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Michelle Hanlon
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“What Do Firms Do When Dividend Tax Rates
Change? An Examination of Alternative Payout
Responses to Dividend Tax Rate Chages”

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

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Abstract: This paper investigates the responsiveness of corporate payout policy to individual-level taxes. We predict and find a surge of special dividends in the final months of 2010, immediately before individual-level dividend tax rates were expected to increase (but did not). Consistent with prior research on dividend taxes and payout, we find that much of the increase is concentrated in firms largely held by insiders. In addition, we find evidence that firms alter the timing of their regular dividend payments by shifting what would normally be January, 2011 regular dividend payments into December of 2010. To our knowledge this is the first evidence in the literature about the timing of regular dividend payments in response to tax law changes. The changing of the timing of regular dividend payments is consistent with Slemrod's (1992) framework of taxpayer responsiveness to tax changes.

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

1. Introduction

This paper examines how investor level dividend tax rates affect firms' decisions regarding payout policy. Whether, how, and to what extent individual taxes affect corporate payout has been the subject of much research (discussed below). As Chetty and Saez (2005) note, this is likely due to the economic implications of dividend taxes on efficiency. If investor level taxes affect firm payout or investment, they have implications for the efficient operation of the market as a whole, with lower dividend tax rates most often associated with increased efficiency. Prior literature with respect to payout focuses primarily on whether individual level dividend taxes affect firms' payments of regular dividends, but gives much less attention to alternative payout responses to changes in dividend tax rates. In our paper, we examine two alternative corporate responses to changing dividend tax rates that have received less attention in the literature – issuing special dividends and altering the timing of regular dividends.¹

Our primary research setting is the dividend tax rate increase expected to occur on January 1, 2011. As background, the Jobs Growth and Tax Relief Reconciliation Act of 2003 (JGTRRA) reduced the tax rate on dividends from a maximum of 35% to a maximum of 15%. This reduction in tax rates, however, was intended to be temporary and was scheduled to expire on December 31, 2010.² In late 2010, the U.S. economy was recovering from the recession of 2008-2009 and much debate ensued about the effects of increasing taxes during a depressed economic cycle. Through late 2010, there was uncertainty regarding the extension of the

¹ Chetty and Saez (2005) and Blouin, Raedy and Shackelford (2004) document an increase in special dividends surrounding the 2003 dividend tax cut, but, as explained later, their time period of investigation included limiting factors not faced in our time period.

² The Act was originally set to expire in 2008, but the Tax Increase Prevention and Reconciliation Act of 2005 extended the expiration date through 2010.

favorable dividend tax rate (i.e., the Bush Tax Cuts); with deadlock in Congress making 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 (a maximum rate equal to the top individual tax rate, potentially as high as 39.6%) (e.g. Bases, 2010).³ Others believed that a compromise was likely, with the dividend tax rate likely to rise to 20% (Briginshaw, 2010; Norris, 2010). Finally, on December 16th, 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 passed into law, extending the favorable 15% maximum rate that had existed from 2003-2010 for the next two years.⁴

We posit that a low-cost response for firms when faced with a potential dividend tax increase is to distribute special dividends. Similar to regular dividends, special dividends distribute cash to shareholders. However, special dividends do not commit firms to payout policies that may become untenable should the economic and tax environment change.⁵

³ 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...” Further, while speculation about the likelihood of an extension of the favorable dividend rate ran rampant, many in the financial sector assumed the extension would not happen. 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?”

⁴ Substantial uncertainty had been resolved shortly prior to final passage and signing of the Jobs Act. On December 6th President Obama announced that a compromise had been reached, and that the dividend tax rate would be extended. 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, an insufficient number to override a filibuster. This bill, the Middle Class Tax Relief Act of 2010, would have allowed the preferential dividend tax rate to lapse for high income earners (joint filers earning over \$250,000), but remain in place for middle and low income earners.

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% of surveyed managers agree or strongly agree that “there are negative consequences to reducing dividends.” In addition, we note that while special dividends do not represent a long term commitment, like regular dividends, they do require a decision to pay in advance of the actual dividend payment date, suggesting that even though uncertainty with regard to the rate reduction was eliminated on December 16th, firms likely would have had to committed to pay year-end dividends well prior to December 16th. In our sample of special dividends, the mean duration between a dividend announcement date and the payment date is 38.9 days, the first percentile is 13 days, and the 99th percentile is 105 days. One single firm on the CRSP database announced a special after December 17th and paid by year end 2010. This firm, RLI Corporation, is not included in our sample because it is an insurance firm.

Anecdotal evidence exists that supports our conjecture. For example, Masimo issued a special dividend on December 21, 2010, and in a press release dated November 22, 2010, stated that “The special dividend is another step in demonstrating our commitment to enhancing stockholder value...In addition, due to the uncertainty over potential changes in tax policy, the timing of this dividend will allow Masimo stockholders to take advantage of the current low dividend tax rate.”

We also examine a second type of response—the shifting of regular dividends across tax rate regimes. Slemrod (1992) lays out a framework in which he outlines potential behavioral responses to changes in tax policy. He argues that taxpayers may 1) alter the timing of economic transactions, 2) repackage or re-label financial transactions, and 3) alter real decisions. The shifting of regular dividend payments from a period of high taxes to one of low taxes falls into Slemrod’s first order of responsiveness. There is also anecdotal evidence of this type of response. For example, in an announcement 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.” To our knowledge, the shifting of dividends around an individual tax rate change has not been empirically investigated previously.

We test cross-sectional variation in the response to the expected tax increase by examining whether the response, if any, is greater for firms with more insider ownership. Prior literature reports that firms with larger levels of inside ownership are more sensitive to investor-level dividend tax rate changes (for example, see Chetty and Saez, 2005 and Blouin, Raedy and Shackelford, 2011). A greater effect for firms with larger inside ownership is consistent with an

agency cost explanation in the sense that managers seem more likely to respond when it affects their own personal wealth. One could also consider the result consistent with incentive alignment – when managers have a large equity stake, they are incentivized to maximize shareholder wealth. In either case, the cross-sectional prediction is that more insider holdings leads to a greater responsiveness of payout with respect to dividend taxes.

We find evidence of both increased special dividends and a shifting of regular dividend payment in expectation of the increase in the dividend tax rate near the end of 2010. There is a statistically and economically significant surge in the number of special dividends in November and December of 2010. There is also evidence of firms shifting regular dividends from January, 2011 to December, 2010.

In additional analysis, we do not find evidence that real estate investment trusts (REITs) which have different tax incentives, shifted their regular dividends in response to the tax rate change, lending support to our hypothesis that our results are tax driven and not caused by macro-economic factors.⁶ Finally, we find no evidence that firms increased their payment of special dividends near the end of 2010 by substituting special dividends for share repurchases. Indeed, we find a dramatic increase in the dollar value and incidence of repurchases in the final quarter of 2010 as well. This increase likely also has a tax explanation—capital gains tax rates were also expected to rise at the end of 2010.

Overall, we conclude from the evidence that individual level taxes affect payout policy in terms of timing of payments and for payout types that do not require high commitments to continue payments (i.e., a shift in timing of regular dividends, increased special dividends, and increased share repurchases). Evidence consistent with responsiveness using less costly methods

⁶ REITs rarely pay special dividends, thus, we do not formally examine whether there was a surge in special dividend payments in late 2010 by REITs. We discuss more below.

is consistent with Slemrod's (1992) hierarchy of taxpayer responsiveness and provides support for the broad thesis that managers consider investor level taxes in making payout decisions.

Our paper contributes to the literature by providing additional evidence in the debate about taxes and payout policy. Chetty and Saez (2005) and Blouin, Raedy, and Shackelford (2011) report evidence consistent with changes in individual level dividend tax rates affecting firms' payout policy (broadly defined). However, other research (e.g., Edgerton (2010), Julio and Ikenberry (2005), Floyd, Li, and Skinner (2012), discussed below) concludes that the observed increase in dividends after JGTRAA is not due to taxes. Our paper helps to bridge the gap between these two sets of papers by documenting low-cost actions firms take in response to dividend tax rate changes. Our data show that there are alternative payout responses to dividend tax rate changes, such as shifting the timing of regular dividend payments, providing support that managers are cognizant of investor level taxes. We contend that evidence on the timing changes by management are important given Slemrod's (1992) statement that "...understanding tax policy implications for retiming and repackaging of transactions is essential to understanding the tax system as a whole."⁷

This paper proceeds as follows. Section 2 provides a discussion of prior literature and develops our hypothesis. Section 3 discusses our research design and results. Section 4 concludes.

⁷ In addition, Blouin Raedy and Shackelford(2011) state that further research is needed to understand the role of insiders in the interaction of shareholder taxes and distribution policies. Our paper helps provides an answer to this call.

2. Prior Research, Empirical Setting, and Hypothesis Development

2.1 Prior Research

The relation between investor-level taxes and firms' payout policy has received considerable attention in the literature, but the results are somewhat mixed. For example, Gordon and Mackie-Mason (1990) find a payout response to dividend tax rate changes but Bolster and Vahan (1991) find no or little response. Recently, the Jobs Growth and Tax Relief Reconciliation Act of 2003 (JGTRRA) provided a potentially fruitful setting to test the effect of investor-level tax rates on payout policy because JGTRRA reduced the dividend tax rate (on qualified dividends) for individuals from a maximum of 35% to a maximum of 15%.⁸ While there are a myriad of studies on JGTRRA (for example, Blouin, Raedy and Shackelford, 2004; Chetty and Saez, 2005; Julio and Ikenberry, 2004; Chetty and Saez, 2005; Edgerton, 2010; Blouin, Raedy and Shackelford, 2011), the findings of these studies have also been somewhat mixed. Using primarily non-parametric graphical analysis, Chetty and Saez (2005) find an increase in dividend payments (along both the extensive and intensive margin) as a result of the dividend tax rate reduction. Chetty and Saez (2005) report a 20% increase in dividends after the passage of the JGTRRA, which they attribute to the reduction in the tax rate. They also find an increase in special dividends following JGTRRA and conclude that firms were not merely substituting regular dividends for share repurchases. However, they concede that their findings are not obtainable in a standard time series regression, as a result of entry and exit effects in the sample and the concentrated nature of dividends. They also acknowledge that, as a result of other economic events surrounding 2003 (e.g., corporate scandals), the suggestion of a causal relation between dividends and shareholder-level taxes in their study should be interpreted with caution.

⁸ Qualified dividends are defined by IRC 1(h)(11)(B), and generally include all dividends paid by a domestic corporation or a qualified foreign corporation, with several specific exceptions regarding holding periods and the type of corporation issuing the dividend.

Using a similar time period as Chetty and Saez (2005), Blouin, Raedy and Shackelford (2011) also study the JGTRRA and find that the percentage of total payout represented by regular dividends increased after JGRRTA. Taken together, Blouin, Raedy and Shackelford (2011) and Chetty and Saez (2005) find that corporate payout responds to changes in the dividend tax rate in a manner consistent with tax incentives.

There are also several studies that cast doubt on the influence of shareholder level taxes on corporate dividend policy around JGTRRA. For example, Edgerton (2010) also investigates firms' reactions to the JGTRRA and finds an increase in dividends after JGTRRA. However, Edgerton (2010) attributes the increase in dividends to other factors, such as rising firm profitability and investors' demand for cash, both points conceded as potential confounding factors by Chetty and Saez (2005). Edgerton (2010) investigates the reaction of the JGTRRA by using a difference-in-difference technique; he notes that dividends from real estate investment trusts (REITs) are not qualified dividends under the JGTRRA and, thus, are not subject to the special lower tax rate.⁹ In light of this fact, only dividends on regular C-corporations that are in excess of the increase experienced by REITs can be attributed to the dividend tax rate reduction. Using this difference-in-difference framework, Edgerton estimates that the impact of JGTRRA on aggregate dividend payouts is statistically insignificant. 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. 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, a point noted by Chetty and Saez (2005) as a difficulty to be overcome in the examination of the question. Finally, Floyd, Li, and Skinner

⁹ As stipulated by IRC 1(h)(11)(D)(iii).

(2011) conclude that dividends likely did not increase after 2003 due to individual level taxes, but rather due to other factors (e.g., firm profitability).

Survey evidence has also weighed in to suggest 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.¹⁰

The contradictory findings in this body of work are potentially attributable to many factors. First, many papers were completed before a sufficient time series of data was available to fully analyze the response to JGTRRA. Second, the decrease in the dividend tax rate did not create an unambiguous time period in which to explore changes in payout policy by firms.¹¹ For this reason, in the studies that examine JGTRRA, there is not consistency with regard to the event period (starting with either the announcement of the possibility of a rate decrease, to the legislative proposal, to final passage of the bill). Further, even if a date that firms anticipated the bill to be passed is known, it is not certain how long firms take to respond to such information, and understanding over which period firms will respond to the tax change is essential for estimation (Shevlin, 2008).

¹⁰ Brav, Graham, Harvey and Michaely (2008) thus supports the sentiment in Brav, Graham, Harvey and Michaely (2005), that dividend tax rates and payout policy are only weakly related which suggests 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 reduction, which finds evidence that “cast[s] doubt on the notion that dividend policy is based on shareholders’ tax rates (Abrutyn and Turner, 1990: 493).”

¹¹ For example, Brown, Liang, and Weisbenner (2007) treat all 2003 initiations as having occurred after JGTRRA, even though, as Blouin, Raedy, and Shackelford (2011) specifically mention, the Act was not passed into law (and then, by only one vote), until May of 2003.

A third important confounding factor in prior work is that the period around the passage of JGTRRA was full of other economic events that could have affected firms' payout. During this period, the economy was recovering from a massive stock market crash which changed the composition of the market and there were several highly publicized instances of corporate fraud that may have made investors wary of leaving cash at firms, spurring demand for dividends (in line with Jensen, 1986). Indeed, JGTRRA was, in part, a response to the economic downturn and even the corporate scandals.¹² In addition to this, corporate earnings were increasing following the recession of the early 2000s, which may have contributed to increased dividends (Edgerton, 2010). Chetty and Saez (2005) list these reasons as limitations of their study and conclude by suggesting that “future tax changes might allow identification of tax effects in an environment where such scandals are less relevant (Chetty and Saez, 2005; 816).” Our paper aims to satisfy this condition.

