The Initial Impact of the 2003 Reduction in the Dividend Tax Rate

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September 2004

Abstract

The Jobs and Growth Tax Relief Reconciliation Act of 2003 reduces the maximum statutory personal tax rate on dividends from 38.1 percent to 15 percent. This study analyzes dividend declarations in the quarters surrounding passage. We find dramatic increases in regular dividends and special dividends after enactment. We also find a decline in share repurchases. However, to our surprise, the companies that are changing their distribution patterns are not owned disproportionally by individuals, the sole beneficiaries of the legislation.

We acknowledge the thoughtful comments of two anonymous referees, the editor (Terry Shevlin), John Hand, Brad Lindsey, Ed Maydew, Chris Petrovits, Wendy Wilson and workshop participants at Columbia University, the University of North Carolina and the University of Texas.
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1. Introduction

On May 28, 2003, President George W. Bush signed the Jobs and Growth Tax Relief Reconciliation Act of 2003 (2003 Act). Among other provisions, the legislation reduces the maximum statutory personal tax rate on dividends from 38.1 percent to 15 percent, the largest decrease in the dividend tax rate in U.S. history. Proponents of the legislation asserted that dividend taxes were a binding constraint on dividend payments and that reducing the rate would boost dividends. Dividends, however, have been in long decline, and the temporary nature of this legislation (it expires in 2009) raises doubts about its efficacy in reversing this trend. The purpose of this paper is to determine the impact of the legislation on dividend payments.

Understanding the extent to which dividend taxes impede corporate distributions is central to our understanding of the firm. Scholars have long contended that the tax asymmetry accorded dividends (i.e., shareholders pay tax on non-deductible corporate distributions) affects capital structure, investments, and security valuations (Modigliani and Miller, 1958, 1963; Miller, 1977; Miller and Modigliani 1961; Scholes et al. 2002; among many others). Recently, this asymmetry has been linked to optimal debt levels (Graham 2000, 2003, Kemsley and Nissim, 2002), pension assets, (Frank 2002), trust-preferred stock (Engel, Erickson, and Maydew, 1999), the growth in employee stock option compensation (Lambert, Lanen and Larcker 1989), organizational structure (Guenther 1992, Gentry 1994) and corporate governance (La Porta et al. 2000).

However, despite the importance of dividend taxation, little is known about the elasticity of dividends payments to shareholder taxes. The reason is that at least three identification problems have thwarted empirical tests. One, major changes in dividend tax rates are unusual. Two, changes in

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1 Some might consider a test of the impact of individual taxes on dividend policy premature, given the lack of consensus in the literature about the reasons why companies pay dividends (see discussions in Easterbrook 1984 and Bhattacharya 1979, among many others). However, as we wait for a resolution of the dividend puzzle, it seems prudent to examine the 2003 Act for any possible insights into our understanding of firms and their investors.
dividend taxes usually have coincided with other major tax policy changes. Three, dividend tax rates have always been identical to the rates on other sources of ordinary income, such as interest, rents, royalties and, since 1981, wages.\(^2\) As a result, it has been difficult to isolate the effects of dividend tax rate changes on corporate distributions.

The 2003 Act at least partially overcomes all three of these limitations. First, the magnitude of the dividend tax rate change in the 2003 Act is unprecedented. Second, the 2003 Act does not undertake fundamental reform that widely affects the tax code. Its genesis was dividend tax reduction and remained so throughout legislative deliberations. Third, dividends are no longer taxed at the same rate as other forms of ordinary income, facilitating isolation of the economic impact of a change in dividend tax rates. Consequently, the 2003 legislation provides an opportunity for scholars to test the impact of dividend taxes and thus address questions of capital structure, organizational structure (e.g., corporate versus flow-through entity), corporate governance, and investor clienteles.

This paper begins this investigation of the 2003 Act by asking whether boards of directors increased dividends when they had their first opportunities following enactment, specifically during the first six months following passage. Although years of data will be needed before we can can fully understand the total impact of the 2003 dividend tax rate reduction on corporate distributions, our analysis of the first two quarters following enactment is not an unreasonably short period to anticipate a response.

