evidence about both responses in this paper is consistent with managers acting in a manner to maximize shareholder value in light of expected changes in investor-level tax rates. In addition, evidence on payout timing changes (i.e., the shifting of regular dividends) is important given Slemrod's (1992) assertion that understanding the retiming and repackaging of financial transactions in response to tax law changes is essential to understanding the tax system as a whole. Moreover, evidence about timing changes is important in light of the assertion in Brav, Graham, Harvey, and Michaely (2008) that tax changes cause dividend timing changes. Indeed, Brav, Graham, Harvey, and Michaely (2008) argue that some of the regular dividend initiations after the enactment of the Bush tax cuts were merely firms hastening when initiations occurred as a result of the tax cut. Finally, to our knowledge, the shifting of dividends around an individual tax rate change has not been empirically investigated.[11] In sum, while individual-level taxes may not surface as the primary driver of payout policy across studies, our paper provides sharp evidence, using a relatively clean empirical setting, that individual-level taxes are important for payout decisions at the margin, an economically important finding.

This paper proceeds as follows. Section 2 discusses our empirical design and results. Section 3 provides additional analyses, and Section 4 provides tests and discussion of prior tax rate changes and dividend policy responses. Section 5 concludes.

[11] While prior work has not examined the existence of these shifts, Hribar, Savoy and Wilson (2013) take these shifts as given (based on the findings of this paper), and document a positive market response to these shifting announcements.

2. Data, Empirical Tests, and Results

2.1 Samples and Main Test Variables

We employ monthly dividend data provided by the Center for Research in Securities Prices (CRSP), and retain only observations from January, 1980-June, 2013. We exclude all firms in the financial or utilities industries (SIC codes between 4900 and 4949 and between 6000 and 6999) because these firms have characteristically different dividend payment patterns, more regulatory concerns, and are typically excluded from payout studies.[12] For our main tests, we also exclude all securities that do not have a share code equal to 10 or 11, which eliminates REITs, ADRs, closed-end funds, and firms not incorporated in the United States (DeAngelo, DeAngelo and Skinner, 2000). These types of entities also have undesirable characteristics for our purposes — for example, dividend payments by firms incorporated outside of the United States or by certain pass-through entities (such as REITs) may not be qualified dividends under JGRRTA.

We classify dividend payouts by firms into two categories—special dividends and regular dividends. Following DeAngelo, DeAngelo, and Skinner (2000), we define special dividends as distributions with CRSP distribution codes 1262 or 1272, codes for "US cash dividend, year-end or final, taxable same rate as dividends" or "US cash dividend, extra or special, taxable same rate as dividends," respectively.[13] We define regular dividends as those with distribution codes 1232, 1212, 1222 or 1242 – cash dividends, paid either quarterly, monthly, semi-annually, or with

[12] We retain only observations since 1980 because payout behavior in general has changed at firms over time, making earlier time periods substantially different than more modern time periods (DeAngelo, DeAngelo and Skinner, 2004). This is consistent with, for example, Chetty and Saez (2005), who examine 1982-2004.

[13] In examining the data, we find examples where CRSP mislabels what the company clearly calls special dividends as regular dividends. For example, Brown-Forman and Express both paid special dividends in December of 2010, potentially in response to the tax change, but CRSP labels these dividends 1232 and 1212, respectively (both codes, following the scheme of DeAngelo, DeAngelo and Skinner (2000), that are considered regular dividends). We do not think this biases our tests in favor of documenting a result, and in our tests, it may bias against us finding a result if specials are commonly mislabeled as regular.

unspecified frequency, which are taxable at the same rate as ordinary dividends. [14] All other distribution codes not mentioned above are not retained in the sample. The unit of observation for most of our analyses is firm-month distributions.[15]

Our sample selection process and resultant number of observations is outlined in Table 1. We present the data for types of observations studied in the paper. The first column describes the firm-month observations between January 1980 and June 2013 in which a special dividend was paid. The second column in Table 1 consists of every firm-month observation from 1980 to June, 2013 in which only a regular dividend was paid by that firm in that month. The third column of Table 1 presents the sample selection process for the "full" sample of firm-months from January 1980-June 2013 in which a regular or special dividend was paid. It is the sample in the third column that we use in our tests.

In order to examine the effects of inside ownership, we obtain data from two different sources—Compustat's Execucomp and Factset's LionShares. Execucomp is frequently used in academic research (e.g., Chetty and Saez (2005)) and has the benefit of providing data on holdings for individual managers. However, Execucomp covers a limited set of firms (S&P 1500), potentially inducing a bias and making our results less generalizable. In contrast, Factset has much better coverage of firms than Execucomp. However, the Factset data are not panel data – these data are produced for actual market participants, and thus only contains the percentage of

[14] Departing from DeAngelo, DeAngelo and Skinner (2000), we exclude distributions with the code 1218 in CRSP because these are taxed at the ordinary tax rate (applicable after JGGTRA when dividend rates and ordinary rates are not the same).

[15] We opt to aggregate at the firm-month level as opposed to the firm-quarter level because we expect to see an increase in dividends for the last two months of 2010, and expect to see dividends especially concentrated in December. Reducing the data to quarter-firm data instead of month-firm data makes for courser granularity, and does not allow us to examine the period in which we expect to see the largest response to the dividend tax increase (i.e., November and December, 2010 or 2012).

the firm held by insiders at the time the data are retrieved. For our sample, the Factset data were downloaded on December 15, 2010, just days before the passage of the Jobs Act.[16]

In order to conduct our tests, we use three measures of insider holdings. First, we use the percentage of the firm held by all executives covered in Execucomp (*Execucomp Insider Holdings*). Second, we use the percentage of the firm held by the manager with the largest shareholdings in each firm year, calculated from Execucomp data (*Largest Insider's Holdings*). This measure is more relevant if there is a single controlling manager making decisions. Lastly, we use the Factset measure of insider holdings (*Factset Insider Holdings*), which is a firm-level measure that is the percentage of the firm held by insiders as of December 15, 2010. This provides insider holdings data with more extensive coverage than Execucomp, at the cost of using insider holdings data that does not vary by firm-year (only by firm).[17] Table 1 shows the number of firm-month observations in each column for which insider holdings are available. Throughout our analysis, we adjust raw dollar value variables (unscaled variables) for inflation by using the Consumer Price Index. We also winsorize (after CPI adjusting) all individual continuous variables at the 1% and 99% levels.

Table 2 provides descriptive statistics for our sample (firm-months in which a regular or special dividend was paid). Panel A presents our observations by various time periods. We consider November and December of 2010 and 2012 as 'the period immediately prior to the expected tax rate increase' and thus, show these time periods separately. Looking across the

[16] Because insider ownership data are not available for all firms with observations included in our first test, only a subset are examined for the effect of insider ownership. Thus, the extent to which any selection criteria used by Factset or Execucomp (S&P 1500) affects the likelihood of reacting to an individual-level tax rate change, our results could be affected.

[17] Because Factset is not a panel and we did not download the data for each firm month from 1980 – 2013 we use the data as of one point in time (recognizing that we also use Execucomp insider holdings which varies over time). We note that the percentage of the firm held by insiders seems to be relatively fixed for a given firm. For example, in our sample, estimating a regression of Execucomp Insider Holdings regressed on firm fixed effects has an R-squared in excess of 75%. Limited to observations since 2009, the value of the R-squared exceeds 90%. We also downloaded the Factset data on December 31, 2012. The correlation between the December 15, 2010 and the December 31, 2012 data from Factset is 76.5%. This assuages some concerns with using Factset data that is time-invariant in our tests.

columns in Table 2, these data show that in the periods immediately before an expected tax rate increase, the frequency (percent of observations) and magnitude of special dividends are significantly higher (statistical significance at a p<.10 level or better is indicated by bold italics) than in other time periods. In addition, the data show that overall magnitude of regular dividends is also higher in periods immediately before expected tax rate increases, and that this difference is statistically significant.[18]

Panel B of Table 2 shows descriptive statistics at the firm level (taking the average value of each variable across all firm/month observations in the sample for each firm), for three different samples of firms: Column 1) firms that never pay a special dividend (but pay a regular dividend), Column 2) firms that paid a special dividend at some time in our sample period but did not pay a special dividend in November or December of 2010 or 2012, and Column 3) firms that paid a special dividend in the time period immediately before an expected tax rate change. The data reveal that firms that pay specials are smaller than firms that do not pay specials and that firms that paid specials in November and December of 2010 or 2012 are smaller yet. In addition, firms that pay specials have higher cash balances (as a percentage of assets), which is reasonable because the special dividends are paid in cash and higher cash balances means fewer constraints on paying the special dividend. The larger cash balances by these firms is also consistent with smaller firms holding more cash as suggested by the literature on cash holdings (e.g., Baumol, 1952). Firms that paid a special any time in the sample period also have higher insider ownership than firms that never paid a special, and firms that paid a special immediately before the expected tax rate increases have higher insider ownership than the other two groups.

[18] Note that although we predict a shifting of regular dividends and thus we might expect an increase in the percent of observations with a presence of a regular dividend in the period immediately before the tax increase, because some firms that had never paid a dividend at all issued a special dividend during this time period our sample is increased by firms that pay a special but not a regular dividend.

Panel C of Table 2 presents the data at the firm level, by year, separately for firms that paid a special in November and December of 2012 and those that did not. These data show that the firms that pay a special in the periods immediately before the expected tax rate increases are generally smaller and generally have more cash (statistically more in half the years). In addition, these firms generally have more cash flows from operations (in two-thirds of the years presented), have larger changes in cash flows from operations (in two-thirds of the years, but notably not in 2012), generally lower leverage, and often smaller changes in leverage. The data seem to indicate that the likely source of cash for any observed special dividends (indicated in Panel A), is cash flows from operations and not borrowing. However, because cash balances and flows are not consistently, statistically greater in both 2010 and 2012 for the firms that paid a special dividend in those periods, it seems unlikely that excess cash differences between the two sets of firms could be driving our results. As a precaution, however, we control for cash in our tests below.

2.2 Test of Special Dividends

We first present the data via graphical analyses. We start by graphing the raw number of special dividends paid in each month over the sample period January 1980-June 2013. The graph, Figure 1, shows a decline in the use of specials throughout the 1990s, consistent with DeAngelo, DeAngelo, and Skinner (2000), whose data end in 1995. Our data are also consistent with Chetty and Saez (2005) in that we see a resurgence of specials in 2003, around the time of the enactment of JGTRRA and the end of the 2001-2002 recession. We also extend the analysis beyond the beginning of 2004 (where the data in Chetty and Saez (2005) stops). From this extension we can see that the resurgence in the number of specials in 2003 extends through 2012 when tax rates remained low. While the post-2003 resurgence of special dividends is notable,

most significant is the surge in the number of special dividends in the final months of 2010 and especially in 2012. Indeed, the number of special dividends in the final months of 2012 is higher than any other time in our sample, and the number of specials in 2010 is higher than at any other time with the exception of the increase in special dividends experienced in December of 1980 (49 specials) and January of 1982 (41 specials).[19] Also notable is that there is no recurrence of the surge in special dividends near the end of 2011, suggesting that the surge is not merely a result of the economic recovery or some other general time trend. [20]

Figure 2 examines special dividends at the intensive margin, presenting the aggregate dollar magnitude of specials (inflation adjusted, in thousands of 2005 dollars) for every month from January 1980 through June 2013. There is a large surge in the value of special dividends in the final months of 2010 and in 2012, consistent with the aggregate dollar value of special dividends increasing immediately prior to an expected dividend tax rate increase.