2.2 Empirical Setting

We extend the examination of individual level taxes and payout policy in an empirical setting that is more amenable to controlling for the potential confounding factors above and by examining alternative methods of responding to tax rate changes.¹³ By both changing our setting (the potential sunset of JGTRRA instead of the passage of JGTRRA) and the types of behavior studied (to those appropriate for the new setting – special dividends and regular dividend

¹² Vice President Dick Cheney stated “Abolishing the double-taxation on dividends will...transform corporate behavior in America and encourage responsible practices...” He went on to say “...investors will demand higher cash dividends, and companies will be motivated to share them. This should discourage companies from artificially inflating profits just to cause a temporary spike in stock prices” (Weil, 2003).

¹³ For example, because we study an expected tax increase, our setting offers an unambiguous and narrow time period in which to study corporate payout behavior. We need not worry if our event period captures all of the effect of the rate increase, as all dividends would have had to have been paid before December 31, 2010 to be subject to the lower rate. Further, given our very short event window (two months), general trends such as increased demand for dividends because of accounting fraud, economic cyclicalities, and changes in corporate earnings will be much less likely to adversely affect our estimation. In sum, this shortened event window offers a sharper test, with less chance that other economic factors could create a spurious result.

shifting), we contribute to the literature and add to our knowledge about firm responses to individual level dividend taxation. We note that our setting in some sense has the opposite limitation relative to prior literature. While the JGTRRA provisions were scheduled to expire on December 31, 2010, they did not actually expire and instead were extended until December 31, 2012. Thus, our setting suffers from pressure against finding results because the expiration of JGTRRA was not a certainty (and indeed, it did not end up materializing). Thus, if evidence of increased payouts in response to an expectation of higher rates exists in our setting, it is likely a lower-bound of the responsiveness of payout to taxation.

2.3 Hypothesis Development

We use the expected expiration (sunset) of JGTRRA to test three hypotheses. First, firms may consider the after-tax benefit of paying dividends to their investors when considering whether to pay a dividend. As a result of lower tax rates in 2010 relative to the tax rates after the impending rate increase, companies may opt to pay more dividends in time periods which are tax favored. This would suggest a surge in special dividends prior to December 31, 2010. As discussed above, special dividends do not generate expectations of continued dividend payments and offer the benefit of being “one-time” in nature. This allows payouts to occur before the rate increase is in effect without creating an expectation that payouts will continue at that level after rates increase. As a result, we make the formal hypothesis:

H1: *There is a surge of special dividends immediately prior to the expected dividend tax rate increase.*

Prior research also provides evidence that agency costs play a role in the responsiveness to tax incentives. For example, Chetty and Saez (2005) find that firms that have relatively more inside ownership were more apt to respond to the dividend tax reduction of 2003. Similarly, in our setting, before the impending tax rate increase, managers with large shareholdings may have

been anxious to issue special dividends in order to accrue the benefits of lower dividend taxation for themselves. Indeed, the popular press discusses this factor; Driebusch (2010) states, “For executives with large holdings in their company's shares, the [tax induced special] payouts aren't entirely altruistic.”¹⁴ However, one could view such a result as indicating incentive alignment as well. Managers with more shareholdings are more concerned with the tax effects for themselves and as a result take action consistent with concern for shareholders in general (assuming that general shareholders would prefer receiving tax advantaged dividends).¹⁵ In either case, our prediction is that larger insider holdings are related to a greater likelihood of paying a special dividend. Thus, our second hypothesis is as follows:

H2: *The surge in special dividends is greater at firms with higher inside ownership.*

As previously noted, Slemrod (1992) posits that taxpayers' responsiveness to tax rate changes could be in one of several forms. He argues that the behavioral responses to taxation will occur in the following order: 1) the timing of economic transactions, 2) financial repackaging of transactions, and 3) real decisions. Our first two hypotheses focus on a real decision - the issuance of a special dividend.¹⁶ We also investigate the possibility that firms may

¹⁴ See also Bases, 2010.

¹⁵ In this light, the agency *problem* would exist for managers that hold little to no shares in the company. Because such a manager does not benefit from altering payout, fewer changes in payout policy are observed for firms where insider holdings are relatively small. One story told by T. Boone Pickens suggests that managers are reticent to pay dividends merely to benefit shareholders. He tells of 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)?’”

¹⁶ This, of course, assumes that the special dividends themselves are not merely an inter-temporal shifting of regular dividends from future periods into 2010. Specials could represent a change in the timing of distributions as well. Indeed, there are anecdotes of this behavior. For example, in a press release on December, 9, 2010, Seaboard Corporation explained the size of its \$6.75 dividend, payable on December 31, 2010. It stated that: “The increased amount of the dividend (which has historically been \$0.75 per share on a quarterly basis or \$3.00 per share on an annual basis) represents payment of the regular fourth quarter dividend of \$0.75 per share and a special dividend of \$6.00 per share, equaling the anticipated annual 2011 and 2012 dividends (\$3.00 per share per year). This increased dividend is being made to ensure that the taxes shareholders will pay based on the receipt of the dividend is taxed at the currently favorable 2010 tax rate on dividends. The Corporation does not intend to declare any further dividends for the years 2011 and 2012.” Incidentally, over 70% of Seaboard equity is held by insiders. Other evidence is found

have taken a less costly action that would have nevertheless displayed a recognition and consideration of shareholder level taxes. We posit that firms that would have otherwise paid a regular dividend at the beginning of 2011 shifted those dividends to the end of 2010, taking advantage of what was perceived as the tax-favored period. This type of response is consistent with Slemrod's first potential behavioral response to taxation, a change in the timing of transactions.

Bagwell and Shoven (1989) find evidence consistent with firms shifting their share repurchases in anticipation of the Tax Reform Act of 1986; however, to our knowledge there is no study of shifting the timing of regular dividend payments because of shareholder-level taxes. In light of the potential for dividend shifting, and anecdotal evidence suggesting it takes place, we form our third hypothesis:

H3: *Regular dividends normally paid in January, 2011 are shifted to December, 2010, before the expected tax rate increase.*

We argue that documenting a timing response to a tax change is economically substantive and important for two reasons. If a shift occurs, it suggests that firms are cognizant of, and are willing to take action in light of, shareholders' individual tax considerations subject to cost constraints. In other words, firms' responsiveness, even if using a low-cost action such as retiming over very short periods of time, suggests the existence of a "time notch" from the perspective of the firm (and not just the individual), indicating that individual dividend tax rates affect the choice set of the firm (Slemrod, 2010). Second, as suggested by Slemrod (1992), understanding the first two behavioral responses in his framework (retiming and recharacterizing) is imperative to understanding the third response (real action).

in Briginshaw (2010). Norris (2010) also suggests dividend shifting as a potential response by firms facing an increase in dividend tax rates.

3. Data, Tests, and Results

3.1 Data

We employ monthly dividend data provided by the Center for Research in Securities Prices (CRSP), which was updated by CRSP on February 14, 2012. We retain only observations from 1980-2011.¹⁷ 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 and have more regulatory concerns, and as a result, are typically excluded when studying firms' payouts. 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 different characteristics that make them undesirable for our sample—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. Our sample selection process and resultant number of observations is outlined in Table 1.¹⁸

We classify 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 equal to 1262 or 1272, codes associated with “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.¹⁹ We define regular dividends as those

¹⁷ 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.

¹⁸ We examine REITs as a control group in our robustness tests below.

¹⁹ 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 has these dividends labeled with distribution codes 1232 and

with distribution codes 1232, 1212, 1222 or 1242 – cash dividends, paid either quarterly, monthly, semi-annually, or with unspecified frequency, which are taxable at the same rate as ordinary dividends.²⁰ All other distribution codes not mentioned above are not retained in the sample – many of which are distributions associated with merger and acquisition activity, stock splits or reorganizations. The unit of observation for most of our analyses is firm-month distributions.²¹

In order to examine our second hypothesis, we obtain data on insider ownership data from two different sources to ensure robustness — Compustat’s Execucomp and Factset’s LionShares.²² Execucomp is what is used most often in research (for example, Chetty and Saez (2005) use Execucomp) and has the benefit of providing data on holdings for individual managers. However, as noted in Chetty and Saez (2005), Execucomp covers a limited set of firms (S&P 1500). This limited coverage may induce a bias, making our results not applicable to firms in general. On the other hand, 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 the firm held by insiders at the time the

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.

²⁰ In addition, we exclude distributions with the code 1218 in CRSP because, although they are identified as special dividends in DeAngelo, DeAngelo and Skinner (2000), these are taxed at the ordinary tax rate and not the dividend tax rate (applicable after JGGTRA when dividend rates and ordinary rates are not the same).

²¹ 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 coarser 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).

²² Execucomp covers only the largest firms – this imposes some bias in our sample. However, since these firms represent a majority of the market, we still think this is an economically meaningful sample.

data is retrieved. For our sample, the Factset data were downloaded on December 15, 2010, the day before the final resolution of uncertainty regarding the dividend tax rate.²³

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, also calculated from Execucomp data (*Largest Insider's Holdings*). This measure is more relevant if there is one single controlling manager, who makes decisions on his personal behalf. 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).²⁴

Table 2 provides descriptive statistics for our sample and sub-samples of firms and firm/month observations. Panel A shows the data for three different samples: 1) the entire sample described in Table 1, 2) all firm-month observations for firms that paid a special dividend anytime during the sample period, and 3) all firm-month observations for firms that paid a special dividend in November or December of 2010. The data reveal that firms that pay specials are larger (asset size, Compustat AT, and market value of equity, CSHO*PRCC_F) than the average dividend paying firm, and the difference is significant at a .01 level, but that firms that paid a special in November or December 2010, are smaller than special dividend paying firms in

²³ Because insider ownership data are not available for all firms with observations included in tests of our first hypothesis, only a subset is examined for the effect of inside ownership. Thus, the extent to which any selection criteria used by Factset or Execucomp (S&P 1500) affects the likelihood of reacting to a individual-level tax rate change, our results could be affected. While no confounding factor is immediately obvious to us for theoretical reasons, we test the effect of size in our robustness section below.

²⁴ The percentage of the firm held by insiders seems to be a relatively fixed firm construct. For example, in our sample, estimating a regression of Execucomp Insider Holdings regressed on firm fixed effects has an adjusted R-squared in excess of 70%. This assuages some concerns with using the Factset data.

general.²⁵ Firms that paid a special anytime generally have higher inside ownership than firms generally in our sample, and firms that paid a special in November or December of 2010 have especially high insider ownership.²⁶

Panel B presents data for this same set of firms but includes only firm-month observations in the year 2010. Column A includes observations from the calendar year 2010 for all firms, Column B presents data for firm/month observations from 2010 for firms which paid a special dividend at any point in our entire sample period, and Column C presents the analogous data for firms that paid a special in November or December of 2010. These data for the year 2010 present a similar picture. For example, for observations in 2010, firms that paid a special dividend at any point in the sample period (Column B) are larger in 2010 than the other two sub-samples of firms, and inside ownership is highest in the sub-set of firms that pay a special dividend in November or December of 2010.

3.2 Test of Hypothesis 1

We start by graphing the raw number of special dividends paid in each month over the sample period 1980-2011. 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 the Chetty and Saez (2005) data 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 was not ephemeral; rather, it extends into 2010 consistent with the tax rate

²⁵ Some of this effect may merely be the declining popularity of special dividends documented by DeAngelo, DeAngelo and Skinner (2000) coupled with inflation.

²⁶ The sample size varies across variables because not all firms on CRSP have Compustat data. We employ the largest sample possible for each test. Our results are not sensitive to restricting the sample to only firms that have Compustat data.

reduction extending through this time period. If firms suspected that the favorable dividend tax rate was not permanent and would be allowed to lapse, paying special dividends in the 2003-2011 period would be a way to take advantage of the decreased shareholder-level dividend tax rate without creating shareholder expectations about permanently increased regular dividend payments.

While the post-2003 resurgence of special dividends is notable, most significant is the surge in the number of special dividends experienced in the final months of 2010. Indeed, the rate of special dividends in the final months of 2010 is substantially higher than any other time in our sample, with the exception of the increase in special dividends experienced in December of 1980 (49 specials) and January of 1982 (41 specials). These other jumps may also be tax-induced; the tax rate on dividends in 1981 was set at a maximum of 70% (the same as the individual income rate), which decreased to a maximum of 50% in 1982, potentially resulting in the surge in specials in January of 1982.²⁷ These high levels of specials early in the time series also reflect the fact that specials were simply more popular in the earlier period and have been declining in popularity (DeAngelo, DeAngelo, and Skinner, 2000).²⁸ 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.

Figure 2 is a graph of the total number of special dividends issued each month, scaled by the sum of the number of special dividends and non-special dividends in the same month (as in DeAngelo, DeAngelo, and Skinner (2000)). Scaling controls for 1) the general dividend activity of firms by representing the number of specials as a percentage of the number of all dividends issued and 2) the total number of firms in the economy (but it does not control for changing

²⁷ For a discussion and brief analysis of past tax rate changes, please see the Appendix.

²⁸ In untabulated data we split the firms in our sample into those traded on NYSE and those traded on NASDAQ. We find similar trends for both NASDAQ and NYSE firms.

characteristics of firms in the economy). This graph shows that firms paid more specials as a percentage of all dividends near the end of 2010 than in any other period in the graph. Both Figure 1 and Figure 2 suggest that special dividends increased at the extensive margin at the end of 2010, near the scheduled end of the Bush tax cuts.

Figure 3 examines special dividends at the intensive margin. Panel A depicts the actual aggregate dollar magnitude of specials divided by the aggregate dollar magnitude of all dividends. Panel B scales the aggregate dollar of special dividends by the aggregate market value from the prior year of the firms in the sample. The most immediately recognizable characteristic of these graphs is the large spike in December of 2004 – a spike entirely attributable to Microsoft’s payment of a \$32 billion special dividend. In addition, as in the previous figures, there is a large surge of special dividends in the final months of 2010 in both panels. Surges of equivalent size happened in 1987 and 1988 (both years of dividend tax rate changes), as well as in 2006 and one nearly as big in 2007, suggesting that the increase along the intensive margin in 2010 was not extremely anomalous. The presence of a strong reaction along the extensive margin (frequency), but not the intensive margin (magnitude), suggests that most of the abnormal response is due to an increase in the number of specials; the overall dollar magnitude of special dividends is not as unusually large as the frequency of specials.²⁹

In order to obtain statistical estimates as to the significance of the effect of the expected tax increase on the incidence of special dividends, we estimate the following linear probability model³⁰:

²⁹ We investigate some of the larger specials, and of the five largest specials paid in 2005, 2006 and 2007, three of the five were special dividends paid in conjunction with a merger or spin-off.