The reason is that we would anticipate a more rapid response to this legislation than normally observed with tax changes.\(^3\) Unlike most legislative changes, which are permanent, the dividend tax reduction is temporary, reverting to 35 percent in 2009. Moreover, the reversion could be as early as

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\(^2\) None of the seven changes in dividend tax rates over the last quarter-century provides favorable conditions for isolating the responsiveness of dividends to dividend tax rates. In 1982, as part of a broad tax reduction during the first Reagan Administration, the tax rate on dividends, as well as all other ordinary income, fell from 70 percent to 50 percent. During the sweeping 1986 tax reform, ordinary rates tumbled to 38.5 percent in 1987 and 28 percent in 1988. In 1991, the rate for dividends and all other ordinary income rose 3 percentage points to 31 percent. Two years later the tax rate on all ordinary income increased to 39.6 percent. Recently, all ordinary income tax rates have slipped slightly with a 0.5 percent decline to 39.1 percent in 2001 and another 0.5 percent reduction to 38.6 percent in 2002.

\(^3\) Besides the urgency created by the temporary nature of the legislation, the purported purpose of the legislation (economic stimulus) depended critically on an immediate response to the rate reduction. If dividend policy did not change during 2003 that does not rule out the possibility that dividend payments may increase eventually, but it does raise doubts about the efficacy of dividend tax relief as a means of immediate economic stimulus.
2005 for many shareholders. Senator John Kerry has promised to restore the higher dividend tax rate for individuals in the two highest tax brackets if he is elected President in November 2004. Consequently, procrastination may cost shareholders the opportunity to extract funds from corporations at a historically low tax cost.

The proposition that the largest decrease ever in dividend tax rates would substantially boost dividend payments is relatively straightforward.\(^4\) It assumes that dividend taxes have been a binding constraint on shareholder distributions. Freed of the constraint, dividends rise to a new equilibrium. This “old view” logic underlies President Bush’s assertion at the signing that “The bill also allows for dividend income to be taxed at a lower rate. This will encourage more companies to pay dividends,…” The U.S. House of Representatives Ways and Means Committee’s Report on Jobs and Growth Tax Relief Reconciliation Act of 2003 adds that the dividend tax reduction will decrease the tax incentive to retain earnings, implying that the 2003 Act would boost dividend payments.

Concurrent research by Chetty and Saez (2004) provides preliminary support for these claims. Examining longitudinal data from 1980 to the first quarter of 2004, Chetty and Saez (2004) report that the fraction of firms paying regular and special dividends rose after enactment. They also claim that many firms that were already paying dividends substantially increased their payments. Unfortunately, Chetty and Saez (2004) are unable to reject at conventional levels that the dividend increases occurred by chance, a failure they attribute to the volatility of the aggregate dividends series and outliers in their analysis.

Moreover, as they acknowledge, their study cannot rule out a spurious relation between dividends and taxes. One finding of particular concern is that they report that the increase in the percentage of firms paying and initiating regular dividends began as early as January 2003. Although it is possible that changes in dividend policy were tax-motivated in early 2003, it seems unlikely. President Bush first proposed exempting dividends from taxation (as opposed to a rate reduction) in January. Controversial

\(^4\) An alternative scenario would predict that dividend payments would actually fall after a rate reduction. This alternative assumes that shareholders demand the same after-tax dividends from their shareholdings, regardless of their dividend taxes. Thus, a cut in dividend taxes reduces the amount of dividends needed to produce the required after-tax cash.
deliberations raged for five months until Congress chose to lower dividend taxes, not eliminate them. Given the uncertainty about whether the bill would pass and, if so, the effective date of any changes, non-tax factors (e.g., an improving economy and corporate governance pressure to distribute excess cash) probably contributed more to early 2003 dividend increases than changes in expectations about future dividend tax rates. If so, these same non-tax factors may have been the reason that dividends increased in the second half of 2003, after enactment.

Employing an alternative approach, this paper collaborates many of the findings in Chetty and Saez (2004). After examining the dividend declarations of 1,478 firms around enactment, we too conclude that more firms are issuing regular and special dividends after tax rates fell. However, we can demonstrate a statistically significant increase in dividend payments following enactment. We also show that share repurchases declined after enactment, consistent with buybacks being a substitute for dividends, which became more attractive with a rate reduction.