To obtain estimates of the statistical significance of the effect of the expected tax increase on the incidence of special dividends and to allow for additional control variables, we estimate the following linear probability model[21]:

[19] These jumps in 1980 and 1982 may be tax-induced; the maximum tax rate on dividends in 1981 was 70 percent (the same as the individual income rate), which decreased to 50 percent in 1982, potentially resulting in the surge in specials in January of 1982. We examine the historical tax rate changes and the effects on special dividend payouts in more detail below.

[20] Special dividends require the board of directors to declare the dividend well in advance of the dividend payment date, suggesting that even though the tax rate was passed on December 17, 2010, firms likely would have had to commit to pay year-end dividends well prior to December 17th. In our sample of special dividends, the mean duration between a dividend announcement payment date is around 39 days, the first percentile is 13 days, and the 99th percentile is 105 days. One single firm (RLI Corporation) on the CRSP database announced a special after December 17th and paid by year end 2010, but this firm is not in our sample because it is an insurance firm.

[21] We opt to use a linear probability model (LPM) as opposed to a non-linear limited dependent variable (LDV) model (Angrist and Pischke, 2009). We opt for the LPM to allow for easy interpretation of the coefficients, especially with regards to the interacted coefficients in Model 3 (i.e., Ai and Norton, 2003), as well as the use of fixed effects in our model. The use of LPM does not impose potential bias or inconsistency on the coefficients and standard errors (Greene, 2004). In contrast, a potential bias exists in a non-linear LDV model especially when group sizes are small (Greene, 2004), as is the case in our setting. The use of a LPM in a LDV situation is supported by Angrist and Pischke (2009). We use heteroskedasticity robust standard errors in our estimation of the LPM to adjust for the well-known problem of heteroskedasticity when using an LPM with a LDV. Lastly, because the issuance of special dividends is relatively rare, the problem of predicted values falling outside of [0,1] is not common in our data. For example, in the estimation of Column 1, Table 3, the fitted values all fall within [-0.0130, 0.1739].

$$\text{Special Dividend}_{it} = \beta_1 \text{NOVDEC2010}_{it} + \beta_2 \text{NOVDEC2012}_{it} + \beta_3 \text{CASH}_{it} + \beta_4 \text{ROA}_{it} + \sum \beta_k \text{Month Fixed Effects} + \sum \beta_k \text{Year Fixed Effects} + e \quad (1)$$

where the dependent variable, *Special Dividend*, is an indicator variable set to 1 if the firm paid a special dividend in that month, and *NOVDEC2010* (*NOVDEC2012*) is an indicator variable coded as 1 for firm-months occurring in November or December of 2010 (2012), the months we predict firms responded to the potential increase in investor level tax rates.[22] The variable *CASH* is the value of cash scaled by assets in the quarter the dividend was paid (CHEQ/ATQ), and *ROA* is pre-tax earnings scaled by assets in the quarter the dividend was paid (PIQ/ATQ). We also include *CASH* and *ROA* to control for the possibility that firm cash holdings or profitability were higher for some reason immediately before the tax rate changes leading to any observed payout.[23] We estimate the effects for 2010 and 2012 separately because 1) the expected probability of the tax rate increase occurring was likely much higher in 2012 and 2) to examine whether the effect occurred in both time periods. We include both month and year fixed effects to control for, respectively, the concentration of special dividends in particular months (December is a common month for specials) and economy-wide factors that may have influenced special dividend payments (special dividends have fallen out of favor since the 1980s).[24] We omit the intercept to allow for the inclusion of a full vector of 12 monthly fixed effects. As a

[22] Our results hold when the test variable is coded to only equal one for observations falling December of 2010 and 2012. We include November of 2010 and 2012 because some firms that explicitly issued tax motive specials paid these specials in November.

[23] In untabulated analysis, we also control for the change in cash from operations in both Equation 1 and Equation 2. Adding the variable to the regressions limits our sample period to after the statement of cash flows is available. Our results hold after adding change in operating cash flows as a control. This mitigates concerns that additional cash flows in those periods rather than tax motivations were behind the payout policy decisions.

[24] To ensure that the month fixed effects are sufficiently controlling for an increase in dividend in December generally, we estimate our model replacing NOVDEC2010 and NOVDEC2012 with a variable, NOVDEC2009, coded to equal one for observations occurring in November or December of 2009 (untabulated). Our prediction is that if our results are due to tax incentives and not year-end dividend effects generally, then the results using 2009 as the test year will be insignificant. We find evidence consistent with this prediction suggesting that we are not merely documenting a year-end effect. Replicating this analysis using the years 2008, 2007, 2006 and 2005 yields a similar result. We also estimate the regressions in Tables 3 and 4 using *only* observations from the months November and December (i.e., excluding months January – October of every year) and excluding month fixed effects. Our inferences are unchanged.

result of the fixed effects, β_1 (β_2) indicates the increase in the likelihood that a firm would issue a special dividend in November or December of 2010 (2012), above and beyond both the likelihood that the firm issues a special dividend in November or December generally, or in the year 2010 (2012).

The results from estimating Equation (1) are presented in Column 1 of Table 3. The estimate of β_1 from column (1), 0.0401, is positive and significant, consistent with an increase in the frequency of special dividend payments in November and December of 2010 as firms anticipated a dividend tax increase. Furthermore, the coefficient estimate for 2012 is larger, at 0.0849. Our interpretation of the difference is that the tax increase in 2013 was, in expectation, much more likely to occur. The results suggest that the percentage of firms that paid dividends increased by 4.01 percentage points in 2010 and 8.49 percentage points in 2012, a noteworthy change given the tax rate increase did not happen in 2010, and was much less than it could have potentially been in 2012. Across our entire sample period, approximately 2% of dividend paying firm/months contain a special dividend. As a result, a 4.01% and an 8.49% increase in the percentage of special dividend paying firms equates to nearly a two-fold and a four-fold increase in special dividend payments in our sample of firms.

Column (2) of Table 3 presents tests of the dollar value of special dividends paid. We replace the indicator variable, *Special Dividend*, in Equation (1) with the magnitude of the special dividend (the dollar value of the special dividend issued by the firm, scaled by the dollar value of all dividend payouts). The results show that the coefficient on both variables, *NOVDEC2010* and *NOVDEC2012*, are statistically and economically significant. The mean value of the dependent variable in our sample period is 0.013. Consequently, the regression

coefficients of 0.0431 and 0.0878 represent large changes in the magnitude of the special dividend.

2.3 Inside Ownership and the Issuance of Special Dividends

We predict that the increase in special dividends will vary with insider ownership. Figure 2 graphically displays the data (analogous to Figure 1). It is a graph of the frequency of special dividends – the total number of special dividends paid in each month – partitioned by high and low insider ownership. High (low) insider ownership is defined as above (below) the sample median of the percentage of a firm's shares that insiders of the firm own. For this analysis, we use the Factset data (a similar pattern emerges with the Execucomp data). The data in Figure 2, Panel A are consistent with firms held by insiders having a greater response to the impending tax rate change than firms that have low insider holdings. Figure 2, Panel B presents a graph of the *dollar value* of special dividends (analogous to Figure 1 Panel B). The data show that firms with high insider holdings have a larger spike in special dividends at the end of 2010 and 2012.

To obtain statistical estimates as to the significance of the difference between the two groups of firms, we estimate the following equation:

$$\begin{aligned}\text{Special Dividend}_{it} = {} & \beta_1 \text{NOVDEC2010}_{it} + \beta_2 \text{NOVDEC2012}_{it} + \beta_3 \text{Insider Holdings} + \\ & \beta_4 \text{Insider Holdings} * \text{NOVDEC2010}_{it} + \beta_5 \text{Insider Holdings} * \text{NOVDEC2012}_{it} + \\ & \beta_6 \text{CASH}_{it} + \beta_7 \text{ROA}_{it} + \sum \beta_k \text{Month Fixed Effects} + \sum \beta_k \text{Year Fixed Effects} + e \end{aligned} \quad (2)$$

where the dependent variable, *Special Dividend*, *NOVDEC2010* (*NOVDEC2012*), *CASH*, and *ROA* are as described above. *Insider Holdings* is measured in three ways—a firm-year measure from Execucomp that equals the percentage of the firm held by insiders (*Execucomp Insider Holdings*), a firm-year measure from Execucomp that equals the percentage of the firm held by the insider with the largest shareholdings (*Largest Insider's Holdings*), and a firm measure from

Factset that equals the percentage of the firm held by insiders (*Factset Insider Holdings*). We also include month fixed effects and year fixed effects. We expect the interaction between *Insider Holdings* and both *NOVDEC2010* and *NOVDEC2012* to be positive.

Table 4 presents the results. Before testing the effect of insider ownership, we estimate our main regressions on the reduced samples that have insider ownership data available to make sure the sample size change does not alter the inference from our tests above (untabulated). Our main inferences hold in these smaller samples. To test the effect of insider ownership, we estimate Equation (2). The results are presented in Columns 1 through 3. Column 1 contains the estimates using *Execucomp Insider Holdings*, and the coefficient on the interaction between *NOVDEC2010* and *Execucomp Insider Holdings* and between *NOVDEC2012* and *Execucomp Insider Holdings* is significant and positive. In Columns 2 and 3, using the other two measures of insider ownership, the coefficients on the interaction terms (β_4 and β_5), are also positive and significant. Columns 4 – 6 present results from estimating Equation (2) when the dependent variable is the dollar value of the special dividend, scaled by the total dividend payout (special plus regular dividends) of the firm. We find that the coefficient on the interaction terms between Insider Holdings (measured three different ways) and *NOVDEC2010* and *NOVDEC2012* is positive and significant.

The evidence in Table 4 suggests that that greater inside ownership is associated with a greater managerial response to shareholder taxes, in terms of frequency of specials and the magnitude of specials. This evidence is consistent with cross-sectional variation based on insider holdings, and supports DeAngelo, DeAngelo, and Skinner's (2008, 214) assertion that "the idiosyncratic preferences of controlling stockholders … are potentially first order determinants of payout policy for firms with dominant stockholders." We discuss whether this responsiveness

is more likely driven by agency conflicts or incentive alignment below in our additional analyses.

2.4 Test of Dividend Shifting

We examine whether firms shifted regular dividend payments normally paid in January to December to avoid the higher tax rates; we start by graphically examining the data. Figure 3, Panel A, presents a bar chart of the number of regular dividends issued in December of a given year (dark bar), next to the number of regular dividends issued in January of the following year (hollow bar). The graph reveals that, over this time period, more regular dividends are issued in December than in January in almost every year. A notable exception is in January 1982, which may also be tax induced—the dividend tax rate in December of 1981 was 70 percent, and it dropped to 50 percent in January 1982. Consistent with dividend shifting in response to expected tax increases, the black bar (December year t) and the hollow bar (January year t+1) diverge in both 2010/2011 and in 2012/2013, suggesting a dearth of January payments and an excess number of December payments in those years.[25]

To illustrate the effect differently, Panel B of Figure 3 graphs the ratio of December regular dividends to the number of January regular dividends. The data again show an increase in December dividends and decrease in January dividends in 2010/2011 making the ratio of December to January regular dividend payments jump from 1.46 in 2009/2010 to 1.76 in 2010/2011, a 21 percent increase, larger than any other percentage increase in the time series of regular dividend payments for over the prior three decades. The jump from 2011/2012 to 2012/2013 is even greater from 1.5 to almost 4.5!