³⁰ 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 the interacted coefficients in Model 3, for the difficulties in such interpretations see 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-

$$\text{Special Dividend}_{it} = \beta_0 + \beta_1 \text{NOVDEC2010}_{it} + \sum \beta_k \text{Month Fixed Effects} + \sum \beta_k \text{Year Fixed Effects} + e \quad (1)$$

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* is an indicator variable coded as 1 for firm-months occurring in November and December of 2010, the period in which we posit firms responding to the potential increase in investor level tax rates would issue special dividends. We include both month and year fixed effects to control for, respectively, the concentration of special dividends in particular months (December is a very popular month in which to issue specials) and economy-wide factors that may have influenced special dividend payments (special dividends have generally fallen out of favor since the 1980s). As a result of the fixed effects, β_1 indicates the increase in the likelihood that a firm would issue a special dividend in November and December of 2010, above and beyond both the likelihood that the firm issues a special dividend in November or December generally, or in the year 2010. The estimates from estimating Equation (1) are presented in Column 1 of Table 3. The estimate of β_1 , 0.04, 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. It suggests that the potential tax rate increase increased firms' likelihood of paying a special dividend by 4%, a noteworthy increase given the tax rate increase did not happen.

We next replace the indicator variable, *Special Dividend*, with the magnitude of the special dividend (the dollar value of the special dividend issued by the firm, scaled by the market

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 [-0.00145, 0.06209].

value of the firm in year $t-1$). We eliminate the 32 billion dollar special dividend issued by Microsoft because it is an outlier. We then estimate an ordinary least squares regression, and tabulate the results in Column 2 of Table 3. The coefficient on NOVDEC2010 is statistically significant, and the value of 0.0059 suggests that on average, holding the other covariates constant, firms paid 0.6% more of their market value out in special dividends in November and December of 2010 relative to other months in other years in the time series. Thus, in dollar terms, the special dividend is statistically different relative to other months, however, the effect is arguably not as economically large as the increase in the previously documented frequency of special dividends.

3.3 *Test of Hypothesis 2*

Our second hypothesis is that the increase in special dividends will vary cross-sectionally with inside ownership. Figure 4 graphically displays the data. Panel A is analogous to Figure 2. It is a graph of the frequency of special dividends – the total number of special dividends divided by the total number of dividend paying firms in that month – partitioned by high and low inside ownership. High (low) inside ownership is defined as above (below) the sample median of insider ownership as a percentage of the firm. For this analysis, we use the Factset data (a similar pattern emerges with the Execucomp data). The data in 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. Panel B of Figure 4 is analogous to Figure 3. The graph is of the *dollar value* of special dividends each month scaled by the total value of all dividends, partitioned by the level of inside ownership. In this panel, the data are less stark. Firms with high insider holdings have a small spike at the end of 2010 and firms with low insider holdings appear to have a small spike a

bit earlier in 2010 but still late in the year. However, these spikes do not appear to be extremely unusual as compared to the entire time series.

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

$$\text{Special Dividend}_{it} = \beta_0 + \beta_1 \text{NOVDEC2010}_{it} + \beta_2 \text{Insider Holdings} + \beta_3 \text{Insider Holdings} * \text{NOVDEC2010}_{it} + \sum \beta_k \text{Month Fixed Effects} + \sum \beta_k \text{Year Fixed Effects} + e \quad (2)$$

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* is an indicator variable coded as 1 for firm-months occurring in November and December of 2010, the period in which we posit that firms responding to the potential increase in investor level tax rates would issue special dividends. *Insider Holdings* is measured in the three ways described above—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 to control for the monthly cyclicity in special issuances. Lastly, we include year fixed effects to control for general economic trends and general popularity in special usage that may have produced more specials in general in a given year, irrespective of tax effects. We expect the interaction between *Insider Holdings* and *NOVDEC2010* to be positive, but make no directional prediction for *Insider Holdings*.

Table 4 presents the data. We begin in Columns 1 and 5 by replicating the analysis in Table 3, to ensure that differences between tests of H1 and H2 are not due to the sample, which is necessarily constrained to firms with insider holdings information for tests of H2. After

verifying that the prediction in H1 is upheld in this smaller sample, we estimate equation (2) to examine our cross-sectional predictions based on insider ownership. The results are presented in Columns 2 through 4. Column 2 contains the estimates using *Execucomp Insider Holdings* as the measure of insider holdings. The coefficient on the interaction between *NOVDEC2010* and *Execucomp Insider Holdings* is significant and positive. Column 3 uses the percentage of the firm held by the largest inside shareholder as a measure of insider holdings (*Largest Insider's Holdings*), as measured by Execucomp. The coefficient on the interaction between *Largest Insider's Holdings* and *NOVDEC2010* is also positive and significant. Interestingly, in Column 3, as in Column 2, the coefficient on *NOVDEC2010* is insignificant when including the *Largest Insider's Holdings* and the *NOVDEC2010* interaction. This suggests that firms held relatively more by insiders were not only more likely to issue specials near the end of 2010, but that the increase in specials is entirely concentrated among these firms, at least for the sample of firms for which we can obtain insider holdings measures.

Column 4 (of Table 4) presents results when we measure insider holdings using Factset data. The results are consistent with the other two proxies of insider holdings; the coefficient on the interaction term is both positive and significant. The sum of the evidence combines to suggest that the increase in the issuance of specials near the end of 2010 was especially, if not entirely, concentrated among firms with relatively large insider holdings. Columns 6, 7 and 8 present results from estimating equation (2) as well, but the dependent variable is the dollar value of the special dividend, scaled by the lagged market value of the firm. The results of these estimations are consistent with the results in Columns 2, 3 and 4, in that the coefficient on the interaction terms between Insider Holdings (measured three different ways) and *NOVDEC2010* is positive and significant. The evidence is consistent with the magnitude of the special dividend

increasing more for firms with high insider holdings as a result of the anticipated higher tax rates. This 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." It is also consistent with managers having their incentives aligned with shareholders through stock ownership in the firm.

3.4 Test of Hypothesis 3

Our third hypothesis predicts that firms will shift regular dividend payments normally paid in January to December 2010 to avoid the anticipated higher tax rate. To examine this hypothesis, we again start by graphically examining the data. Figure 5, Panel A, presents a bar chart of the number of regular dividends issued in December of a given year, next to the number of regular dividends issued in January of the following year. 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. In January 1982 the dividend tax rate dropped from 70% applicable in December of 1981 to 50% effective in January 1982.

For purposes of our paper, there is an apparent shift in the December 2010/ January 2011 time periods in Panel A of Figure 5. Consistent with dividend shifting in response to expected tax increases, the black bar (December year t) and the hollow bar (January year $t+1$) sharply diverge in 2010/2011, suggesting a dearth of January, 2011 payments, and an excess number of December, 2010 payments, especially relative to the previous years.³¹ This shift is economically significant. In December 2009/January 2010, there were a total of 572 dividend payments for our sample firms, 59.8% of which happened in December. In December 2010 and January 2011

³¹ One single firm on the CRSP database announced a regular dividend after December 17th and paid by year end 2010. This firm, RLI Corporation, is not included in our sample because it is an insurance firm. RLI also announced and paid a special dividend in this same time period.

there is an almost identical number of dividend payments by our sample firms, 631, but 65.1% occurred in December of 2010. Using the 2009/2010 season as a benchmark, this suggests that 34 firms ($631 \times (65.1\% - 59.8\%)$) shifted their January, 2011 dividend into December of 2010. In dollar magnitude, there were \$33.5 billion in dividends in the December 2009/January 2010 time period, with 64.2% of those dollars paid in December 2009. There were \$39.5 billion paid in the December 2010/January 2011 period, with 68.4% of those dividends paid in December of 2010. Using 64.2% as a benchmark, this suggests that \$1.66 billion ($39.5 \times (68.4\% - 64.2\%)$) was shifted into December 2010 from January, 2011. Had the dividend tax rate returned to 35% (one of the possible rates had the low 15% rate not been extended, with others being 20% and 39.6%) and all shareholders been subject to this maximum rate, this would have resulted in shareholders in these 34 dividend-shifting firms saving a total of \$332.0 million dollars ($1.66 \times (35\% - 15\%)$), a potential tax savings to investors of a third of a billion dollars for a nearly costless corporate action.

To illustrate the shift differently, Panel B of Figure 5 graphs the ratio of December regular dividends to the number of January regular dividends and also suggests an increase in December dividends and decrease in January dividends in 2010/2011. The ratio of December to January regular dividend payments jumped from 1.49 in 2009/2010 to 1.87 in 2010/2011, a 26% increase, larger than any other percentage increase in the time series of regular dividend payments for over five decades.

Panel C of Figure 5 replicates the graph in Panel B of Figure 5, but divides firms into firms with an above the median (below the median) value for insider ownership. If firms with high insider ownership are more responsive to individual level-taxation than firms with low insider holdings, we expect the ratio of December to January dividend payments to increase to a

greater extent for firms with high insider ownership in 2010/2011 than for those with lower insider ownership. Panel C of Figure 5 reveals that this is the case – for low insider ownership firms the ratio of December to January dividends increased from 1.61 to 1.73 (a 7.1% increase), while for high insider ownership firms, it went from 1.47 to 1.96 (a 33% increase). Of note is that firms with low insider holdings still exhibit a shift in the timing of dividend payments; however, it is just smaller than at firms with high insider holdings.

To estimate if the shifting from January 2011 to December 2010 is statistically significant, we aggregate the data into monthly observations (i.e., not at the firm level), and estimate the regression:

$$\begin{aligned} \text{Number of Regular Dividends}_{it} = & \beta_0 + \beta_1 \text{DEC2010}_{it} + \beta_2 \text{JAN2011} + \sum \beta_k \text{Month Fixed} \\ & \text{Effects} + \sum \beta_k \text{Year Fixed Effects} + e \end{aligned} \quad (3)$$

The *Number of Regular Dividends* is the number of regular dividends aggregated across firms in month i , *DEC2010* is an indicator equal to 1 if that month is December of 2010, and *JAN2011* is equal to 1 if that month is January 2011. By including the year and month fixed effects, the regression estimates if December 2010 and January 2011 had an abnormal number of dividends relative to prior Decembers or Januarys in general, and relative to other months in 2010. The shifting hypothesis suggests a positive coefficient on β_1 and a negative coefficient on β_2 . However, it also implies that β_1 and β_2 are of equal magnitude but of opposite sign. For example, if ζ firms decide to pay their January 2011 dividend in December of 2010, those ζ dividend payments should manifest themselves in the estimation by producing $\beta_1 = \zeta$ and $\beta_2 = -\zeta$. We estimate this regression in Table 5. Consistent with our hypothesis, β_1 is 86.47 and β_2 is -98.6, and both are statistically significant at the 1% level. An F-test ($F=4.65$) also suggests that one cannot reject the hypothesis of $\beta_1 = -\beta_2$ at any conventional level. The value of β_1 , 86.47,

suggests that about 86 firms opted to pay in December of 2010 instead of January 2011, suggesting that a non-trivial number of firms responded to the potential tax change and shifted their dividend payment.³²

While an inter-temporal shift of regular dividends is likely less economically meaningful than actual real changes to payout policy, it is nevertheless important. Inter-temporal 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 firms' cognizance of, and willingness to take action as a result of, changes in investor-level dividend tax rate changes. Given the existence of theories in the literature which suggest that firms may be completely unresponsive to changes in investor level tax rates (e.g. Auerbach, 1979), evidence of inter-temporal shifting suggests that at least in some situations, firms are responsive to dividend tax rates.

4. Additional Analyses

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

In our analysis thus far, we compare firms' behavior in a time period where we believe tax incentives exist to alter firms' behavior to time periods in which we believe there are no tax

³² The CRSP dividend file we use was updated by CRSP on February 14, 2012, and so coverage is not complete for January, 2012. For this reason, we are unable to use CRSP data to examine whether the ratio of December to January regular dividends subsided for the 2011/2012 period. However, we accessed data via Factset (accessed on February 23, 2012) to examine whether the 2011/2012 ratio is abnormally high. One difficulty is that Factset coverage of firms is different than CRSP coverage, and we are not able to use the exact same qualifications for our sample. Further, we are unable to reliably differentiate regular versus special dividends, or categorize the regular dividends into dividends subject to the dividend tax rate, or another tax rate, using Factset data. However, limiting our sample to U.S. firms with listed common stock that are not in the Utilities (NAICS 22) or Finance and Insurance (NAICS 52) sectors, we confirm that the ratio of December to January dividends is much lower in 2011/2012 than in 2010/2011. Specifically, for this subset of Factset firms, the ratio of December 2010 to January 2011 dividends is 2.04, whereas the ratio of December 2011 to January 2012 dividends is 1.81, suggesting a reduction in this ratio from 2010/2011 to 2011/2012. This is consistent with shifting due to taxes, and not merely a reallocation of dividends across months due to some other factor.

incentives. However, if other unobservable factors that cause changes in payout policy exist in the narrow windows considered in our test (if, for example, there was sudden investor demand for distributions in November and December of 2010 for some reason unrelated to taxes), our inference may be erroneous. In this section, we conduct a false experiment to help verify that the abnormal payout behavior in 2010 was tax induced. As explained in Edgerton (2010), dividends paid from real estate investment trusts (REITs) do not qualify for the reduced dividend tax rates legislated 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 in the same way as they did for corporations which paid qualifying dividends.³³

Given the lack of tax incentives for REITs near the end of 2010, we expect to see little payout response in reaction to the tax rate change. Because REITs very rarely pay special dividends (there were 3 paid in 2010 and 7 paid in 2009), we can only use REITs to examine our third hypothesis, that firms shifted regular dividends from January 2011 to December 2010. The results are presented in Figure 6 (essentially a replication of Figure 5, but using only regular dividends paid by REITs). Looking at both Panel A and Panel B, we observe no abnormal relationship between the December 2010 and January 2011 regular dividend payments. 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 0.449, meaning that this change is not statistically significant at any level. This suggests that the abnormal shifting that occurred for regular firms in 2010/2011 was due to some incentive not present at REITs, likely the individual level qualified dividend tax rate.

³³ 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.

4.2 Repurchase Activity

Our paper focuses on special dividends and the shifting of regular dividends in anticipation of a dividend tax increase. Another payout form that firms employ are share repurchases. Repurchases could have been affected at the end of 2010 for two potential reasons. First, if firms substituted special dividends for share repurchases (i.e., paid special dividends instead of share repurchases) repurchase activity during the final months of 2010 would have declined. Second, an alternative outcome is that firms increased share repurchases as well as dividends because capital gains tax rates were also scheduled to increase at the end of 2010, albeit by a much smaller amount (5 percentage points). To get a better sense of whether the increase in special dividends that we observe is due to firms substituting special dividends for repurchases, we examine share repurchase activity at the end of 2010. Figure 7 presents a graph of the number of share repurchases from 1985 to 2010 (repurchases did not gain wide-spread popularity until the mid-80s) for all firms in our sample that issued a special dividend in November or December of 2010.³⁴ The graph shows a general increase in share repurchases over the examined time series and especially an overall increase since 2003. However, contrary to what one would expect if firms were substituting special dividends for repurchases near the end of 2010, we also see an increase in repurchases among these firms in the final quarter of 2010. These data help assuage concerns that firms merely substituted specials for repurchases.

³⁴ We define share repurchases following Blouin, Raedy and Shackelford (2011), that is, either the change in treasury stock (Compustat Item TSTKQ), or, if that value is 0, the difference between stock sales and stock repurchases (PRSTKCY-SSTKY). Given our interest in the change near the end of 2010, we measure repurchases using quarterly data.

4.3. *The Effect of Size*

In untabulated data, we examine the effect of size on our results. Firm size may be correlated with many factors that could influence a firm's choice to react to a potential tax increase. For example, smaller firms may be less politically sophisticated (and thus overestimate the probability that the tax rate would not be extended), more susceptible to insider capture, poorly governed, and/or have greater insider ownership. This last possibility, that insider ownership is decreasing in firm size, is especially troubling given that we may be merely capturing firm size in our test of H2 (tests of insider holdings) and that firm size is related to paying a special dividend due to some other factor (such as lack of political sophistication).

To examine this, we estimate two sets of tests (untabulated). First, we replace the interaction of *Insider Holdings* and *NOVDEC2010* with an interaction of *NOVDEC2010* and *Firm Size*. We use the total value of assets and an indicator for above the median or below the median total assets as proxies for firm size. We find that coefficients on the *Firm Size* interaction terms, using both proxies for size and using both of our dependent variables (the presence and magnitude of the special dividend), are all negative and significant. This suggests that smaller firms were more likely to issue a special dividend just prior to the potential expiration of the increased dividend rate.

To investigate whether this effect subsumes the effect of insider ownership, we next control for the effect of size by including both interaction terms: *Insider Holdings*NOVDEC2010* and *Firm Size*NOVDEC2010*. After including this control, the coefficient on our test variable – the insider ownership interaction term – remains positive and significant (consistent with greater insider ownership being associated with more special dividends at the end of 2010). We conclude that the responsiveness to the potential tax change

was larger for small firms, but that the effect we document in testing H2 is not subsumed in this size effect.

5. Conclusion and Implications

The relation between dividend tax rates and payout policy is an important question that has received significant attention in the literature; however the evidence has been mixed. We investigate firms' use of two alternative payout policy changes – the paying of special dividends and the inter-temporal shifting of dividends across small time periods. We find evidence that firms pay more specials and shift regular dividends in response to tax rate changes. The expected lapse of the favorable tax dividend tax rates passed in 2003 under JGRRTA allows us to examine a short and well defined time period which was not tainted with accounting scandals.

Our evidence suggests that firms issued an unusual number of special dividends near the end of 2010, concurrent with the expected lapse of the favorable 2003 dividend tax rates. This suggests that firms are cognizant of, and act upon, shareholder-level taxes. We also find that the issuance of specials was concentrated in firms with high insider ownership. In addition, we find that firms shifted dividend payments from January of 2011 to December of 2010, consistent with a willingness to take (costless) action in response to individual-level taxes. This shifting did not occur in real estate investment trusts, consistent with the observed behavior being tax-induced. Finally, we find that share repurchases also increased at the end of 2010 indicating that firms did not merely substitute special dividends for repurchases but rather increased repurchases to avoid the impending capital gains tax rate increase as well.

Our evidence is consistent with Slemrod's (1992) hierarchy of responses to tax rates. Taxpayers will respond to taxes using the least costly means available. While taxes may have, at best, a second order effect for overall payout policy (especially the determination of regular

dividend policy) for the broad spectrum of U.S. corporations (Brav, Graham, Harvey and Michaely (2005)), our evidence suggests that there are firms and payout forms/timing that are particularly tax-sensitive and for which changes in tax rates (or even the anticipation of changes in tax rates) are important.

Finally, the expected dividend tax rate increase studied in this paper never actually occurred. On December 17, 2010, the 15% dividend tax rate was extended for an additional two years, and signed into law through the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010. 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 some very tax-sensitive firms.

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Appendix – Examination of Other Tax Rate Changes

Summary of changes to the dividend tax rate since 1980

Year	Act	Signed into law	Date Rate Took Effect	Previous Rate	Enacted Rate	Percentage Rate Decrease	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
1994	Omnibus Budget Reconciliation Act of 1993	August 10, 1993	January 1, 1994	31.0%	39.6%	-27.7%	Yes
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 23, 2003	January 1, 2003	38.6%	15.0%	61.1%	No

Appendix (Continued) – Examination of Other Tax Rate Changes

Special Dividend Payments and Tax Rate Changes – Historical Evidence

We examine whether the finding that firms alter their payouts of special dividends as a result of investor level dividend tax rate changes applies more generally to other tax rate changes prior to 2010/2011. We analyze several different dividend tax rate changes that have happened in the United States since 1980.³⁵ Since 1980, the dividend tax rate has exhibited substantial variation, changing eight times, from a maximum of 70% to a minimum of 15%. A summary of these changes is outlined above. In order to be able to examine firm responses in changes to dividend tax rates, we require two properties of the change in the dividend tax rate. First, we require that the dividend tax rate change was a *substantial* change. For example, the dividend tax rate was reduced in both 2001 and 2002, but, less than 2 percent of the original rate, and as a result, we do not think they are substantial enough to generate a corporate response. For this reason, 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. 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. As a result, given that boards of directors have to meet and authorize dividend payments before the payments occur, there is no concrete time period in which we would expect an increase in the payment of special dividends. For this reason, we exclude the dividend tax rate changes in 2003. Given our two requirements, we are left with five dividend tax rate changes which were substantial (all in excess of a 10% change), and which allow for an unambiguous time period in which we could expect increased dividend payments. These are the tax rate changes that took effect in 1982, 1987, 1988, 1992 and 1993.

Using these five rate changes, we graphically examine the effect of dividend tax rate changes on the issuance of special dividends. We expect firms to pay more special dividends in December of the year previous to a dividend tax rate increase (1990 and 1992) and to pay more 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, and the year after.³⁶

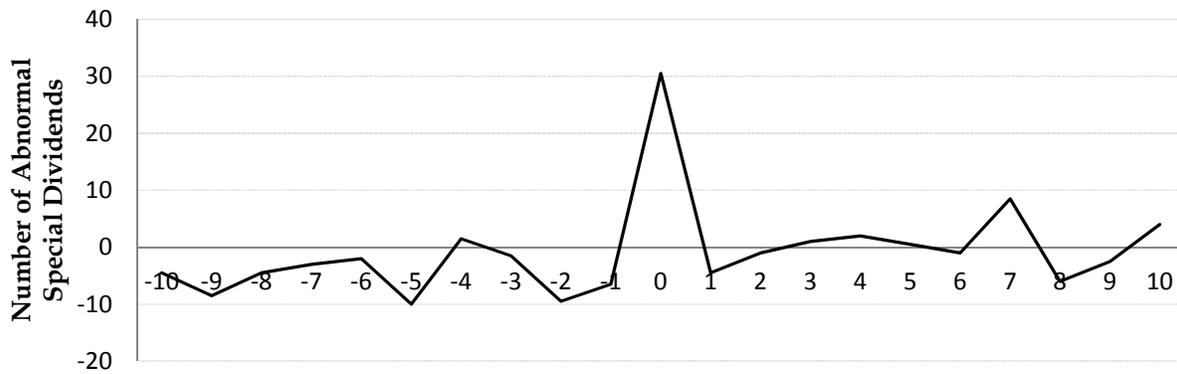
Figure Appendix-1 below graphs the number of abnormal dividends paid in each month for the 10 months prior to, and 10 months following a dividend tax rate change, labeled as period

³⁵ 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.

³⁶ 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 imposes a negative bias on the number of abnormal dividends.

0 (which is December of 1990 and 1992, and January of 1982, 1987 and 1988). In the figure, we see a sharp increase in the number of abnormal dividends paid in period 0, consistent with firms issuing special dividends in response to changes in the tax rate applicable to individual investors. It is important to note that there appears to be a negative number of abnormal dividends in periods -1 and 1, suggesting that there may be some amount of dividend shifting taking place (i.e., these were not additional special dividends being paid, but rather, specials accelerated from January to December, or delayed from December to January). This evidence suggests that the documented reaction of corporations to the expected 2010 tax increase was not anomalous—corporations have responded to other tax rate changes with a change in their special dividend payments.

Figure Appendix – 1



Notes: This figure graphs the number of abnormal dividends centered on the December in the year before a tax rate increase (December of 1990 and 1992), or January of the year of a tax rate decrease (January of 1982, 1987 and 1988). Abnormal special dividends are the aggregated number of special dividends issued in a month for all firms in the sample, less the average number of special dividends issued in that month for year t-1 and t+1.

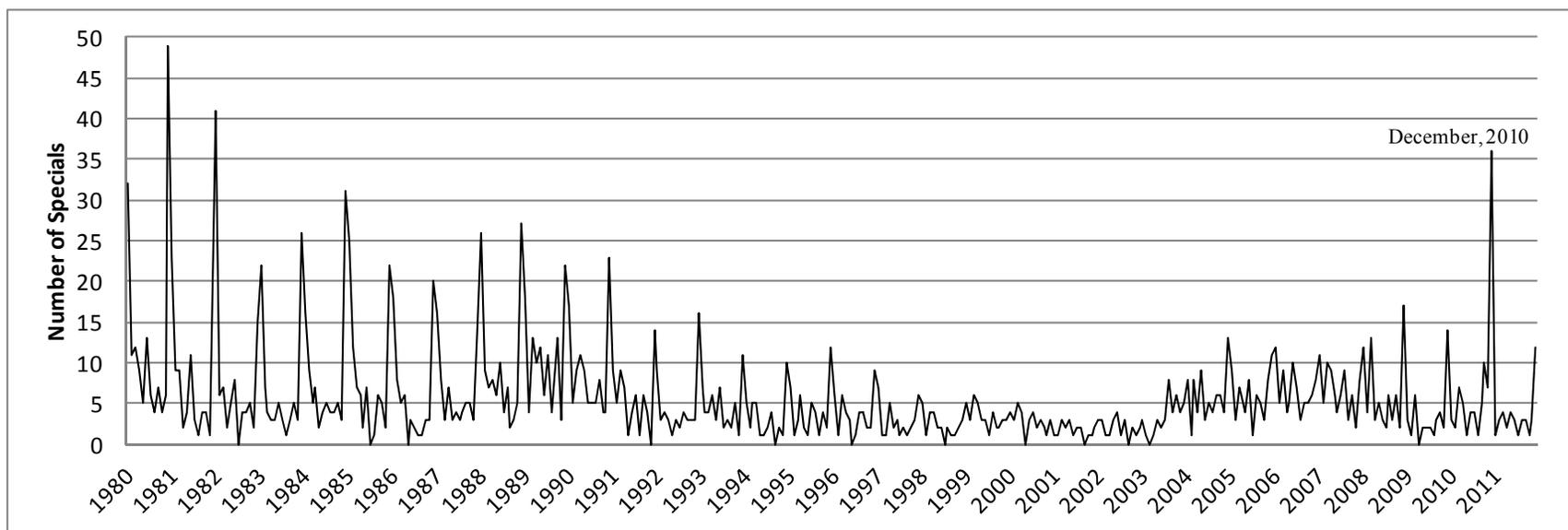
Appendix (Continued) – Examination of Other Tax Rate Changes

Dividend Shifting and Tax Rate Changes – Historical Evidence

We also examine historical evidence of shifting regular dividends around prior tax rate changes. The evidence is consistent with companies shifting regular dividends around prior dividend tax rate changes. For example, in January of 1982, the dividend tax rate decreased from 70% to 50%, providing incentives for firms to shift December, 1981 dividends into January, 1982 dividends. The ratio (bar) of December to January dividends in 1981/1982 in Figure 5, Panel B is 0.857, the first time it had been below unity since 1933/1934.