[25] We also note that 2010 had an abnormally high number of firms having exactly five regular dividend payments. For 2008, 2009, 2010, 2011, there were, respectively, 8, 7, 30 and 8 firms with exactly five regular dividend payments in the year, consistent with firms having already paid four dividends in 2010 paying an extra, fifth regular dividend in 2010 as a result of shifting. Having five dividend payments in one year may create costs to shifting providing an explanation of why all firms do not engage in this practice.

This change is economically significant. One way to estimate the amount shifted is as follows. In December 2009 and January 2010, 59.4 percent of the 557 total dividends happen in December. In December 2010 and January 2011, 63.8 percent of the 600 dividend payments occurred in December of 2010. Using the 2009/2010 season as a benchmark, this suggests that 26 firms (600*(63.8%-59.4%)) shifted their January 2011 dividend into December of 2010. In dollar magnitude, 64.2 percent of the $33.4 billion paid in December 2009 or January 2010 time period were paid in December 2009. In the December 2010/January 2011 period, 68.5 percent of the $39.4 billion in dividends paid were in December of 2010. Using 64.2 percent as a benchmark, this suggests that $1.69 billion (39.4*(68.5%-64.2%)) was shifted into December 2010 from January 2011. If the dividend tax rate returned to 35 percent and all shareholders were subject to that rate, and management had not shifted the dividends, this would have resulted in shareholders in the 26 dividend-shifting firms paying a total of $338 million (1.69*(35%-15%)) in additional taxes relative to the case where firm management shifted the dividend into 2010. In the 2012/2013 time period the data are even more stark. Using the same calculation method, we estimate that 148 firms shifted dividends from January 2013 to December 2012, and that $10.5 billion in dividend payments were shifted. If these dividends would not have been shifted and the tax rate on dividends would have increased to 35%, the tax saved by shifting was roughly $2.1 billion.[26]

To estimate if the shifting from January 2011(2013) to December 2010 (2012) is statistically significant, we estimate a regression analogous to the graphical representation in Figure 3. We regress the ratio of the number of regular dividends in December of year t and January of year t+1 on an indicator variable coded to equal one for observations from 2010/2011

[26] Of course, not all investors are taxable, and firms may not have anticipated the dividend tax rate to go to up to 35%. If, for example, only half of firms' shares were held by taxable investors, and firms anticipated the best-case scenario (a rise in the dividend tax rate of 3.8% points due to the Affordable Care Act), estimated tax savings would have been $200 million.

and 2012/2013. Observing that the ratio in the number regular dividends in December t to January t+1 is significantly larger in 2010/2011 or 2012/2013 is consistent with taxes leading firms to shift dividends.

Table 5 tabulates the results of this estimation using this time-series data. The indicator variables for 2010-2011 and 2012-2013 are positive and significantly different than zero ($p<.001$). The value of the constant, 1.157, indicates that the ratio of December to January dividends is roughly equal over the sample period, with slightly more December dividends generally being paid. However, this ratio is 0.614 larger than the baseline (as represented by the constant) in 2010/2011 and 3.32 larger in 2012/2013. These results are consistent with an intertemporal shift of regular dividends in both 2010 and 2012, suggesting that managers were cognizant of, and took action as a result of, shareholder-level tax considerations.

While an intertemporal shift of regular dividends is likely less economically meaningful than actual real changes to payout policy, it is nevertheless important. Intertemporal shifting by a mere month does not affect investment, aggregate savings, or cost of capital in the same way as actual changes to long-term regular payout policies (shifting changes investors' after-tax cash flows by only the tax savings induced by shifting). However, it does signal managers' cognizance of, and willingness to take action as a result of, changes in investor-level dividend tax rates. This suggests that managers consider shareholder-level taxes. Given the existence of theories in the literature that suggest that firms may be unresponsive to changes in investor-level tax rates (e.g. Auerbach, 1979), evidence of intertemporal shifting suggests that at least in some situations, firms are responsive to dividend tax rates.

2.5 Inside Ownership and the Shifting of Regular Dividends

In this section, we examine whether or not firms with higher inside ownership were more likely to shift their regular dividends. In order to conduct this test of dividend shifting (which is not as easily identifiable as firms paying a special dividend), we make an additional assumption to try to identify actual firms that were likely shifters. We assume that firms that paid a regular dividend in either January of 2010 or January of 2012 are typically January dividend payers. Using this sample of January dividend payers, we then identify the subset of firms that paid a regular dividend in December of 2010 but not in January of 2011, or in December of 2012 but not January of 2013. We classify this subset as tax-induced regular dividend shifters and set an indicator variable, *Shifting Firm*, to 1 for these firms. We then regress *Shifting Firm* on the value of *Insider Holdings* (using the three methods of measuring *Insider Holdings* previously discussed). In Table 6, we present the results from estimating these regressions. The coefficients on the inside ownership variables are positive and significant, consistent with insider holdings being positively associated with the likelihood of shifting a regular dividend from January to December when shareholder level dividend tax rates are expected to increase in January.[27]

3. Additional Analyses

3.1 REIT responses to the potential expiration of the JGTRRA tax cuts

If other unobservable factors that cause changes in payout policy exist in the narrow windows considered in our tests (e.g., there was non-tax motivated investor demand for distributions in November and December of 2010 or 2012), our inference may be erroneous. In this section, we conduct a placebo test to validate that the payout behavior in 2010 and 2012 was tax induced. As explained in Edgerton (2012), dividends paid from REITs do not qualify for the

[27] Since this analysis is done at the firm level, we use the mean of insider holdings for all observations in our original sample from 2009-2013 as the value used in this regression, as it represents the values of insider holdings that would have likely prevailed in 2010 or 2012. Inference is unchanged if we use the mean value across the entire sample period.

reduced dividend tax rates under JGTRRA, but rather continue to be taxed at the normal individual income tax rate. As such, incentives for REITs to change their payout behavior in anticipation of the sunset of JGTRRA did not exist. As a result, we expect to see little payout response for REITS. [28] Because REITs very rarely pay special dividends (for example, there were three paid in 2010 and seven paid in 2009), we can only use REITs to examine the shifting of regular dividends. The results are presented in Figure 4 (analogous to Figure 3 for non-REITS). Looking at both Panel A and Panel B, we observe no abnormal relationship between the December 2010 and January 2011 regular dividends. The change from the 2009/2010 ratio of December to January dividends to the 2010/2011 ratio is 0.02. The standard deviation of this change since 1980 is 0.36, indicating that this change is not statistically significant at any level. This suggests that the shifting that occurred for corporations in 2010/2011 was due to some incentive not present at REITs, likely the individual-level qualified dividend tax rate.

3.2 Agency Effects

We document that the likelihood of responding to the tax incentive varied with insiders' holdings in the firm. As a result, it is unclear whether or not these payout responses were intended to benefit all shareholders, or whether the managers were merely paying themselves tax-advantaged dividends and other shareholders were an unintended beneficiary of managers self-dealing (i.e., incentive alignment or agency conflict). In an attempt to provide some initial evidence on the issue, we examine whether corporate responses to the tax incentive varied with governance. If poorly governed firms were those more likely to react to the tax law change, that evidence might suggest an agency conflict. We examine this possibility by augmenting equation (1) with a measure of firm level governance, the average G-Index for the firm, as described in

[28] REITs may have experienced some tax incentives for payment of special dividends near the end of 2010, as individual income tax rates were also anticipated to increase. However, these increases were relatively modest compared to the potential increases of over 100% for the dividend tax rate for qualified dividends.

Gompers et al. (2003). This measure is an index of the number of corporate charter provisions that engender managerial entrenchment, characteristics that may be present for managers more likely to pay themselves a dividend at shareholder's expense. We take the negative value of the G-Index, so that higher values of G-Index indicate a better governed firm. We then interact G-Index with NOVDEC2010 and NOVDEC2012, where the coefficient on the interaction term is then our variable of interest. Negative values of the variable of interest indicate that poorly governed firms were more likely to pay a dividend during this time period, and positive values indicate that firms with stronger governance were more likely to pay a tax-induced dividend. Table 7 tabulates the results. Column 1 uses the presence of a special dividend as the dependent variable, and Column 2 uses the magnitude of the special dividend. In both cases, the interaction between NOVDEC2010 (NOVDEC2012) and G-Index is positive, suggesting that firms with stronger corporate governance were more likely to issue tax-motivated special dividends.

Another test of agency conflict is to examine market returns. In our setting, we consider negative market returns to these tax-induced dividend announcements as an indication of agency conflict. In a recent working paper, Hribar, Savoy, and Wilson (2013) examine market returns around special dividend announcements for firms making tax-induced special dividend announcements in 2012. They find *positive* abnormal stock returns in excess of the return that would be generated if investors were only pricing the tax savings. Further, they find that firms that did not respond to the tax incentive but that had the resources to pay a special dividend experienced negative abnormal returns. This evidence is consistent with incentive alignment rather than agency conflicts as an explanation for the responsiveness of managers to shareholder taxes.

3.3 Repurchase Activity

The increases in dividend payouts we document may have been a substitution for share repurchases, with the net effect being no change in overall payout. Share repurchases are taxed to shareholders as capital gains to the extent there is a gain and the shares have been held long enough to obtain long-term capital gains treatment. It is important to note that the expiration of JGTRRA included expected capital gains tax rate increases as well (although the range of possible capital gains increases was in expectation smaller). Thus, if for non-tax reasons our observed change in specials is due to a substitution from repurchases (for an unknown reason) we might expect to see a decline in share repurchases. However, if managers also responded to the impending capital gains tax rate change, we might expect to see an increase in share repurchases. In Table 8, we tabulate the results from re-estimating Equation 1 on our sample of firms, with two new dependent variables, 1) an indicator variable set to one if the firm repurchases shares in the quarter in which the observation month occurs, and 2) the dollar value of the share repurchase, scaled by the market value of equity. Note that precise repurchase data are only available since 2004 (more details are in the table).

We find no evidence that repurchase activity decreased along the intensive or extensive margin in either November or December 2010, or November or December of 2012. Indeed, we find some evidence that the dollar value of repurchases increased slightly in November/December 2010. Thus, we infer that our results are not driven by a non-tax induced substitution of special dividends for repurchases.

We conduct another test (untabulated) involving repurchases where we examine whether specials increased relative to the total payout of the firm, including repurchases. Even though there was a tax incentive to pay more in both dividends and repurchases, the tax rate increase

expected on dividends was much larger and thus we should see more changes in specials relative to repurchases. We re-estimate Equation 1, but use the ratio of special dividends to total payout, including repurchases, as the scalar (on our same sample of dividend paying firms). We find results consistent with special dividends increasing relative to total payout, including repurchases. Thus, overall, from these tests we infer that special dividends were not merely a substitute for a decline in repurchases (i.e., overall payout increased) and that the response in the payout of specials was much stronger than the response in the repurchase of shares.[29]

4. Analysis of Historical Tax Rate Changes

In this section, we examine whether the finding that firms alter their payouts of special dividends in response to investor level dividend taxes is apparent for other, earlier tax rate changes. Looking at a set of tax rate changes enables us to also examine whether larger expected rate changes lead to larger payouts. A caveat to this analysis of magnitudes is that the expected rate change was not likely equal to the observed ex post rate change, but we only have data on the observed ex post rate change (i.e., we are assuming ex ante expectations are equal to ex post realizations). Nevertheless, we analyze several different dividend tax rate changes that have happened in the United States since 1980.[30]

During the years 1980-2013, the dividend tax rate has exhibited substantial variation, from a maximum of 70 percent to a minimum of 15 percent. A summary of these changes is outlined in Table 9, Panel A. To include a tax rate change in our analysis, we require that the dividend tax rate change is a *substantial* change, greater than 10 percent of the prior rate. For

[29] The sample period for this test starts in 2004 because repurchase data is only precisely available since 2004.

[30] Several of these tax rate changes have been examined in previous papers for the effect they had corporate payouts. However, as with Chetty and Saez (2005) and Blouin, Raedy and Shackelford (2011) and JGTRRA, the focus of these papers was primarily normal dividends, and their testing procedure focused merely on some time period after the passage of the act (rather than a specific month before or after the act). Further, the findings of these papers are mixed. For example, Bolster and Vahan (1991) find no response in payout policy as a result of the 1986 Act. Gordon and Mackie-Mason (1990) find an increase in corporate payouts around the 1986 Act.

example, the dividend tax rate was reduced in both 2001 and 2002, but, by less than 2 percent of the original rate, and as a result, we disregard the rate changes of 2001 and 2002 in our analysis. Second, we require that the tax rate was enacted prior to the period the tax rate would take effect, allowing firms to anticipate and respond to the tax rate change in advance. For example, the dividend tax rate change in 2003 was signed into law by President Bush on May 23, 2003, and was applicable to all dividend payments made beginning January 1, 2003. Because it was effective retroactively, this dividend rate change is not examined in our analysis. This also precludes including the tax rate increase signed in August of 1993 but retroactively effective on January 1, 1993. Given our two requirements, we are left with the dividend tax rate changes (or expected changes) in 1982, 1987, 1988, 1991, 2011 and 2013.

We graphically examine the effect of dividend tax rate changes on the issuance of special dividends in Figure 5. We expect firms to pay more special dividends in December of the year previous to a dividend tax rate increase (1990, 2010 or 2012) and to pay more special dividends in January of the year of a dividend tax rate decrease (1982, 1987 and 1988). In addition, if there is no tax effect, we expect the number of special dividends in a given month to be equivalent to the short-term average of special dividends in that month. Operationalized, this means that the number of *abnormal* special dividends in a given month is the number of special dividends in that month, less the average from the same month in the year before.[31]

Figure 5 presents the number of abnormal dividends paid in each month for the 20 months surrounding a dividend tax rate change. The month of the rate change is labeled period 0 (December of 1990, 2010 and 2012, and January of 1982, 1987 and 1988 for the solid line, and December of 1990 and January of 1982, 1987 and 1988 in the dashed line). In the figure, we see

[31] The analysis is relatively unchanged if abnormality is defined using the prior one, two, three, and four year averages of dividends paid in the same month. However, since special dividend payments have generally been declining in use over the sample period, using a strictly backward looking average likely imposes a negative bias on the number of abnormal dividends.

a sharp increase in the number of abnormal special dividends paid in period 0, consistent with firms issuing special dividends in response to changes in the individual-level tax rate.

We also examine the historical payment of special dividends in a regression context. We estimate Equation 1, but replace NOVDEC2010 and NOVDEC2010 with an indicator variable, *December Before Rate Increase/January After Rate Decrease*. This indicator is coded to equal one in December of years where the dividend tax rate was expected to increase (1990, 2010, and 2012) and January of years where the tax rate was expected to decrease (1982, 1987, 1988). Table 9 tabulates the results of this estimation. Columns 1 and 2 show that firms paid more special dividends (Column 1), and the dollar value of the special dividend issued by the firm, scaled by the dollar value of all dividend payouts (special plus regular dividends) (Column 2) was larger in the December before rate increase or the January after rate decreases.

In the tests presented in Columns 3 and 4, we replace the indicator variable for the tax favored period with the actual magnitude of the tax change. As mentioned, with the exception of 2010 and 2012, we assume perfect foresight in that the actual tax rate change is assumed to have been the expected tax rate change.[32] In this analysis, we see the effect of an increase in the tax rate change on the probability of paying a dividend. The coefficient magnitude in Column 3 of 0.0031 can be interpreted as meaning that a 1 percentage point increase in the dividend tax rate increased the percentage of firms paying special dividends by 0.31 percentage points. Given that the unconditional probability of a firm/month in our sample containing a special dividend is 2 percent, a 0.31 percentage point increase represents a more than 10 percent increase in special dividend paying firms—an economically meaningful increase.

[32] Specifically, we used the following as the tax rate changes: January of 1982, a 20% point change; January of 1987, a 11.5% point change, January of 1988, a 10.5% point change, December of 1990, a 3% point change, December of 2010, 20% point change and in December of 2012, a 20% point change. In December of 2010 and 2012, we assumed that the tax rate would go from 15% to the tax rate on ordinary income of 35%. If we assume only a 5% point increase for 2010 and 2012, then the coefficients of interest in Columns 3 and 4 become 0.0039 and 0.0036, both statistically significant at the $p<.01$ level.

5. Conclusions and Implications

We investigate firms' use of two alternative payout policy changes – the paying of special dividends and the intertemporal shifting of regular dividends – immediately prior to an expected increase in individual-level tax rates upon the (expected) expiration of JGTRRA. The setting is arguably cleaner than many prior tests of changes in dividend policy because we can examine a very short window in time likely free of other confounding factors. We find evidence that firms pay more special dividends and shift regular dividends in response to expected individual-level tax rate changes. Specifically, our evidence indicates that firms issued an unusual number of special dividends near the end of 2010 and 2012, just before expected individual-level dividend tax rate increases. In addition, we find that firms shifted regular dividend payments from January of 2011 to December of 2010, and from January of 2013 to December of 2012. This evidence suggests that management is cognizant of, and forms corporate payout policy based on, shareholder-level taxes, and that firm managers act in a manner with maximizing shareholder value.

In closing, the first expected dividend tax rate increase studied in this paper never actually occurred. That firms were sensitive enough to respond to an expected, but unrealized, tax rate change is interesting in its own right. This finding is consistent with prior research that finds responses to proposed changes to tax law that did not actually materialize into actual tax policy (Erickson and Maydew, 1998). This suggests that policy makers should not only consider payout responses when considering changes to the dividend tax rate, but also recognize that merely considering policy changes is likely to elicit a behavioral response from tax-sensitive firms.

References

Abrutyn, S. and Turner, R., 1990. Taxes and firms' dividend policies; survey results. *National Tax Journal*, December 1990, 491-497.

Ai, C. and Norton, E.C, 2003. Interaction terms in logit and probit models. *Economic Letters* 80, 123-129.

Angrist, J.D., and Pischke, J., 2009. Mostly harmless econometrics: An empiricists companion. Princeton: Princeton University Press.

Auerbach, A, 1979. Wealth maximization and the cost of capital. *Quarterly Journal of Economics* 93, 433-446.

Bases, D., 2010. Analysis-U.S. tax changes won't kill dividend trend. *Reuters News*, November 18, 2010.

Baumol, W. J. 1952. The transactions demand for cash: An inventory theoretic approach. *Quarterly Journal of Economics* 66, 545-556.

Blouin, J, Raedy, J. and Shackelford, D., 2011. Dividends, share repurchases, and tax clienteles: evidence from the 2003 reductions in shareholder taxes. *The Accounting Review* 86(3), 887-914.

Bolster, P.J. and Janjigian, V., 1991. Dividend policy and valuation effects of the Tax Reform Act of 1986. *National Tax Journal* 44(4, 2), 511-18.

Brav, A., Graham, J.R., Harvey, C.R. and Michaely, R., 2005. Payout policy in the 21st century. *Journal of Financial Economics* 77, 483–528.

Brav, A., Graham, J.R., Harvey, C.R. and Michaely, R., 2008. Managerial response to the May 2003 dividend tax cut. *Financial Management*, Winter.

Briginshaw, J, 2010. Attn: The corner office – why U.S. firms should pay special dividends before year-end 2010. *Graziadio Business Review*, 13:4.

Brown, A., 2012. Stuffed with cash, eager to share: More special dividends on horizon. *Forbes*, September 14, 2012.

Chasan, E, 2012. AOL special dividend beats tax rate change. *The Wall Street Journal*, August 27, 2012.

Cheng, J., 2012. Stock pickers game the fiscal cliff. *The Wall Street Journal*, October 28, 2012.

Chetty, R. and Saez, E., 2005. Dividend taxes and corporate behavior: evidence from the 2003 Dividend Tax Cut. *The Quarterly Journal Of Economics* CXX(3), 791-833.

DeAngelo, H., and DeAngelo, L., 1990. Dividend policy and financial distress: an empirical examination of troubled NYSE firms. *Journal of Finance* 45,1415–1431

DeAngelo, H., DeAngelo, L. and Skinner, D., 2000. Special dividends and the evolution of dividend signaling. *Journal of Financial Economics* 57, 309–354.

DeAngelo, H., DeAngelo, L. and Skinner, D., 2004. Are dividends disappearing? Dividend concentration and the consolidation of earnings. *Journal of Financial Economics* 72(3): 425–456.

DeAngelo, H., DeAngelo, L. and Skinner, D., 2008. Corporate payout policy. *Foundations and Trends in Finance.* 3(2-3): 95-287.

Desai, M. A., and Jin, L., 2011. Institutional tax clienteles and payout policy. *Journal of Financial Economics,* 100(1), 68-84.

Driebusch, C., 2010. Looming tax increases, cash piles drive one-time dividend boom. Dow Jones Newswires, December 2, 2010.

Edgerton, J., 2012. Four facts about dividend payouts and the 2003 Tax Cut. *International Tax and Public Finance*, 1-16.

Erickson, M. and Maydew, E., 1998. Implicit taxes in high dividend yield stocks. *The Accounting Review* 73(4), 435-458.

Floyd, E., Li, N., and Skinner, D., 2012. Payout policy through the financial crisis: The growth of repurchases and the persistence of dividends, Working paper, University of Chicago.

Global CFO Survey. 2012. Global CFO survey: optimism rebounds, employment outlook strengthens in U.S, Duke University/CFO Magazine Global Business Outlook Survey. March 7, 2012. http://www.cfosurvey.org/12q2/PressRelease.pdf

Gompers, P., Ishii, J., and Metrick, A. 2003. Corporate governance and equity prices. *The Quarterly Journal of Economics* 118(1), 107-156.

Gordon, R. and MacKie-Mason, J., 1990. Effects of the Tax Reform Act of 1986 on corporate financial policy and organizational form, in do taxes matter? The impact of the Tax Reform Act of 1986. ed. Joel Slemrod, 1990, 91-131.

Graham, John R. 2003. Taxes and corporate finance: A review. *Review of Financial Studies* 16(4), 1075-1129.

Greene, W., 2004. The behaviour of the maximum likelihood estimator of limited dependent variable models in the presence of fixed effects. *Econometrics Journal* 7, 98–119.

Healy, P.M. and Palepu, K.G., 1988. Earnings information conveyed by dividend initiations and omissions. *Journal of Financial Economics* 21(2), 149-175.

Hribar, P., Savoy, S. and Wilson, R. 2013. Pricing firms' responsiveness to shareholder tax incentives. Working paper.