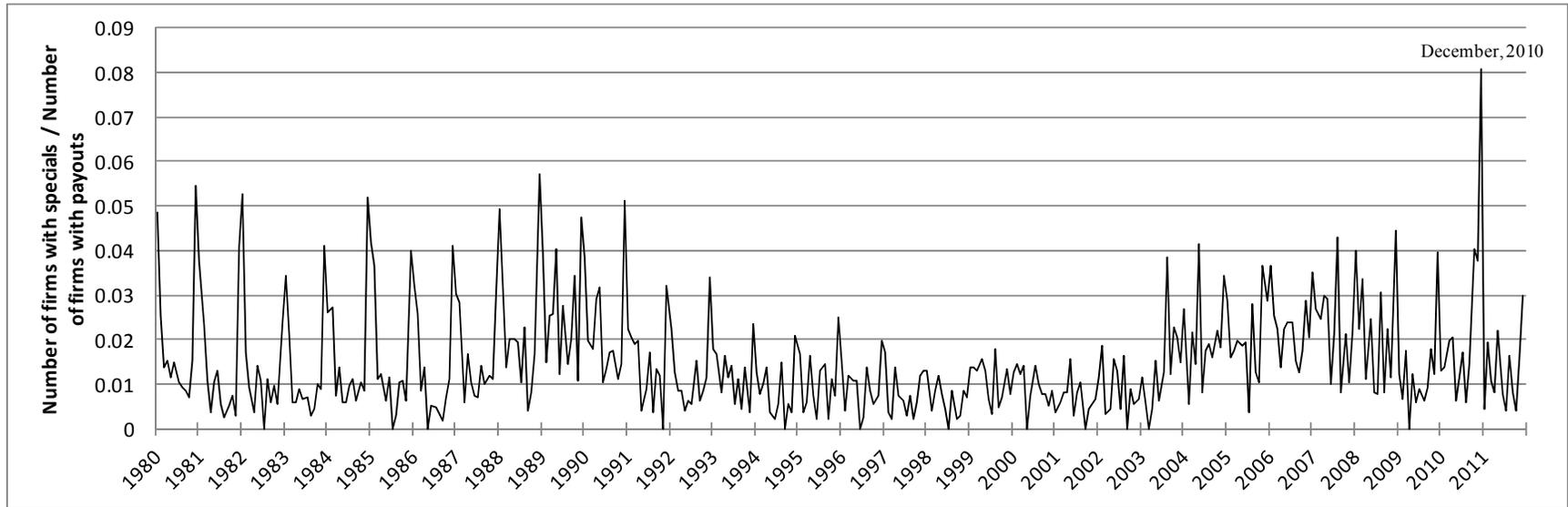
In our historical tests, we do not include the initiation of JGTRRA, because JGTRRA was enacted in May 28, 2003, but was applicable retroactively to January 1, 2003. Thus, unless firms both anticipated the passage of JGTRRA well in advance (which is possible), and anticipated that it would be enacted retroactively, firms could not have responded in anticipation of JGTRRA.

Figure 1
The Number of Special Dividends in each Month



Notes: This graph shows the total number of special dividends for each month, Jan 1980-Dec 2011, for all U.S. firms covered by the CRSP Dividend database, and which are not financial (final year SIC between 6000 and 6999) or utilities (final year SIC between 4900 and 4949) firms, with sharecodes equal to 10 or 11.

Figure 2
The Number of Special Dividends each Month Divided by the Number of Dividend Payments (Special plus Regular Payouts) in the Same Month



Notes: This graph shows the total number of specials in each month divided by the number of firms with a payout (special or regular) each month, Jan 1980-Dec 2011, for all U.S. firms covered by both the CRSP Dividend database, and which are not financial (final year SIC between 6000 and 6999) or utilities (final year SIC between 4900 and 4949) firms.

Figure 3
The Dollar Value of Special Dividends

Panel A: The dollar value of special dividends each month divided by the total dollar value of all dividends (special plus regular) in that month

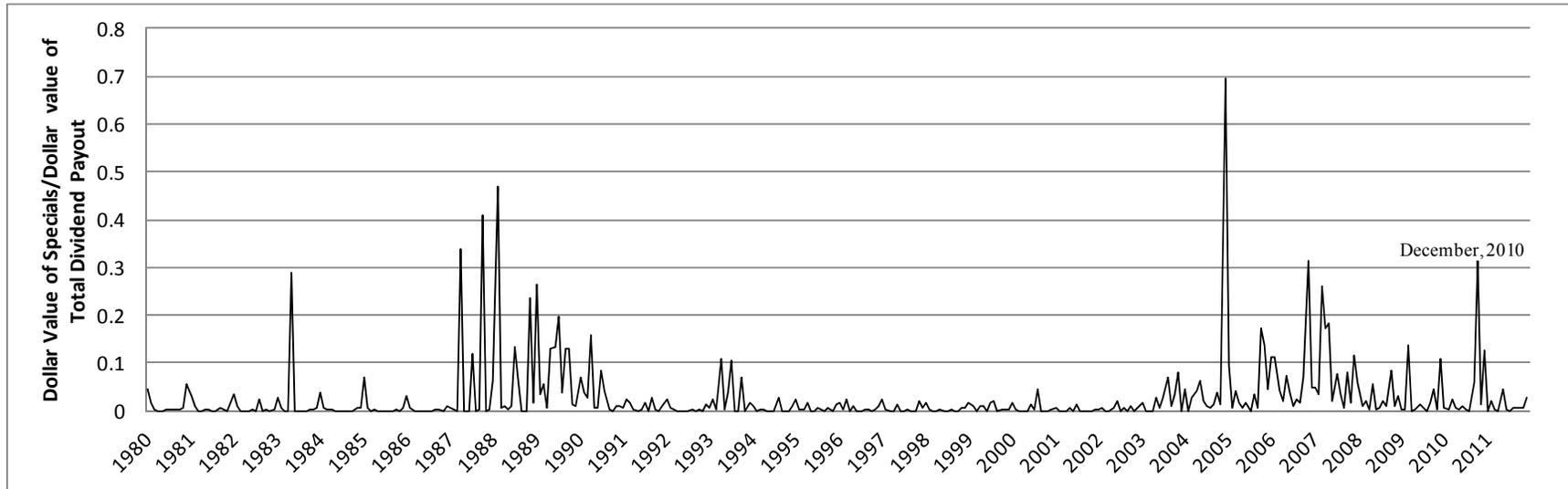
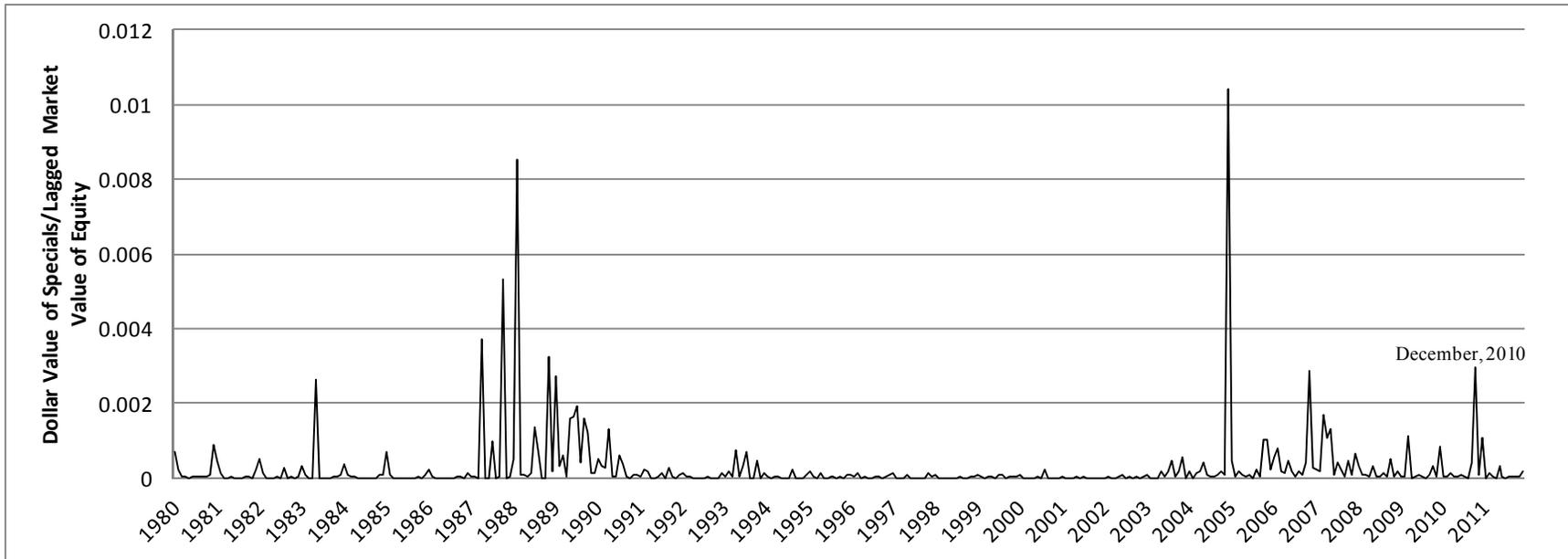


Figure 3 (continued)
The Dollar Value of Special Dividends

Panel B: The dollar value of special dividends each month divided by the total lagged market value for all firms in the sample that month



Notes: These graphs show the total dollar value of specials in each month first scaled by the dollar value of all dividends each month and in Panel B scaled by total market value for all firms in the sample in $t-1$. The time period examined is Jan 1980-Dec 2011 and the sample includes all U.S. firms covered by both the CRSP Dividend database, and which are not financial (final year SIC between 6000 and 6999) or utilities (final year SIC between 4900 and 4949) firms. The spike in December of 2004 is a result of Microsoft's issuing a \$32 billion special dividend.

Figure 4
The Effect of Inside Ownership on Special Dividends

Panel A. The number of special dividends each month divided by the total number of dividend payments (regular plus specials) in that month – partitioned by level of inside ownership.

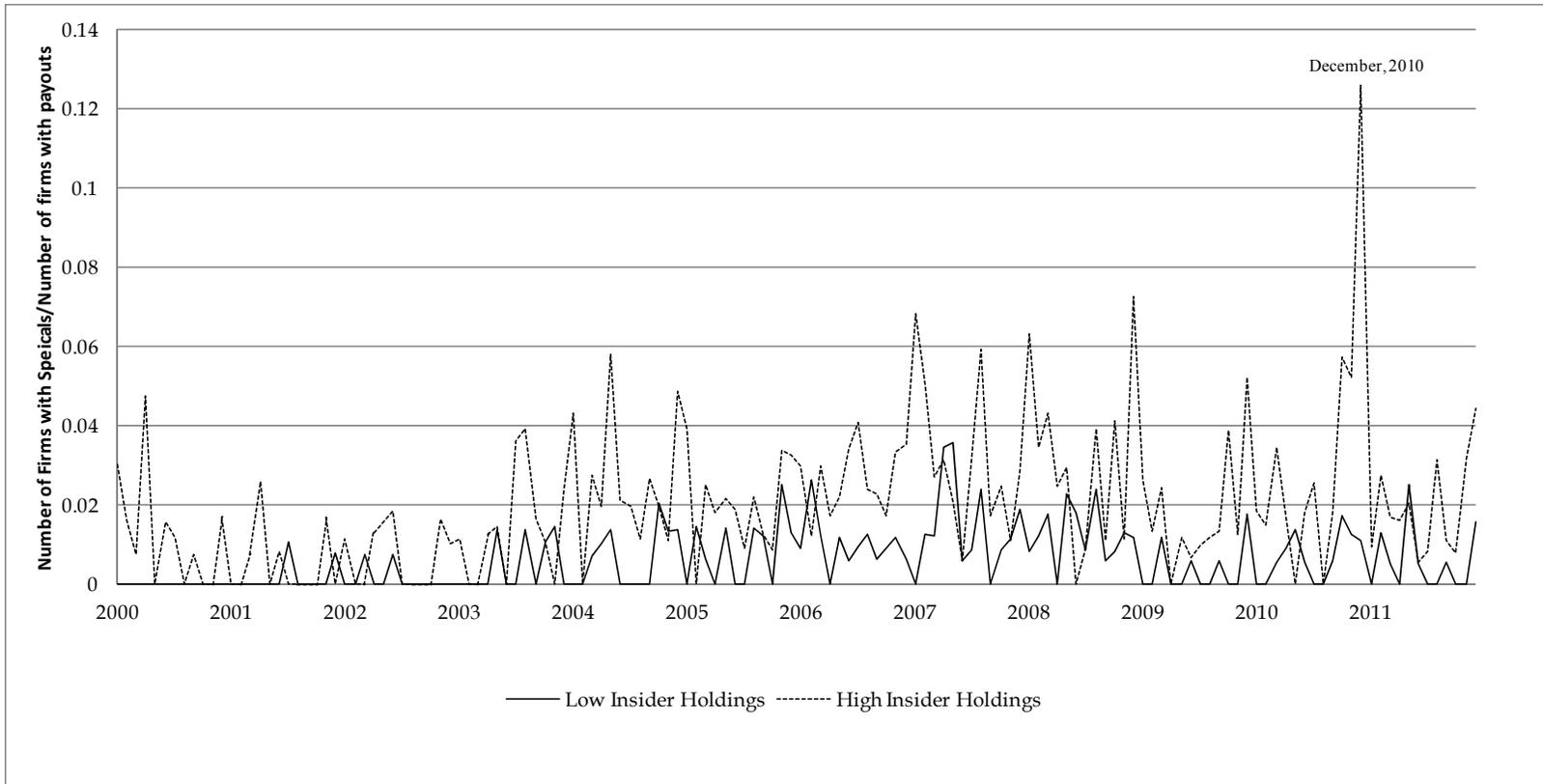
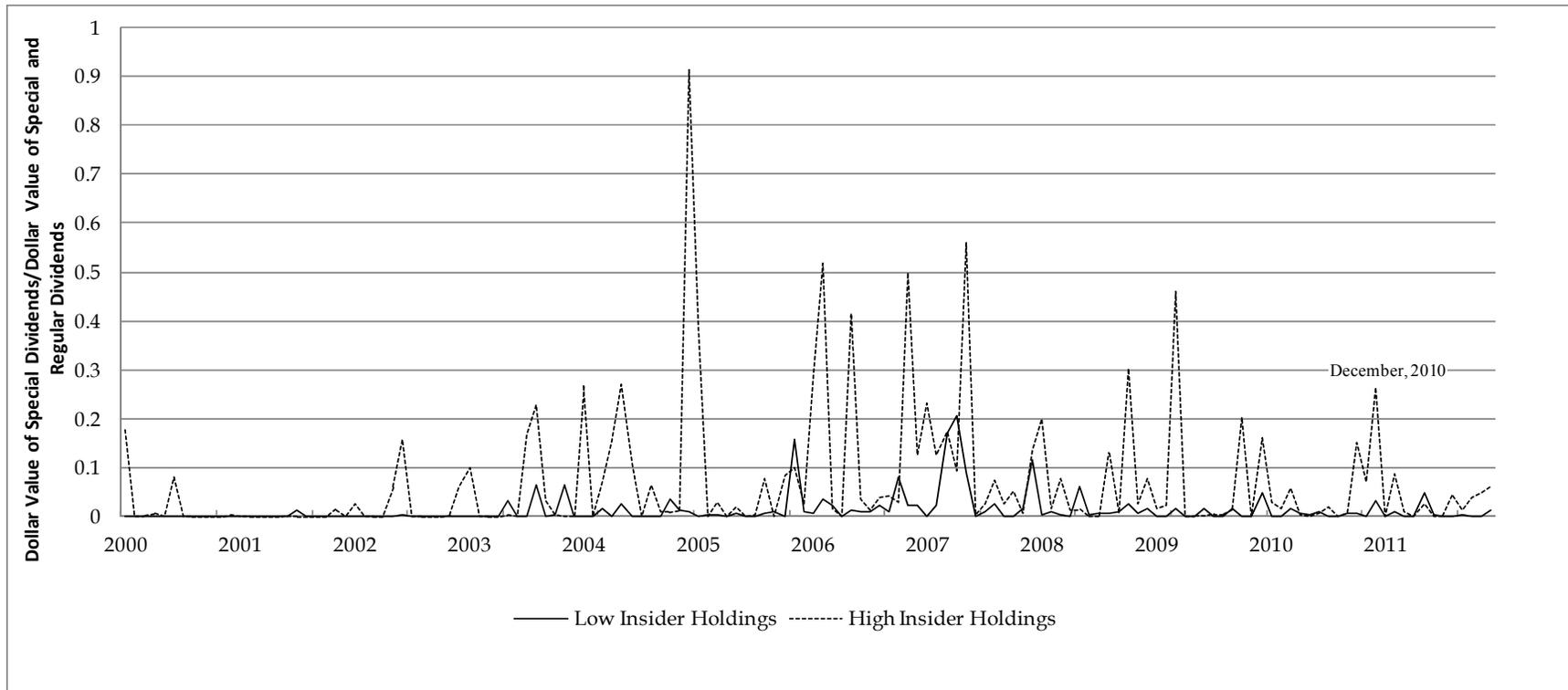