Julio, B., and Ikenberry, D., 2005. Reappearing dividends. *Journal of Applied Corporate Finance* XVI, 89–100.

Norris, F., 2010. Taxes no longer so certain. *The New York Times*, August 12, 2010.

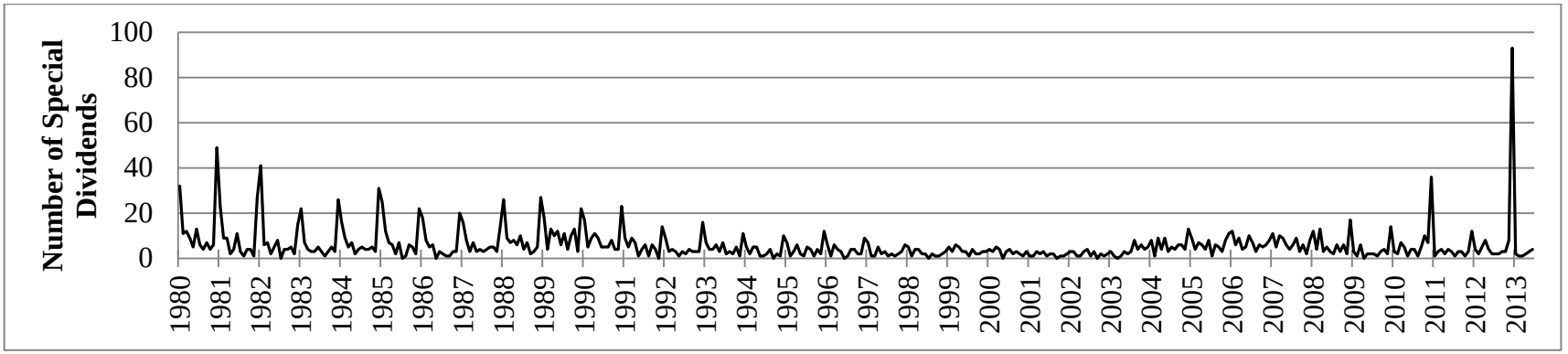
Pickens, T.B., 2008. The first billion is the hardest: reflections on a life of comebacks and America's energy future. Random House Publishing, New York.

Shevlin, T., 2008. Discussion of: executive stock-based compensation and firm's cash payout: The role of shareholders' tax-related payout preferences. *Review of Accounting Studies* 13(2–3), 252–265.

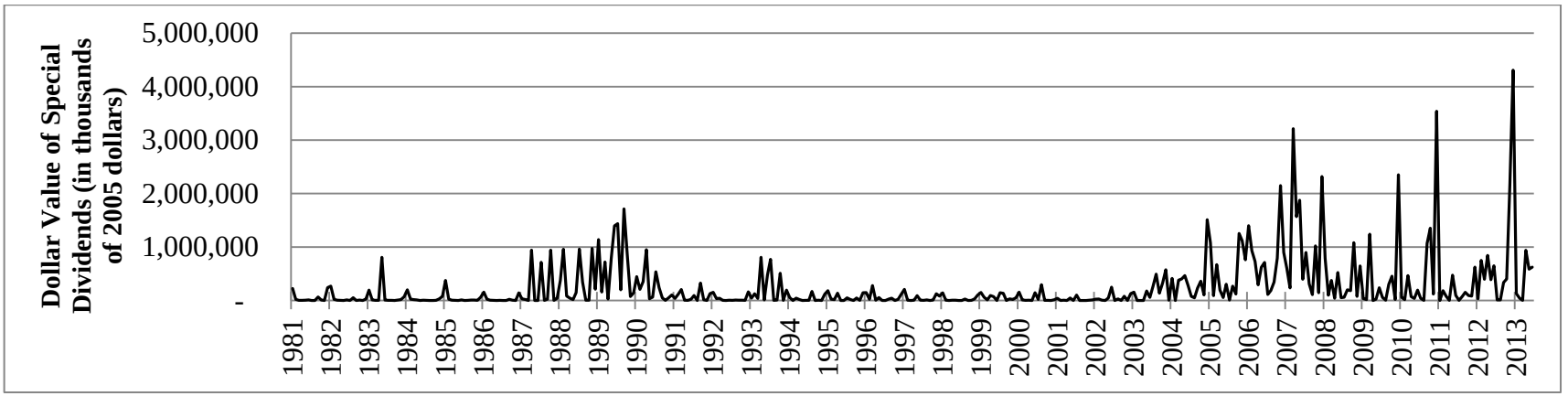
Slemrod, J., 1992. Do Taxes Matter? Evidence from the 1980s. *American Economic Review* 82, 250-256.

Figure 1
Special Dividends Jan 1980- June 2013

Panel A: The Number of Special Dividends in each Month



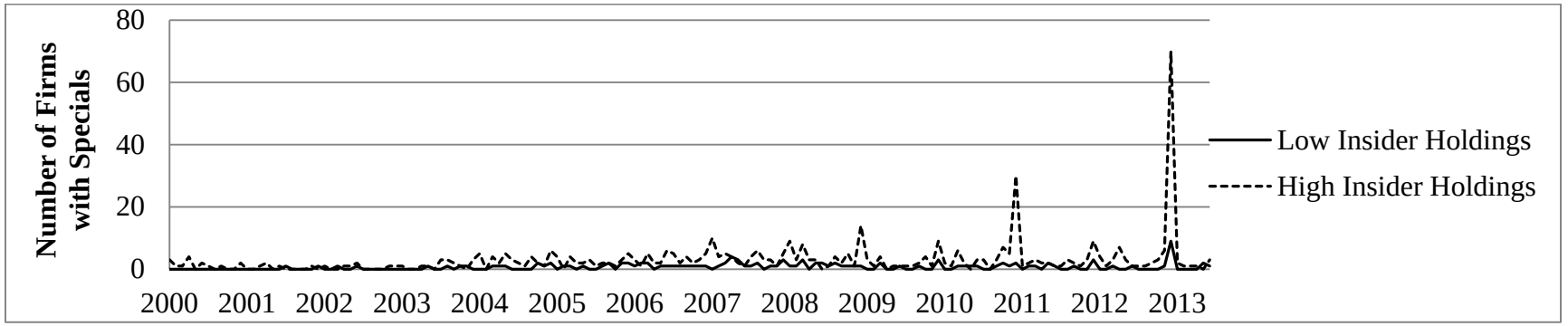
Panel B. The total dollar value of special dividends each month



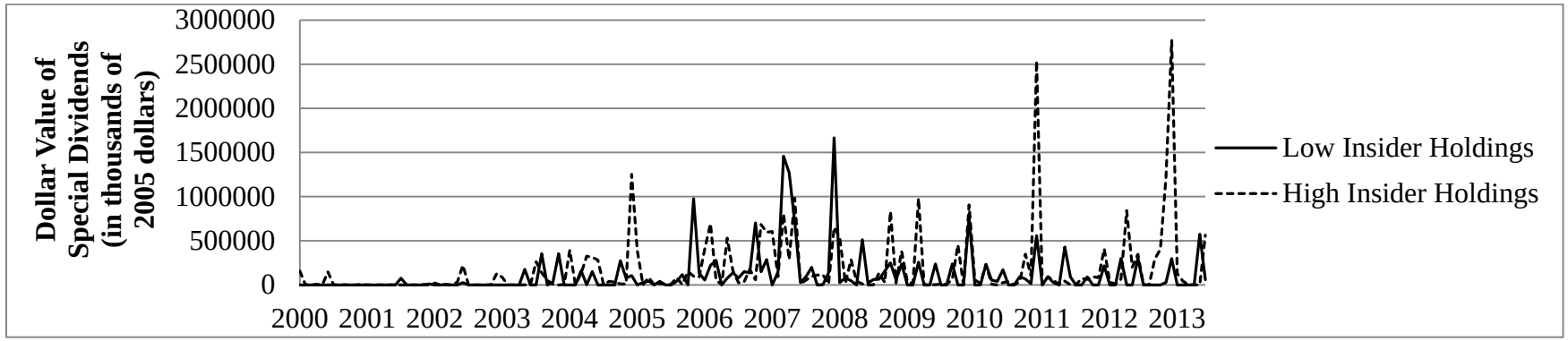
Notes: Panel A shows the total number of special dividends for each month and Panel B shows the dollar value of specials (in thousands of 2005 dollars) in each month, Jan 1980- June 2013, for all U.S. firms covered by the CRSP Dividend database, and which are not financial (final year SIC between 6000 and 6999) or utility (final year SIC between 4900 and 4949) firms, with sharecodes equal to 10 or 11.

Figure 2
The Effect of Insider Ownership on Special Dividends

Panel A. The number of special dividends in each month – partitioned by level of insider ownership.



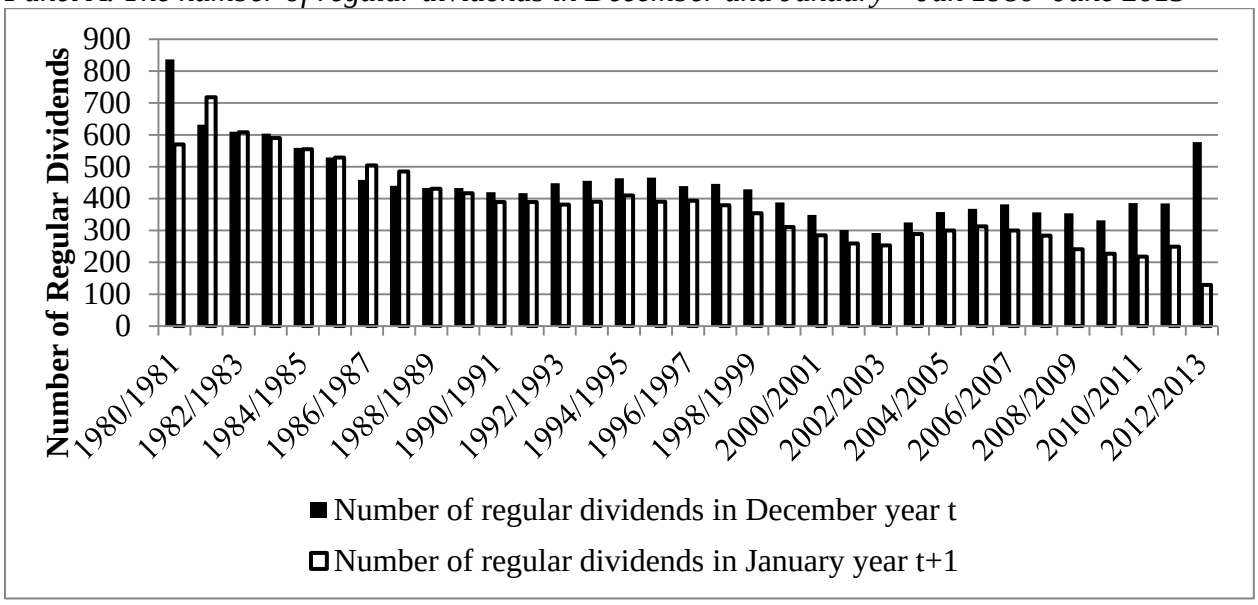
Panel B. The magnitude of special dividends in each month – partitioned by level of insider ownership.



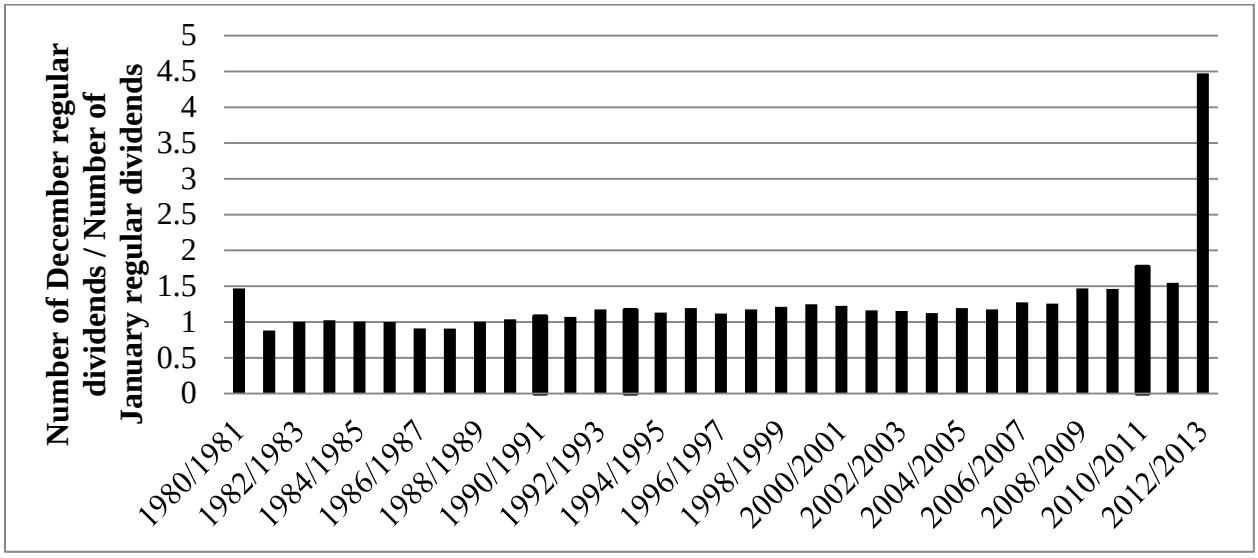
Notes: Panel A shows the number and Panel B shows the total dollar value of specials in each month (in thousands), Jan 1980- June 2013, for all U.S. firms covered by both the CRSP Dividend database and Factset Lionshares database, excluding financial firms and utilities, split by Insider Holdings. It is analogous to Figure 1, but graphed by Insider Holdings. High (Low) Insider Holdings Firms are firms whose Insider Holdings is above (below) the sample median. Insider Ownership is percentage of the firm held by insiders as of December 15, 2010, as provided by Factset's Lionshares database.

Figure 3
Intertemporal Shifting of Regular Dividends

Panel A. The number of regular dividends in December and January – Jan 1980- June 2013



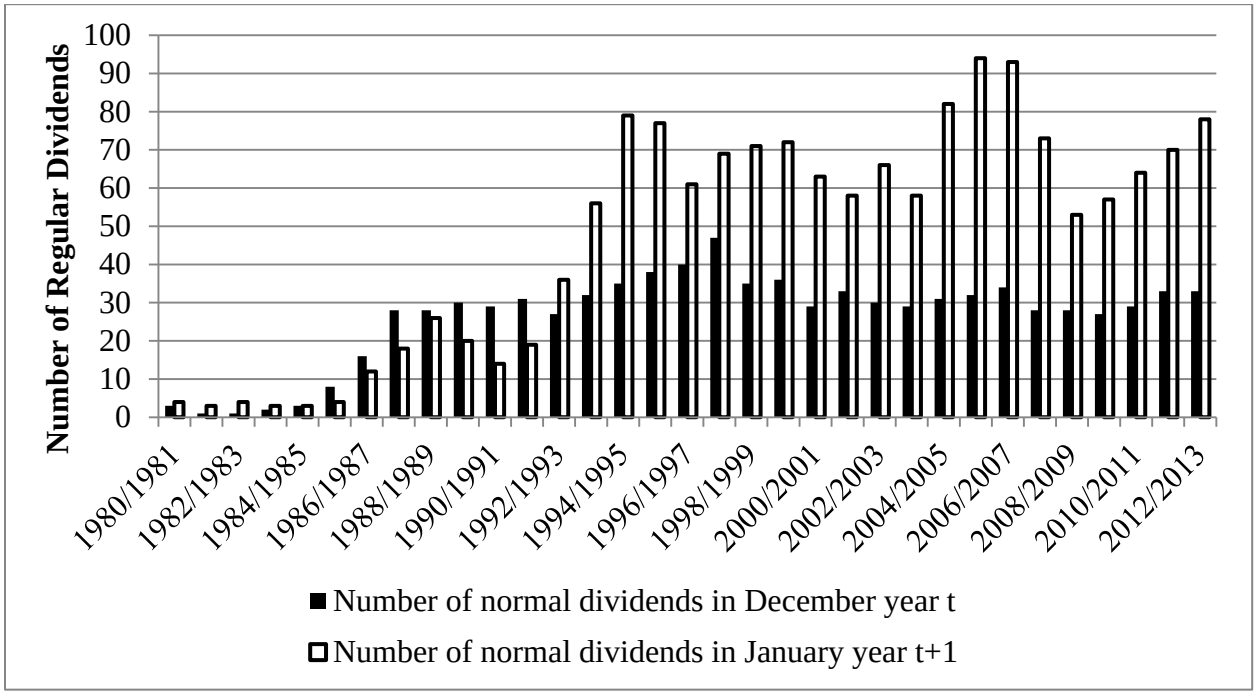
Panel B. The number of December regular dividends divided by the number of January regular dividends



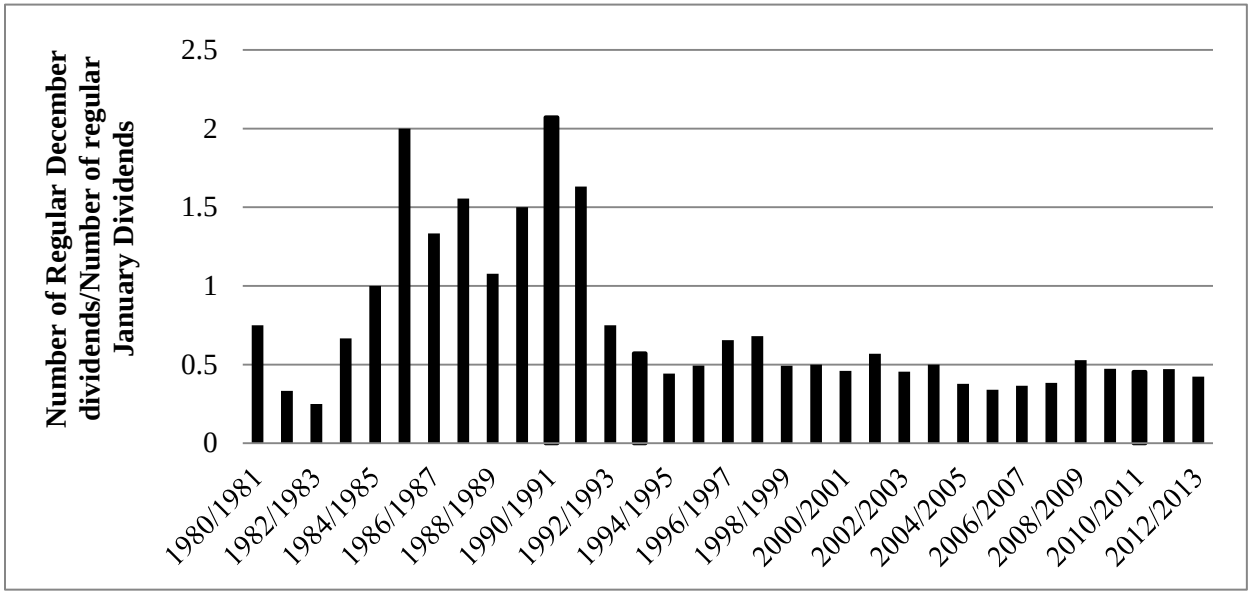
Notes: Panel A graphs the total number of regular dividends issued in December of year t (solid filled bars), and January of year t+1 (hollow bars), for firms in the sample described in the paper. Panel B graphs the ratio of the total number of regular dividends issued in December of year t, and January of year t+1, for 1980-2012.

Figure 4
Intertemporal Shifting of Regular Dividends by REITs

Panel A. The number of regular dividends in December and January for REITs

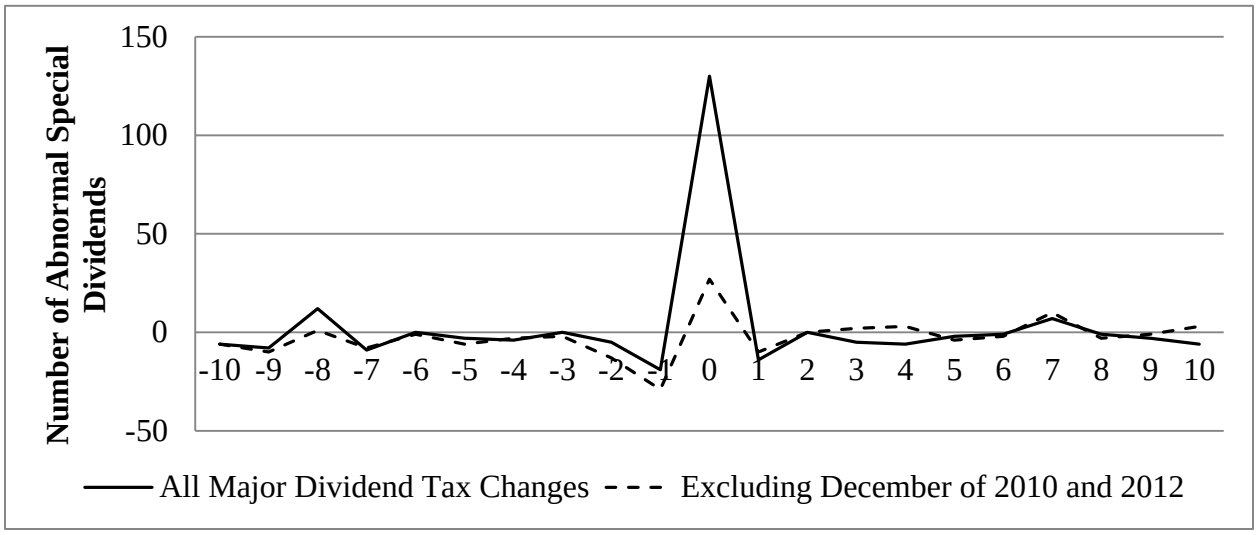


Panel B. The ratio of the number of December and January regular dividends for REITs



Notes: Panel A graphs the total number of regular dividends issued in December of year t, and January of year t+1, for Real Estate Investment Trusts. Panel B graphs the ratio of the total number of regular dividends issued in December of year t, and January of year t+1, for 1980-2013, for Real Estate Investment Trusts.

Figure 5
Historical Effects of Changes in the Dividend Tax Rate



Notes: This figure presents the number of abnormal dividends paid in each month for the 10 months prior to, and 10 months following a dividend tax rate change, labeled as period 0 (which, for *All Major Dividend Changes* is December of 1990, 2010, and 2012 and January of 1982, 1987 and 1988). *Excluding December of 2010 and 2012* excludes December of 2010 and 2012 as event period 0 dates. *Abnormal Special Dividends* are the number of special dividends in a given month less the number of special dividends in the same month of the last year. The analysis is relatively unchanged if abnormality is defined using the prior two, three, and four year averages of dividends paid in the same month, or the average from the same month in the year before, and the year after.