Figure 4 (continued)
The Effect of Inside Ownership on Special Dividends

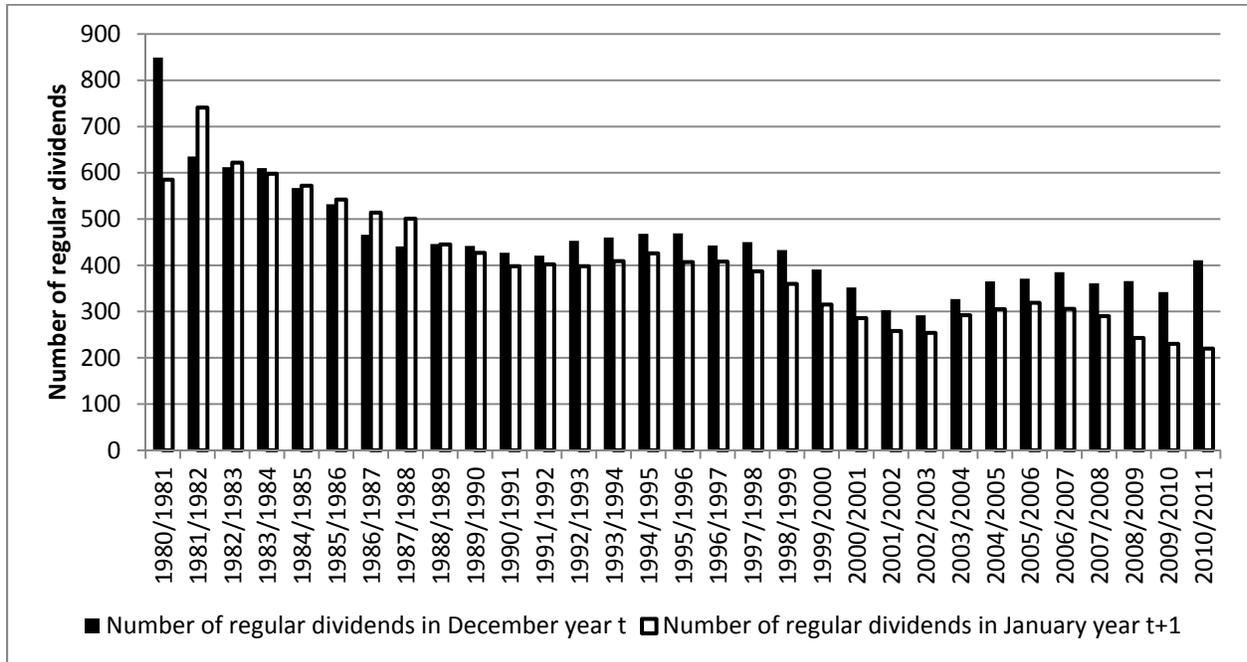
Panel B. The dollar value of special dividends each month divided by the total dollar value of all dividends, partitioned by level of inside ownership



Notes: Panel A shows the total number of specials in each month divided by the number of firms with a payout (special or regular) each month, Jan 2000-Dec 2011, for all U.S. firms covered by both the CRSP Dividend database and Factset Lionshares database, excluding financial firms and utilities, split by Inside Holdings. It is analogous to Figure 2, but graphed by Insider Holdings. High (Low) Insider Holdings Firms are firms whose Inside Holdings is above (below) the sample median. Inside Ownership is percentage of the firm held by insiders as of December 15, 2010, as provided by Factset's Lionshares database. Panel B is the analog to Figure 3, and is the total dollar value of specials in each month divided by the dollar value of all dividends (specials and regulars) each month, divided between high and low insider holdings. The spike in December of 2004 is a result of Microsoft's issuing a \$32 billion special dividend.

Figure 5
Intertemporal Shifting of Regular Dividends

Panel A. The number of regular dividends in December and January – 1980-2011



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

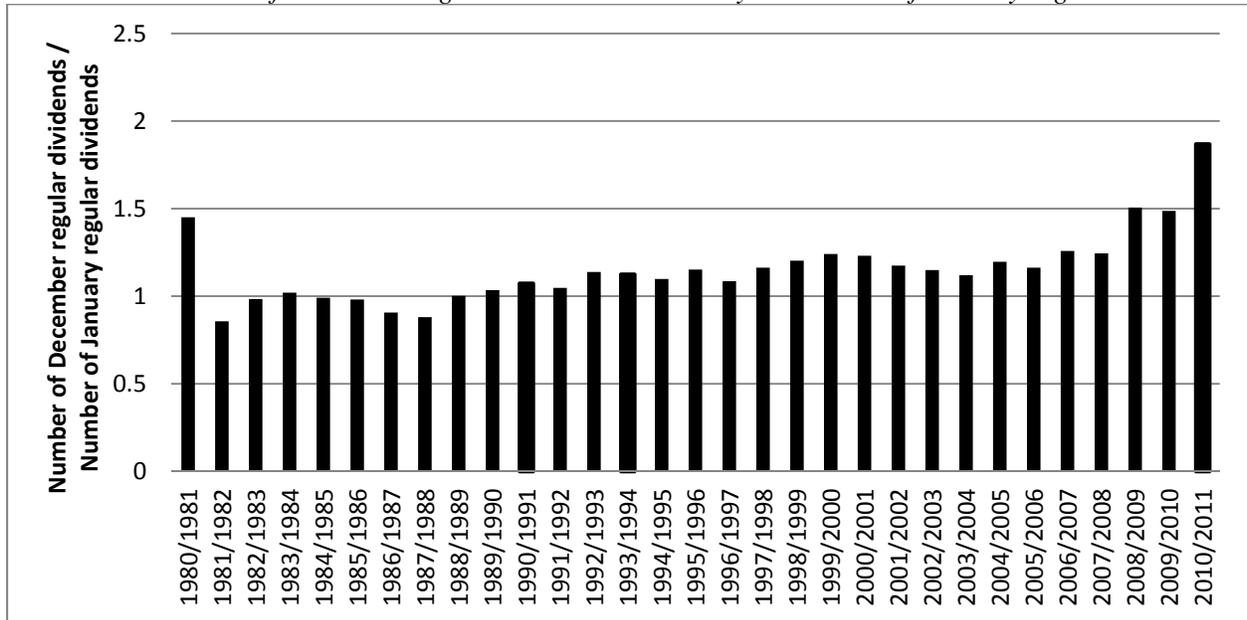
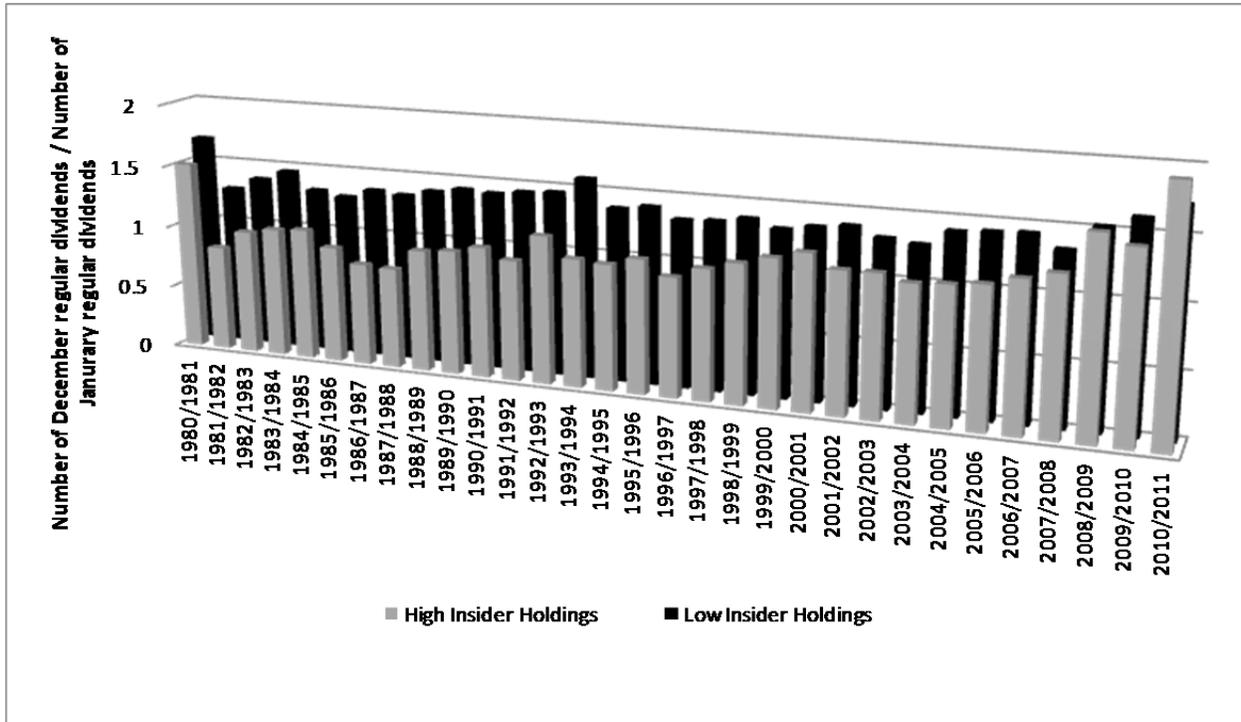


Figure 5 (continued)
Intertemporal Shifting of Regular Dividends

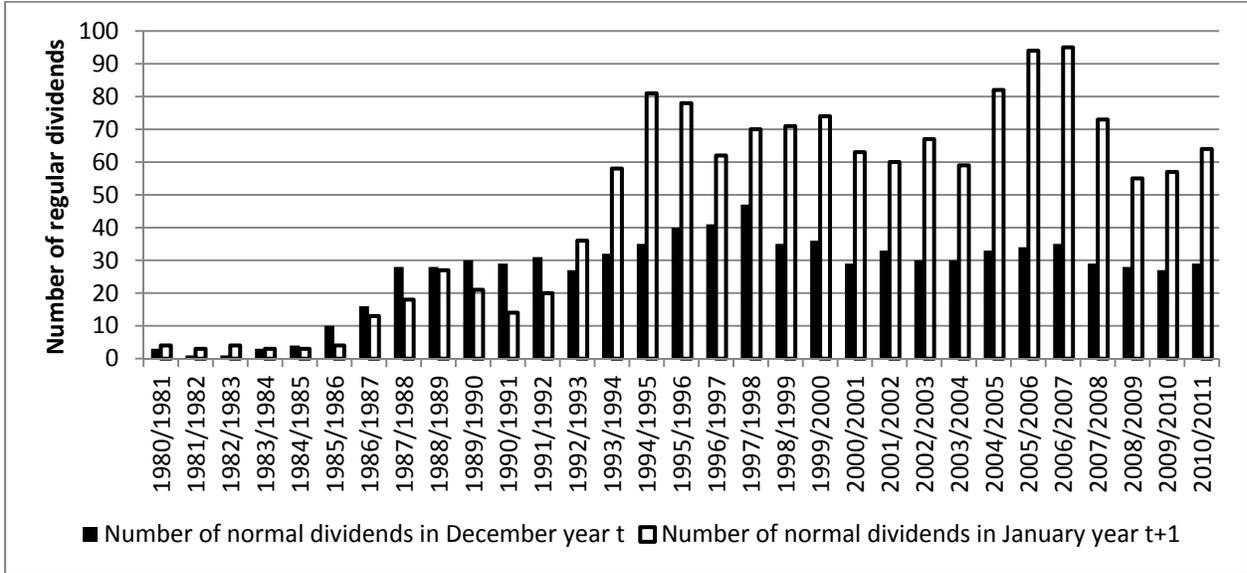
Panel C. The number of December regular dividends divided by the number of January regular dividends – partitioned by insider holdings



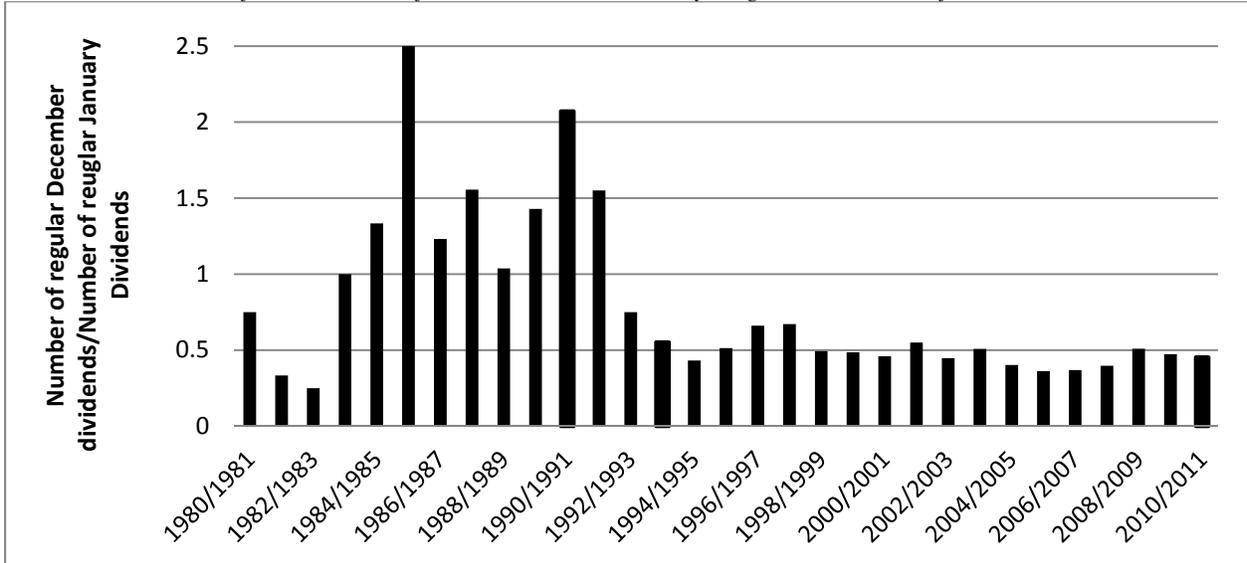
Notes: Panel A graphs the total number of regular dividends issued in December of year t, and the total number of regular dividends issued in January of year t+1. Panel B graphs the ratio of the total number of regular dividends issued in December of year t, to the total number of regular dividends issued in January t+1, for 1995-2011. Panel C replicates Panel B in graphing the ratio of December year t regular dividends to January t+1 regular dividends, but separates firms which have a below the median (above the median) amounts of insider ownership, as calculated using Factset.