Table 1

Sample Selection

This table summarizes our sample selection procedure. Column 1 shows the sample and sample selection procedure for tests regarding special dividend payments (firm-month observations in which a special dividend is paid). Column 2 shows the sample and sample selection procedure for tests of regular dividend shifting (firm month observations in which a regular dividend is paid). Column 3 presents the sample of firm-month observations in which a regular dividend or a special dividend are paid. Note that because a firm-month observation may have both a special dividend and a regular dividend, that Columns 1 and 2 do not sum to Column 3.

	(1)	(2)	(3)
	Observations from Firm/Months that Include a Special Dividend, January 1980- June 2013	Observations from Firm/Months that do not Contain a Special Dividend, January 1980- June 2013	All Observations, January 1980- June 2013
Distributions in Sample Period	4,145	261,742	263,693
Excluding Distributions of Financial and Utility Firms	2,335	144,108	145,379
Compustat Data for Control Variables	2,013	127,757	128,830
Distributions with Execucomp Insider Holdings Data	270	28,595	28,769
Distributions with Factset Data	1,062	75,938	76,567

Table 2

Descriptive Statistics

This table presents descriptive statistics. *Presence of a Special Dividend* is an indicator variable coded 1 if the firm paid a special dividend in the firm-month. *Presence of a Regular Dividend* is an indicator variable coded 1 if the firm paid a regular dividend in the firm-month. *Size of Special Dividends* is the dollar value of the special dividend issued by the firm in thousands of 2005 dollars. *Size of Regular Dividends* is the dollar value of the regular dividend issued by the firm in thousands of 2005 dollars. *Assets* is the value of the firm's assets in the quarter previous to the dividend payment. *Cash* is the value of cash and cash equivalents at the firm as of the quarter ending prior to the dividend payment date, scaled by total assets. *Return on Assets* is sum of the four prior quarters pre-tax income, divided by the previous quarters ending balance of total assets. Cash from Operations is cash flow from operations, scaled by beginning of period assets (oancf/lag(at)). Leverage is the long term liabilities scaled by beginning of period assets (dltt/lag(at)). *Execucomp Insider Holdings* (Execucomp variable SHROWN_EXCL_OPTS, aggregated by year) is the percentage of the firm held by all executives covered by the Execucomp database, varying by firm/year. *Largest Insider's Holdings* (Execucomp variable SHROWN_EXCL_OPTS, maximum value for the year) is the percentage of the firm held by the insider with the largest shareholdings covered on the Execucomp database, varying by firm/year. *Factset Insider Holdings* (Factset variable EntityInsid/Stk ShsOut Pct) is the percentage of the firm held by insiders, as reported by the Factset database, as of December 15, 2010, varying by firm. Data are presented by various time periods surrounding the tax law changes tested in this paper and then for the entire sample period. In Panel A, bolded and italicized values are statistically significantly different than the mean of the Entire Sample at the p<.10 level or better. In Panel B, columns 4, 5 and 6 contain the differences in the means of Columns 1, 2 and 3, and bolded and italicized values are statistically significantly at the p<.10 level or better. In Panel C, the values for a year from the two samples are bolded and italicized if the differences between the two samples from the same year is significantly different than zero at the p<.10 level or better.

Panel A. Descriptive Statistics for observations falling in various time periods

Sample:	November and December 2009		January - October 2010		November and December 2010		November and December 2011		January - October 2012		November and December 2012		Entire Sample	
Sample Size:	500		2419		585		578		2784		851		128830	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Presence of a Special Dividend	0.03	0	0.02	0	***0.07***	0	0.03	0	***0.01***	0	***0.11***	0	0.02	0
Presence of a Regular Dividend	0.98	1	0.99	1	***0.95***	1	0.98	1	0.99	1	***0.91***	1	0.99	1
Size of Special Dividend	***4,741***	0	956	0	***6,156***	0	1,224	0	1,259	0	***7,312***	0	628.52	0
Size of Regular Dividend	***39,522***	5400.5	38,710	5721.74	***40,769***	6023.7	***41,172***	6359.7	***41,135***	6301.72	***44,150***	6645.94	22834.39	2774.59

Table 2
Descriptive Statistics

Panel B. Firm characteristics (measured on average over the sample period) of firms that have never paid a special dividend, firms that paid a special at some point in the sample period (but not in November and December of 2010, 2012), and firms that paid a special dividend in November and December of 2010 or 2012

Column:	(1)	(2)	(3)	(4)	(5)	(6)
	Firms That Never Paid a Special	Firms that Ever Paid a Special, excluding those that paid in November or December of 2010 or 2012	Firms that Paid a Special in November or December of 2010 or 2012	(1) - (2)	(1) - (3)	(2) - (3)
Assets	2206.09	1928.06	1108.91	278.03	***1097.18***	***819.15***
Cash	0.1000	0.1687	0.2566	***-0.0686***	***-0.1566***	***-0.0880***
Return on Assets	0.0960	0.1031	0.0992	***-0.0070***	-0.0032	0.0038
Execucomp Insider Holdings	0.0424	0.0637	0.0923	***-0.0211***	***-0.0504***	***-0.0293***
Largest Insider's Holdings	0.0354	0.0530	0.0734	***-0.0175***	***-0.0384***	***-0.0209***
Factset Insider Holdings	0.1565	0.2165	0.2930	***-0.0600***	***-0.1365***	***-0.0765***

Panel C. Firm characteristics by year for firms that paid a special in November and December of 2010 or 2012 and firms that did not

	2007		2008		2009		2010		2011		2012	
	No Special in NOVDEC2010 or 2012	Special in NOVDEC2010 or 2012	No Special in NOVDEC2010 or 2012	Special in NOVDEC2010 or 2012	No Special in NOVDEC2010 or 2012	Special in NOVDEC2010 or 2012	No Special in NOVDEC2010 or 2012	Special in NOVDEC2010 or 2012	No Special in NOVDEC2010 or 2012	Special in NOVDEC2010 or 2012	No Special in NOVDEC2010 or 2012	Special in NOVDEC2010 or 2012
Observations	972	108	972	108	972	108	972	108	972	108	972	108
Assets	***7586***	***1146***	***7482***	***1159***	7824	1209	8352	1233	8948	1330	***9379***	***1450***
Cash	***0.151***	***0.277***	***0.131***	***0.253***	0.158	0.282	0.166	0.304	***0.159***	***0.284***	0.147	0.245
ROA	***0.095***	***0.048***	***0.045***	***0.020***	***0.043***	***0.055***	0.074	0.097	***0.076***	***0.099***	0.067	0.102
Cash from Operations	***0.122***	***0.113***	***0.112***	***0.118***	***0.119***	***0.126***	0.109	0.127	***0.104***	***0.111***	***0.105***	***0.124***
Change in Cash Flows from Operations	***0.016***	***0.025***	***0.003***	***0.024***	***0.012***	***0.017***	***-0.007***	***0.013***	***0.008***	***-0.005***	0.011	0.027
Leverage	***0.215***	***0.175***	***0.210***	***0.152***	***0.193***	***0.128***	0.205	0.125	***0.212***	***0.139***	0.220	0.149
Change in Leverage	***0.037***	***0.010***	***0.020***	***0.009***	***-0.016***	***-0.017***	***0.011***	***-0.002***	***0.023***	***0.019***	0.025	0.022

Table 3

The Effects of Dividend Tax Rates on Special Dividends

This table tests whether special dividends are more common in the time periods when the individual level dividend tax rate is expected to increase significantly, the two months immediately prior the end of 2010 and the two months immediately prior to the end of 2012. The dependent variable in Column 1 is an indicator variable coded 1 if the firm paid a special dividend in that month. The dependent variable in Column 2 is the dollar value of the special dividend (if any) issued by the firm, scaled by the dollar value of the firms special dividend plus regular dividends (if any) in the month. *NOVDEC2010* is equal to one for all firm/month observations in November and December of 2010. *NOVDEC2012* is equal to one for all firm/month observations in November and December of 2012. *Cash* is the value of cash and cash equivalents at the firm as of the quarter ending prior to the dividend payment date, scaled by total assets. *Return on Assets* is sum of the four prior quarters pre-tax income, divided by the previous quarters ending balance of total assets. Standard errors are clustered by firm, and are robust to heteroskedasticity. The superscripts asterisks ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, using two-sided (one-sided) tests where we make no prediction (make a prediction) as to the sign of the effect.

Dependent Variable:	Prediction	Presence of Special Dividend	Magnitude of Special Dividend / Magnitude of All Dividends
NOVDEC2010	+	0.0401***	0.0431***
		(3.77)	(4.30)
NOVDEC2012	+	0.0849***	0.0878***
		(7.91)	(8.54)
Cash		0.1182***	0.1058***
		(9.67)	(10.61)
Return on Assets		0.0068	-0.0047
		(0.62)	(-0.49)
Janurary		0.0174***	0.0133***
		(4.45)	(3.94)
February		0.0059*	0.0031
		(1.76)	(1.10)
March		0.0027	0.0007
		(1.15)	(0.36)
April		0.0047	0.0020
		(1.38)	(0.71)
May		0.0030	0.0015
		(1.09)	(0.66)
June		0.0004	-0.0018
		(0.18)	(-0.95)
July		-0.0015	-0.0018
		(-0.59)	(-0.86)
August		0.0024	0.0009
		(0.83)	(0.38)
September		-0.0011	-0.0030*
		(-0.44)	(-1.69)
October		0.0027	0.0008
		(0.83)	(0.31)
November		-0.0023	-0.0042*
		(-0.83)	(-1.85)
December		0.0243***	0.0135***
		(6.56)	(5.37)
Firm Clustering		Yes	Yes
Year Fixed Effects		Yes	Yes
Month Fixed Effects		Yes	Yes
Observations		128,830	128,830
Rsquared		0.04	0.04

Table 4

The Effect of Dividend Tax Rates and Insider Ownership on Special Dividends

This table examines the effect of inside ownership on the responsiveness to individual-level tax rates. *NOVDEC2010* is equal to one for all firm/month observations in November and December of 2010. *NOVDEC2012* is equal to one for all firm/month observations in November and December of 2012. *Execucomp Insider Ownership* is the percentage of the firm held by firm insiders, calculated from Execucomp. *Largest Insider's Holdings* is the percentage of the firm held by the largest shareholder covered by Execucomp. *Factset Insider Holdings* is the percentage of the firm held by firm insiders, calculated from Factset. *Cash* is the value of cash and cash equivalents at the firm as of the quarter ending prior to the dividend payment date, scaled by total assets. *Return on Assets* is sum of the four prior quarters pre-tax income, divided by the previous quarters ending balance of total assets. Standard errors are clustered by firm, and are robust to heteroskedasticity. Standard errors are clustered by firm. The superscripts asterisks ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, using two-sided (one-sided) tests where we make no prediction (make a prediction) as to the sign of the effect.

		(1)	(2)	(3)	(4)	(5)	(6)
	Prediction	Indicator for Presence of Special in Firm/Month			Magnitude of Special Dividend / Magnitude of Regular and Special Dividends		
NOVDEC2010		-0.0014	0.0036	0.0042	-0.0004	0.0042	0.0072
		(-0.15)	(0.40)	(0.43)	(-0.05)	(0.51)	(0.79)
NOVDEC2012		0.0150	0.0205**	0.0299**	0.0168*	0.0221**	0.0316***
		(1.47)	(2.03)	(2.58)	(1.71)	(2.27)	(2.85)
Execucomp Insider Holdings	?	0.0365**			0.0314**		
		(2.24)			(2.11)		
Execucomp Insider Holdings X NOVDEC2010	+	0.8007***			0.7758***		
		(2.40)			(2.42)		
Execucomp Insider Holdings X NOVDEC2012	+	1.0057***			0.9568***		
		(4.02)			(3.97)		
Largest Insider's Holdings	?		0.0419**			0.0384**	
			(2.29)			(2.17)	
Largest Insider's Holdings X NOVDEC2010	+		0.7942**			0.7779**	
			(2.23)			(2.23)	
Largest Insider's Holdings X NOVDEC2012	+		1.0305***			0.9778***	
			(3.58)			(3.53)	
Factset Insider Holdings	?			0.0236***			0.0231***
				(4.10)			(4.58)
Factset Holdings X NOVDEC2010	+			0.2614***			0.2574***
				(3.63)			(3.65)
Factset Holdings X NOVDEC2012	+			0.3347***			0.3352***
				(4.89)			(4.94)
Cash		0.0698***	0.0698***	0.1067***	0.0707***	0.0705***	0.1029***
		(4.60)	(4.62)	(7.85)	(4.79)	(4.80)	(8.08)
Return on Assets		0.0043	0.0049	0.0001	-0.0038	-0.0034	-0.0115
		(0.25)	(0.29)	(0.01)	(-0.25)	(-0.23)	(-0.93)
Firm Clustering		Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects		Yes	Yes	Yes	Yes	Yes	Yes
Month Fixed Effects		Yes	Yes	Yes	Yes	Yes	Yes
Observations		28,769	28,769	76,567	28,769	28,769	76,567
Psuedo-Rsquared		0.05	0.04	0.05	0.05	0.05	0.05

Table 5

The Effect of the Dividend Tax Rate on the Shifting of Normal Dividends

This table presents results from tests of whether regular dividends were shifted from January 2011 to December 2010, and from January 2013 to December 2012. The sample period is 1980-2013. The dependent variable is equal to the number of regular dividends paid in December of year t, divided by the number of regular dividends paid in January of year t+1. *Indicator for 2010-2012* is an indicator variable for this ratio in December of 2010 and January 2011. *Indicator for 2012-2013* is an indicator variable for this ratio in December of 2012 and January 2011. The superscripts asterisks ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, using one-sided test where we have a prediction.

	Prediction	(Number of December t regular dividends) / (Number of January t+1 regular dividends)
Indicator for 2010-2011	+	0.614***
		(-19.98)
Indicator for 2012-2013	+	3.316***
		(-107.95)
Constant		1.157***
		(-37.66)
Observations		33
R-squared		0.93

Table 6

The Effect of Inside Ownership on Shifting Normal Dividends in Response to Tax Rate Changes

This table presents results from tests of whether firms with higher values of insider ownership were more likely to shift dividends from January 2011 to December 2010 and January 2013 to December 2012. The sample consists of all firms that paid a dividend in either January 2010 or January 2012. The dependent variable, *Shifting Firm*, is equal to one for firms that paid a dividend in December of 2010 or 2012, and did not pay a regular dividend the subsequent January. *Execucomp Insider Ownership* is the average value for the firm of the percentage of the firm held by firm insiders, calculated from Execucomp. *Largest Insider's Holdings* is the average value for the firm of the percentage of the firm held by the largest shareholder covered by Execucomp. *Factset Insider Holdings* is the average value for the firm of the percentage of the firm held by firm insiders, calculated from Factset. The superscripts asterisks ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, using one-sided test where we have a prediction.

Dependent Variable:	Prediction	(1)	(2)	(3)
		Shifting Firm		
Execucomp Insider Holdings	+	1.0018**		
		(1.86)		
Largest Insider's Holdings	+		1.6823***	
			(2.73)	
Factset Insider Holdings	+			0.3926**
				(2.20)
Constant		0.4167***	0.4099***	0.4287***
		(11.18)	(11.10)	(10.70)
Observations		213	213	255
R-squared		0.02	0.03	0.02

Table 7

Test of Agency Effects

This table examines whether agency considerations may have motivated managers tax-motivated payout. The dependent variable in Column 1 is an indicator variable coded 1 if the firm paid a special dividend in that month. The dependent variable in Column 2 is the dollar value of the special dividend (if any) issued by the firm, scaled by the dollar value of a firms special and regular dividends. *NOVDEC2010* is equal to one for all firm/month observations in November and December of 2010. *NOVDEC2012* is equal to one for all firm/month observations in November and December of 2012. *G-Index* is the negative value of the firm's average Gompers Index. *Cash* is the value of cash and cash equivalents at the firm as of the quarter ending prior to the dividend payment date, scaled by total assets. *Return on Assets* is sum of the four prior quarters pre-tax income, divided by the previous quarters ending balance of total assets. Standard errors are clustered by firm, and are robust to heteroskedasticity. The superscripts asterisks ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, using two-sided tests.

		(1)	(2)
Dependent Variable:	Prediction	Presence of Special Dividend	Magnitude of Special Dividend / Magnitude of All Dividends
NOVDEC2010	+	0.0805**	0.0699**
		(2.16)	(2.22)
NOVDEC2012	+	0.1305***	0.1266***
		(3.09)	(3.12)
G-Index		0.0007*	0.0006*
		(1.80)	(1.77)
NOVDEC2010 X G-Index	+/-	0.0069**	0.0055*
		(2.00)	(1.90)
NOVDEC2012 X G-Index	+/-	0.0107***	0.0100***
		(2.69)	(2.60)
Cash		0.0559***	0.0523***
		(4.73)	(5.04)
Return on Assets		0.0167	0.0059
		(1.31)	(0.56)
Firm Clustering		Yes	Yes
Year Fixed Effects		Yes	Yes
Month Fixed Effects		Yes	Yes
Observations		83,314	83,314
Rsquared		0.02	0.02

Table 8

Tests of Repurchase Activity

This table examines whether share repurchases increased prior to expected increases in the dividend tax rate. The sample is dividend paying firms from January 2004 to June 2013. The dependent variable in Column 1 is an indicator variable coded 1 if the firm repurchased shares in the quarter in which the firm/month occurs. The dependent variable in Column 2 is the dollar value of shares repurchased by the firm in the quarter in which the month occurs, scaled by the market value of equity of the firm. *NOVDEC2010* is equal to one for all firm/month observations in November and December of 2010. *NOVDEC2012* is equal to one for all firm/month observations in November and December of 2012. *Cash* is the value of cash and cash equivalents at the firm as of the quarter ending prior to the dividend payment date, scaled by total assets. *Return on Assets* is sum of the four prior quarters pre-tax income, divided by the previous quarters ending balance of total assets. Standard errors are clustered by firm, and are robust to heteroskedasticity. The superscripts asterisks ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, using two-sided tests.

	(1)	(2)
Dependent Variable:	Presence of a Repurchase	Magnitude of Repurchase / Market Value of Equity
NOVDEC2010	-0.0159	0.0008*
	(-0.85)	(1.75)
NOVDEC2012	-0.0141	0.0004
	(-0.80)	(0.87)
Cash	-0.2065***	-0.0002
	(-3.31)	(-0.16)
Return on Assets	0.8379***	0.0113***
	(8.70)	(7.72)
Firm Clustering	Yes	Yes
Year Fixed Effects	Yes	Yes
Month Fixed Effects	Yes	Yes
Observations	30,562	30,562
Rsquared	0.50	0.22

Table 9

Historical Test of Firms Responses to Dividend Tax Changes

Panel A documents the history of dividend tax rate changes in the U.S. In Panel B, the dependent variable in Column 1 and 3 is an indicator variable coded 1 if the firm paid a special dividend in that month. The dependent variable in Column 2 and 4 is the dollar value of the special dividend (if any) issued by the firm, scaled by the dollar value of a firms regular and special dividends in the month. *December Before Rate Increase/January After Rate Decrease* is an indicator variable coded to equal one in December of years where the dividend tax rate was expected to increase (1990, 2010 and 2012) and January of years where the tax rate was expected to decrease (1982, 1987, 1988). Table 9 tabulates the results of this estimation. *Rate Change (%)* is the percentage rate change in the dividend tax rate in the December before a tax rate increase, or January after a tax rate decrease.

Panel A. History of Dividend Tax Rates Changes

Year	Act	Signed into law	Date Rate Took Effect	Previous Rate	Enacted Rate	Percentage Rate Change	Included in Test
1982	Economic Recovery Tax Act of 1981	August 13, 1981	January 1, 1982	70.0%	50.0%	(28.6)	Yes
1987	Tax Reform Act of 1986	October 22, 1986	January 1, 1987	50.0%	38.5%	(23.0)	Yes
1988	Tax Reform Act of 1986	October 22, 1986	January 1, 1988	38.5%	28.0%	(27.3)	Yes
1991	Omnibus Budget Reconciliation Act of 1990	November 5, 1990	January 1, 1991	28.0%	31.0%	10.7	Yes
1993	Omnibus Budget Reconciliation Act of 1993	August 10, 1993	January 1, 1993	31.0%	39.6%	27.7	No
2001	Economic Growth and Tax Relief Reconciliation Act of 2001	June 7, 2001	January 1, 2001	39.6%	39.1%	(1.3)	No
2002	Economic Growth and Tax Relief Reconciliation Act of 2001	June 7, 2001	January 1, 2002	39.1%	38.6%	(1.3)	No
2003	Jobs and Growth Tax Relief Reconciliation Act of 2003	May 28, 2003	January 1, 2003	38.6%	15.0%	(61.1)	No
2010	Expected Expiration of JGTRRA Tax Rates	N/A	January 1, 2011	15.0%	Potential of 35%	133.3	Yes
2012	Expected Expiration of JGTRRA Tax Rates	N/A	January 1, 2013	15.0%	Potential of 35%	133.3	Yes

Table 9 (continued)
Historical Test of Firms Responses to Dividend Tax Changes

Panel B. Historical test of firms' responses to dividend tax changes

		(1)	(2)	(3)	(4)
VARIABLES	Prediction	Presence of Special Dividend	Magnitude of Special Dividend / Magnitude of All Dividends	Presence of Special Dividend	Magnitude of Special Dividend / Magnitude of All Dividends
December Before Rate Increase/January After Rate Decrease	+	0.0448***	0.0416***		
		(8.82)	(9.19)		
Rate Change (%)	+			0.0031***	0.0030***
				(9.04)	(9.51)
Cash		0.1197***	0.1068***	0.1197***	0.1068***
		(9.74)	(10.65)	(9.74)	(10.64)
Return on Assets		0.0134	-0.0002	0.0132	-0.0004
		(1.24)	(-0.02)	(1.23)	(-0.04)
Firm Clustering		Yes	Yes	Yes	Yes
Year Fixed Effects		Yes	Yes	Yes	Yes
Month Fixed Effects		Yes	Yes	Yes	Yes
Observations		128,830	128,830	128,830	128,830
R-squared		0.04	0.04	0.04	0.04