Figure 6
Intertemporal Shifting of Regular Dividends by REITs

Panel A. The Number of Regular Dividends in December and January for REITs



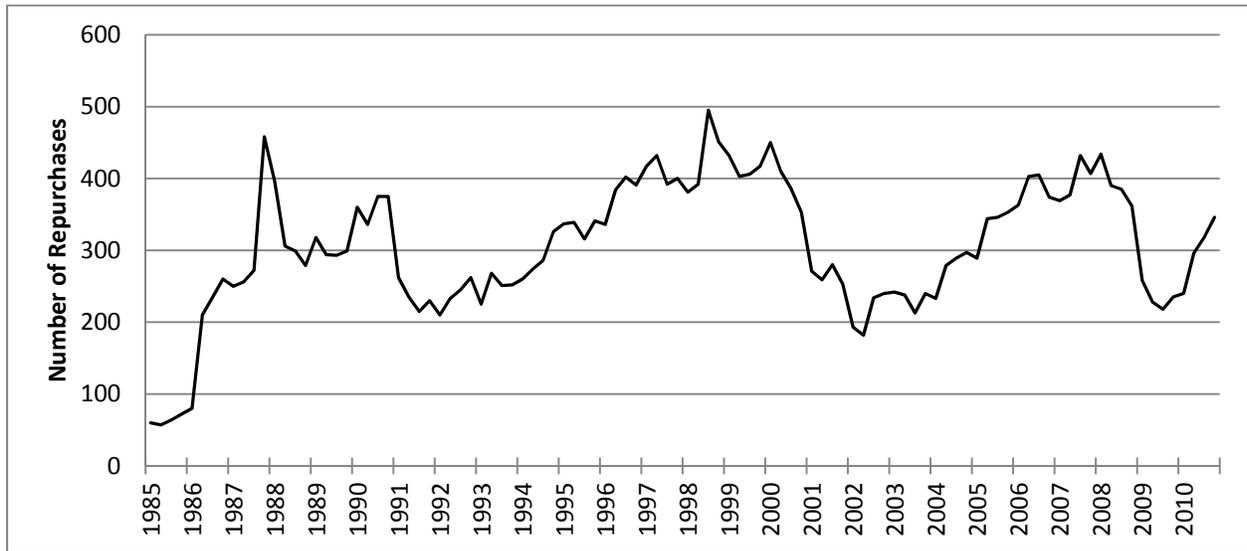
Panel B. The Ratio of the Number of December and January Regular Dividends for REITs



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 1980-2011, for Real Estate Investment Trusts.

Figure 7
Share Repurchases by Firms that Issued Specials in November or December 2010

Panel A: The Number of Share Repurchases by Firms that Issued Specials in November or December 2010



Notes: Figure 7 graphs the number of share repurchases for firms in our sample that issued a special dividend in November or December of 2010. Repurchases are calculated on a quarterly basis, based on Blouin, Raedy and Shackelford (2011), which is the change in treasury stock (Compustat Item TSTKQ), or, if that value is 0, the difference between stock sales and stock repurchases (PRSTKCY-SSTKY). Share repurchases are constrained to be positive.

Table 1
Sample Selection

	Firm-month Observations
All Normal and Special Dividends on CRSP	489,090
Distributions from 1980-2011	140,382
Excluding Distributions of Financial and Utility firms	139,724
Distributions with Execucomp Insider Holdings Data	25,971
Distributions with Factset Data	77,303
Notes: This table outlines the sample selection procedure used in obtaining the sample used in our test. All Distributions on CRSP is the number of firm/month observations identified on the CRSP monthly distribution file which have a sharecode equal to 10 or 11, and have distribution codes equal to 1232, 1212, 1222, 1242, 1272 and 1262.	

Table 2
Descriptive Statistics

Panel A. Descriptive statistics of all observations in sample for firms with a specific characteristic

	<u>Column A</u> Entire sample				<u>Column B</u> Firms that paid special anytime during sample period				<u>Column C</u> Firms that paid a special in November or December of 2010				Tests of Significance of Differences			
	Obs	mean	std	p50	Obs	mean	std	p50	Obs	mean	std	p50	(A) - (C)	t-stat	(B) - (C)	t-stat
Specials	139,724	0.016	0.124	0.000	61,768	0.035	0.185	0.000	1,114	0.102	0.303	0.000	(0.09)	(9.54)	(0.07)	(7.35)
Magnitude of Special Dividend	130,382	0.001	0.018	0.000	57,607	0.002	0.027	0.000	1,114	0.006	0.039	0.000	(0.01)	(4.53)	(0.00)	(3.58)
Assets	125,568	3,800	19,000	488	55,737	5,500	27,000	564	1,060	768	1,200	229	3,032	46.60	4,732	39.38
Market Value of Equity	127,683	4,100	18,000	427	56,502	5,700	24,000	462	1,109	1,400	2,800	176	2,700	27.55	4,300	32.73
Execucomp Insider Holdings	25,971	0.060	0.105	0.015	9,274	0.070	0.113	0.016	238	0.125	0.160	0.065	(0.07)	(6.27)	(0.06)	(5.35)
Largest Insider's Holdings	25,971	0.050	0.086	0.012	9,274	0.058	0.095	0.013	238	0.079	0.092	0.050	(0.03)	(4.78)	(0.02)	(3.54)
Factset Insider Holdings	77,303	0.133	0.195	0.038	35,020	0.132	0.202	0.038	963	0.385	0.266	0.344	(0.25)	(29.30)	(0.25)	(29.26)

Panel B. Descriptive statistics of firm/month observations in 2010

	<u>Column A</u> All Firm/Month observations in 2010				<u>Column B</u> Observations in 2010 from firms which paid a special anytime during sample period				<u>Column C</u> Observations in 2010 from firms which paid a special in November or December of 2010				Tests of Significance of Differences			
	Obs	mean	std	p50	Obs	mean	std	p50	Obs	mean	std	p50	(A) - (C)	t-stat	(B) - (C)	t-stat
Specials	3,032	0.028	0.165	0.000	1,165	0.073	0.260	0.000	90	0.556	0.500	1.000	(0.53)	(10.00)	(0.48)	(9.07)
Magnitude of Special Dividend	3,011	0.003	0.031	0.000	1,161	0.007	0.050	0.000	90	0.052	0.122	0.006	(0.05)	(3.78)	(0.04)	(3.41)
Assets	2,970	10,000	38,000	1,800	1,149	15,000	55,000	1,600	85	1,400	1,900	370	8,600	11.83	13,600	8.31
Market Value of Equity	2,970	11,000	29,000	2,000	1,149	14,000	39,000	1,700	85	2,500	3,600	1,000	8,500	12.88	11,500	9.47
Execucomp Insider Holdings	2,227	0.027	0.064	0.006	821	0.031	0.075	0.005	39	0.098	0.109	0.085	(0.07)	(4.06)	(0.07)	(3.84)
Largest Insider's Holdings	2,227	0.021	0.053	0.003	821	0.024	0.061	0.003	39	0.071	0.087	0.070	(0.05)	(3.52)	(0.05)	(3.33)
Factset Insider Holdings	2,903	0.137	0.187	0.046	1,122	0.157	0.206	0.069	79	0.324	0.229	0.301	(0.19)	(7.19)	(0.17)	(6.31)

Table 2 (continued)
Descriptive Statistics

Notes: *Specials* is an indicator variable coded 1 if the firm paid a special dividend in the firm-month. *Magnitude of Special Dividends* is the dollar value of the special dividend issued by the firm, scaled by the one year lagged market value. *Assets* (Compustat variable AT) is the assets of the firm. *Market Value of Equity* (csho*PRCC_F) is the total market capitalization of the firm. The sample size varies because not all firms on CRSP are on Compustat. *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. In Panel A, the sample, *Entire Sample*, are all firm/month observations in our sample. *Paid Special anytime during sample period* are firm/month observations for which the firm paid a special dividend anytime during the sample period. *Paid a special in November or December of 2010* is all firm/month observations in our sample from a firm which paid a special dividend in November or December of 2010. In Panel B, *All Firm/Month observations in 2010* are all observations in our sample in calendar year 2010. *Observations in 2010 from firms which paid a special anytime during sample period* are all observations in our sample in 2010 from firms which paid a special anytime during the entire sample period. *Observations in 2010 from firms which paid a special in November or December of 2010* are observations from 2010 from firms that pay a special in November or December of 2010. The statistical test of differences between the means is calculated using a Welch's t-test.

Table 3
The Effects of Dividend Tax Rates on Special Dividends

Dependent Variable:	Prediction	(1)	(2)
		Presence of Special Dividend	Magnitude of Special Dividend
NOVDEC2010	+	0.0429*** (3.88)	0.0059*** (2.71)
Firm Clustering		Yes	Yes
Year Fixed Effects		Yes	Yes
Month Fixed Effects		Yes	Yes
Observations		139,724	130,382
Rsquared		0.01	0.00

Notes: 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 a firm's market value in year t-1. NOVDEC2010 is equal to one for all firm/month observations in November and December of 2010. 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.

Table 4
The Effect of Dividend Tax Rates and Insider Ownership on Special Dividends

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Prediction	Dependent Variable: Indicator for Presence of Special in Firm/Month				Dependent Variable: Magnitude of Special Dividend			
NOVDEC2010		0.0215** (2.18)	0.0001 (0.01)	0.0044 (0.49)	0.0050 (0.51)	0.0013* (1.44)	-0.0001 (-0.14)	0.0000 (0.04)	0.0010 (0.72)
Execucomp Insider Holdings	?		0.0437** (2.53)				0.0013* (1.69)		
Execucomp Insider Holdings X NOVDEC2010	+		0.7885*** (2.39)				0.0535** (1.98)		
Largest Insider's Holdings	?			0.0510*** (2.60)				0.0021* (1.92)	
Largest Insider's Holdings X NOVDEC2010	+			0.7834** (2.22)				0.0589** (1.85)	
Factset Insider Holdings	?				0.0285*** (4.89)				0.0024*** (4.53)
Factset Holdings X NOVDEC2010	+				0.2732*** (3.71)				0.0210** (2.01)
Firm Clustering		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month Fixed Effects		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations		25,971	25,971	25,971	77,303	25,789	25,789	25,789	74,517
Pseudo-Rsquared		0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01

Notes: NOVDEC2010 is equal to one for all firm/month observations in November and December of 2010. *Execucomp Inside 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. The *Magnitude of Special Dividend* is the dollar value of the special dividend (if any) issued by the firm, scaled by a firms market cap in t-1. 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.

Table 5
The effect of the dividend tax rate on the shifting of normal dividends

	Prediction	Dependent Variable: Number of Regular Dividends in the Month
DECEMBER 2010	-	-98.594*** (-8.75)
JANUARY 2011	+	86.477*** (7.55)
Year Fixed Effects		Yes
Month Fixed Effects		Yes
Observations		384
R-squared		0.94
F-Test for $\beta_1 = -\beta_2$	F-Value	0.53
	P-Value	0.4678

Notes: The dependent variable is equal to the number of regular dividends paid in a given month. DECEMBER 2010 is an indicator variable for the monthly observation in December of 2010. JANUARY 2011 is an indicator variable for the monthly observation in January 2011. 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.

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Employment

2009-present	Massachusetts Institute of Technology, Associate Professor (with tenure)
Fall 2008	Massachusetts Institute of Technology, Visiting Professor
2006-2009	University of Michigan, Associate Professor of Accounting (with tenure)
2002-2006	University of Michigan, Assistant Professor of Accounting
1998-2002	University of Washington, Teaching and Research Assistant
1993-1998	KPMG LLP -Tax Manager, St. Louis, Missouri and Phoenix, Arizona

Education

2002	University of Washington, PhD- Accounting
1997	University of Missouri-St. Louis, MAcc (emphasis: Taxation)
1993	Eastern Illinois University, BBA (Summa Cum Laude)

Certification and Professional Associations

1993	Certified Public Accountant
1993	Certified Management Accountant American Institute of Certified Public Accountants Institute of Management Accountants

Awards and Honors

2010	Referee of the Year, National Tax Journal
2005	Bank One Corporation Assistant Professor of Business Administration, University of Michigan
2003	Best Paper Award at the 2002 JAE Conference
2003	Financial Accounting and Reporting Section's Best Dissertation Award
2003	American Taxation Association/PwC Best Dissertation Award
2003-2006	Ernst & Young Faculty Fellowship, University of Michigan
2001	Deloitte Doctoral Fellowship
2001	University of Washington PhD Teaching Award
1998-2001	AICPA Doctoral Fellowship
1998-1999	University of Washington Dean's Achievement Award
1998	Eastern Illinois University Outstanding Young Alumnus Award
1993	State Farm Insurance Companies Fellowship (40 students nationwide)

Publications

“Where do Firms Manage Earnings?” with Scott Dyreng and Ed Maydew, forthcoming, Review of Accounting Studies, 2012.

“Dividend Policy at Firms Accused of Accounting Fraud,” with Judson Caskey, forthcoming, Contemporary Accounting Research, 2012.

“Audit Fees and Book-Tax Differences,” with Gopal Krishnan and Lillian Mills, forthcoming, Journal of American Taxation Association, 2012.

“Real Effects of Accounting Rules: Evidence from Multinational Firms’ Investment Location and Repatriation Decisions,” with John Graham and Terry Shevlin, Journal of Accounting Research, vol. 49, March 2011, p. 137-188.

“A Review of Tax Research,” with Shane Heitzman, Journal of Accounting and Economics, vol. 50, December 2010, p. 127-178.

“Barriers to Mobility: The Lockout Effect of U.S. Taxation of Worldwide Corporate Profits,” with John Graham and Terry Shevlin, National Tax Journal, vol. 63, December 2010, p. 1111-1144.

“The Effects of Managers on Corporate Tax Avoidance,” with Scott Dyreng and Ed Maydew, The Accounting Review, vol. 85, July 2010, p. 1163-1189.

“Book-Tax Conformity: Implications for Multinational Firms,” with Ed Maydew, National Tax Journal, vol. 62, March 2009, p. 127-153. Forum/invited paper.

“What Does Tax Aggressiveness Signal? Evidence from Stock Price Reactions to News about Tax Shelter Involvement,” with Joel Slemrod, Journal of Public Economics, vol. 93, February 2009, p. 126-141.

“An Unintended Consequence of Book-Tax Conformity: A Loss of Earnings Informativeness,” with Ed Maydew and Terry Shevlin, Journal of Accounting and Economics, vol. 46, December 2008, p. 294-311.

“Long Run Corporate Tax Avoidance,” with Scott Dyreng and Ed Maydew, The Accounting Review, vol. 83, January 2008, p. 61-82.

“An Empirical Examination of Corporate Tax Noncompliance,” with Lillian Mills and Joel Slemrod, in *Taxing Corporate Income in the 21st Century*, A. Auerbach, J. R. Hines Jr., and J. Slemrod (eds.). Cambridge: Cambridge University Press, 2007. Invited paper.

“Is There a Link Between Executive Equity Holdings and Accounting Fraud,” with Merle Erickson and Ed Maydew, Journal of Accounting Research, vol. 44, March 2006, p. 113-143.

Publications (continued)

“Evidence on the Information Loss of Conforming Book Income and Taxable Income,” with Stacie Kelley Laplante and Terry Shevlin, The Journal of Law and Economics, vol. 48, October 2005, p. 407-442.

“The Persistence and Pricing of Earnings, Accruals, and Cash Flows When Firms Have Large Book-Tax Differences,” The Accounting Review, vol. 80, January 2005, p. 137-166.

- Awarded the 2003 American Taxation Association/PriceWaterhouseCoopers Best Tax Dissertation Award.
- Awarded the 2003 Financial Accounting and Reporting Section of the American Accounting Association Best Financial Accounting Dissertation Award.

“Book-Tax Conformity for Corporate Income: An Introduction to the Issues,” with Terry Shevlin, Tax Policy and the Economy, No. 19, 2005, edited by James M. Poterba. National Bureau of Economic Research, Cambridge, MA. Invited paper.

“How Much Will Firms Pay for Earnings That Do Not Exist? Evidence of Taxes Paid on Allegedly Fraudulent Earnings,” with Merle Erickson and Ed Maydew, The Accounting Review, vol. 79, April 2004, p. 387-408.

“What Can We Infer About a Firm’s Taxable Income from its Financial Statements?” National Tax Journal, vol. 56, December 2003, p. 831-863. Invited paper for a conference at the Brookings Institute.

“Are Executive Stock Options Associated With Future Earnings?” with Shiva Rajgopal and Terry Shevlin, Journal of Accounting and Economics, vol. 36, December 2003, p. 3-43.

- Awarded the Best Paper Award at the 2002 Journal of Accounting and Economics Conference held in Boston.

“Dividend Taxes and Firm Valuation: A Re-Examination,” with James Myers and Terry Shevlin, Journal of Accounting and Economics, vol. 35, June 2003, p. 119-153.

“The Tax Benefits of Employee Stock Options: The Accounting and Implications,” with Terry Shevlin, Accounting Horizons, vol. 16, March 2002, p. 1-16.

Working Papers

“Taking the Long Way Home: Offshore Investments in U.S. Equity and Debt Markets and U.S. Tax Evasion,” with Ed Maydew and Jacob Thornock.

“Inside the Corporate Tax Department: Insights on Corporate Decision Making and Tax Planning,” with John Graham and Terry Shevlin.

“What do Firms do When Dividend Tax Rates Change? An Examination of Alternative Payout Responses to Dividend Tax Rate Changes,” with Jeffrey Hoopes.

Government Testimonies and Presentations

U.S. Senate Committee on Finance “Tax Reform Options: Capital Investment and Manufacturing,” hearing held March 6, 2012.

U.S. House of Representatives Committee on Ways and Means “The Interaction of Tax and Financial Accounting on Tax Reform,” hearing held February 8, 2012.

Teaching Experience

2011 Financial Accounting, Masters of Finance Program, MIT
2008-2010 Taxes and Business Strategy, MBA elective, MIT
2010-2011 Ethics Module; Sloan Innovation Period, MIT
2009 Intermediate Accounting, MBA elective, University of Michigan
2004-2008 Financial Accounting, MBA Core Course, University of Michigan
2003, 2008 Intermediate Financial Accounting (BBA), University of Michigan
1999- 2001 Teaching Assistant, University of Washington. Executive MBA Program and Undergraduate Program, Financial and Managerial

Editing and Reviewing

Co-Editor, Journal of Accounting and Economics, 2009 - present
Editorial Board Member of Contemporary Accounting Research, 2007 – 2009
Editorial Board Member of the Journal of Accounting and Economics, 2006-2009
Editorial Board Member of The Accounting Review, 2005-2009
Editorial Board Member of The Accounting Horizons, 2009 - present
Editorial Board Member of The Journal of American Taxation Association, 2004
Ad hoc reviewer for: The Accounting Review, The Journal of Accounting and Economics, Journal of Accounting Research, The Journal of Finance, The Journal of Financial Economics, The Journal of Public Economics, The Journal of Business, Contemporary Accounting Research, Review of Accounting Studies, The Journal of the American Taxation Association, The Journal of Management Accounting Research, The Journal of Accounting, Auditing, and Finance, The Australian Tax Review, Accounting and Business Research (UK), National Tax Journal, Accounting Horizons, and the MI Census RDC.

External Service and Committee Work

Planning committee, AAA Doctoral Consortium, Lake Tahoe, 2012
Trustee, American Tax Association, 2010-present
Board member, National Tax Association, 2009-present
Co-teacher of the Tax Doctoral Consortium, University of North Carolina, 2009 - 2012
Selection committee for the Distinguished Contribution to the Literature Award, 2011
Deloitte Foundation Doctoral Fellowship Selection Committee, 2008 – 2010
Program Committee, National Tax Association Annual Meeting, 2005, 2009, 2010
Publications Committee of the American Taxation Association – 2007-present
Journal of the American Taxation Association Conference Selection Committee – 2007
Member of the 2004 National Tax Association Spring Symposium Planning Committee
Reviewer and Discussant for the AAA at various Annual and Midyear Meetings

MIT Sloan School, Service and Committee Work

Chair, Accounting Group, July 2011 - present
Recruiting Chair, Accounting Group, 2010, 2011
MBA Program Committee, 2009-2011
Faculty Task Force on Values, 2009-2010
Several Promotion and Tenure Sub-Committees

University of Michigan, Ross School of Business, Service and Committee Work

Conference chair – Kapnick Accounting Conference, Univ. of Michigan, 2008
Harry Jones Fund, Faculty Administrator, 2006-2009
Co-chair of recruiting, 2006-2008, Accounting Group, Ross School of Business

Doctoral Committee Service

Nemit Shroff (Co-Chair) (University of Michigan student) – 2011 (MIT)

- Paper awarded Best Dissertation from the Financial Accounting and Reporting Section of the American Accounting Association
- Paper awarded the Michigan Ross Emeritus Professors' Dissertation Award

Sebastien Bradley (member; U. of Michigan economics student) – 2011 (Drexel)
Jake Thornock (UNC student) – 2010 (University of Washington)
Kyle Peterson (Chair) – 2008 (University of Oregon)
Chad Larson (member) – 2008 (Washington University)
Jonathan Cohn (member; finance student) – 2008 (University of Texas)

Invited Research Presentations

2012	New York University Law School Colloquium on Tax Policy and Public Finance
2011	Staff briefing of the Permanent Subcommittee on Investigations for Homeland Security Internal Revenue Service Staff briefing for Senate Finance Committee staff Columbia University University of Chicago Northwestern University University of Texas, Austin University of Wisconsin, Madison Rice University Penn State University Corporate Tax Reform Summit: Are Investment Incentives Necessary in Corporate Tax Reform?, Russell Senate Office Building, Washington, D.C. Tax Economists Forum, Washington, D.C.
2010	University of Washington Texas A&M University Georgetown University University of Southern California

Invited Research Presentations (continued)

- 2009 University of North Carolina Tax Symposium
 Yale University
 Journal of Accounting and Economics conference
- 2008 Duke University
 Boston College
 Boston University
 University of Tennessee, Taxes and Mobility Conference
 University of Notre Dame
 Washington University-St. Louis
 CESifo Summer Institute, Venice, Italy
 Tax Economists Forum
- 2007 Said Business School – Oxford University
 Stanford University
 University of California-Berkeley
 University of Arizona
 University of Georgia
 The National Economists Club
 The American Tax Policy Institute
 NBER Financial Accounting and Taxation Conference
- 2006 Harvard Business School
 University of North Carolina
 University of Missouri at Columbia
 International Tax Policy Forum
- 2005 Columbia University
 Northwestern University
 Massachusetts Institute of Technology
 University of Florida
 Arizona State University
 University of California Los Angeles
 Public Finance Seminar (Michigan)
- 2004 NBER Tax Policy and the Economy Conference
- 2003 The Ohio State University
 Texas A&M University
 AAA Midwest Meeting
 University of North Carolina at Chapel Hill
 The Brookings Institute
 University of Texas at Austin
 University of Oregon
 University of Colorado at Boulder
 Michigan State University

Invited Research Presentations (continued)

2002 University of Georgia
Indiana University
Washington University (St. Louis)
University of Illinois (Urbana-Champaign)
University of Iowa
University of Pennsylvania
Massachusetts Institute of Technology
Stanford University
University of Chicago
University of Michigan
Rochester University
University of Arizona

Keynote Speeches, Discussions, Doctoral Consortium Talks, and Other Talks

2011 Speaker at forum entitled “Are Investment Incentives Necessary in Corporate Tax Reform?” held at the Russell Senate Office Building, Washington, D.C.
Keynote Speaker, European Institute for Advanced Studies in Management Conference “Workshop on Current Research in Taxation,” Muenster, Germany
Resident faculty, PhD Seminar, University of Muenster, Germany
American Taxation Association, Doctoral Consortium, speaker

2010 Centre for Business Taxation Summer Symposium–Said Business School Oxford University, discussant
Financial Accounting and Reporting Section of the American Accounting Association, Doctoral Consortium, speaker
American Accounting Association, New Faculty Consortium, panel presenter

2009 American Taxation Association Meeting, discussant
Journal of Accounting, Auditing, and Finance conference, discussant

2007 American Taxation Association meetings, panel presenter

2006 American Taxation Association Doctoral Consortium, speaker
American Accounting Association, New Faculty Consortium, panel presenter

2005 American Finance Association Meetings, discussant
American Accounting Association, New Faculty Consortium, panel presenter

2003 American Taxation Association Mid-Year Meeting, speaker

Invited Participation at Conferences

Review of Accounting Studies Conference, Milan, Italy, 2011
Young Leaders Conference, Basel, Switzerland, AmericanSwiss Foundation, 2010
UNC-Duke Fall Camp, 2010
Centre for Business Taxation Symposium, Said Business School Oxford University, 2010
Do Yesterday's Taxes Fit Today's Economy, at the University of Tennessee, 2008
Taxation of Multinational Firms, CESifo Summer Institute, Venice, Italy, 2008
Corporation Tax: Battling the Boundaries – Said Business School, Oxford, 2007
Journal of Accounting and Economics Conference, 2002-2011
Journal of Accounting Research, 2005-2011
University of North Carolina Tax Symposium
HBS IMO Conference, 2005, 2009-2011
University of Illinois Tax Symposium
Tax Policy and the Economy Conference, National Bureau of Economic Research,
Washington, D.C. Invited author and presenter, 2004
Conference entitled “Public Disclosure of Corporate Tax Returns: Issues and Opinions”
held at the Brookings Institute, 2003
AAA Midwest Regional Meeting, panel of first year faculty presentations, 2003
Stanford Summer Camp, 2001
Deloitte and Touche Doctoral Consortium Fellow, 2001
PAC 10 Accounting Conference Doctoral Fellow, 2001

Research Grants

Research grant from the International Tax Policy Forum, 2006

Media Citations, References, and Links

Los Angeles Times, January 24, 2012
The Guardian, January 24, 2012
Bloomberg News, December 6, 2011
New York Times, June 20, 2011
New York Times, May 2, 2011
The Wall Street Journal, February 19, 2011
Radio interview, NPR affiliate KPCC in L.A., February 3, 2011
New York Times, February 1, 2011
Bloomberg News, October 21, 2010
The Bottom Line, April, 2010 (vol. 26 No 4)
The Financial Times, September 18, 2009
The Wall Street Journal, December 12, 2008
Forbes, June 4, 2007
Ann Arbor News, April 19, 2007
The Wall Street Journal, November 27, 2006 (page C1)
Forbes, August 11, 2003
CFO.com, April 9, 2003
Accountingweb.com, April 2, 2003
Ann Arbor AM radio station interview, April 2, 2003
The Wall Street Journal.com, March 31, 2003
CFO.com, December 10, 2002
Tampa Bay Business Journal, December 9, 2002
The Washington Post, October 10, 2002