To rule out the possibility that nontax factors are driving the recent rise in dividends, we attempt to provide direct evidence linking the 2003 changes in tax rates and dividend increases. The logic behind these tests is simple: If reductions in personal taxes caused dividends to surge, then we should expect to find a positive correlation between dividend increases and the extent to which the firms are owned by individuals, the only beneficiaries of the legislation. Unfortunately, we fail to find such a relation. Although we recognize that these tests suffer from the usual measurement problems facing empirical archival work, without this compelling link between dividend changes and shareholder tax benefits, we are hesitant to conclude that tax rates cut caused dividends to increase. We are particularly cautious because the economy improved during the same period that the legislation took effect and the business press was regularly reporting that the market was looking to dividends, rather than earnings, to assess firm quality. In short, it appears possible that the increases in dividends that we observe simply reflect business fundamentals more than tax cuts for individual investors. Moreover, as detailed in the next section, there are several reasons why dividends might not increase in response to the reduction in the dividend tax rate.
The paper develops as follows: The next section develops the study’s testable hypotheses. Section 3 describes the empirical design for testing increases in regular, quarterly dividends. Section 4 discusses the empirical results from those tests. Section 5 and 6 report results from similar tests of one-time, special dividends and share repurchases, respectively. Concluding remarks follow.

2. Hypothesis Development

This section begins by detailing seven reasons why the 2003 Act might not have resulted in increased dividend payments. Some of them lead directly to testable hypotheses. Most do not, but are discussed here to provide a complete picture of the factors affecting the decision to alter the firm’s dividend policy following enactment of the 2003 Act.

The first reason is that dividends have fallen into disfavor. Fama and French (2001) document that the number of dividend payers has been halved over the last two decades. In fact, only 70 percent of the Standard and Poor’s 500 were paying dividends at the end of 2002, down from 94 percent in 1980 (Opdyke, J., Wall Street Journal, October 7, 2003). DeAngelo, et al. (2003) add that dividends are largely concentrated among a few firms, with just 25 companies accounting for over half of the total dollar amount of dividends in the U.S. in 2000.

Moreover, it is unclear the extent to which dividend taxes account for the declining popularity of dividends. Both the dividend tax rate and the relative tax advantage of long-term capital gains (i.e., the spread between long-term capital gains tax rates and dividend tax rates) were less before the 2003 rate reductions than they were 20-50 years ago when dividend yields were much greater. Therefore, it is not obvious that reducing the dividend tax would suddenly result in a surge in dividend payments.

Furthermore, even if firms were inclined to reconsider dividends in light of their individual shareholders’ enhanced demand for dividends, it is not clear that companies would initiate or increase their dividends. Unprofitable, overleveraged, and cash-constrained firms are in no position to pay dividends, regardless of the dividend tax rate. Likewise, growth firms, a large sector of the economy, have always been unlikely to pay dividends (Lintner, 1956).
Moreover, nowadays, many stable, profitable firms with substantial cash balances pay no dividends (e.g., Intel, Dell, Cisco and, until January 2003, Microsoft). Managers at these firms apparently have believed that shareholder value is maximized by retaining cash within the firm or using it to buy back stock, rather than distributing cash to shareholders in the form of dividends. As a result, it is unclear that changing dividend tax policy is a lever that will affect corporate distributions to their shareholders.

In fact, many corporations claim that dividend taxes are irrelevant in their dividend policy. In a survey of corporate payout policy, Brav et al. (2003) report that 69 percent of CFOs state that the elimination of dividend taxation would definitely not or probably not affect their firms’ dividend decisions. For example, in response to President Bush’s original dividend exclusion proposal in January 2003 (which would have eliminated any dividend taxes for many companies’ shareholders), International Paper’s CEO, John Dillon, said that even if dividends were tax-exempt, it would “not change our behavior with respect to dividends.” (McKinnon, J., *Wall Street Journal*, January 17, 2003).

The second reason that firms may not increase dividends is that among the profitable companies who could distribute profits to shareholders and would consider their shareholders’ tax preferences in those distributions, the tax-efficient distribution continues to be share repurchases. Although the maximum statutory tax rate on dividends now equals the top rate on long-term capital gains (which was reduced from 20 percent to 15 percent in the 2003 Act), dividends continue to be taxed disadvantageously compared with capital gains for at least four reasons. One, dividends accelerate the tax payment that could be deferred until the stock is sold (or fully avoided if held until the shareholder dies). Two, unlike dividends, shareholders can time the sale of an investment and thus pay the resulting capital gain tax when the shareholder’s marginal tax rate is lowest. Three, with capital gains a portion of the proceeds is treated as a return of basis and thus goes untaxed. Conversely, basis cannot be used to avoid dividend income.\(^5\) Four, since only $3,000 of capital losses (net of capital gains) can be deducted each year, capital

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\(^5\) As an example, suppose a shareholder faces a choice between receiving $100 in dividends and selling an investment, which he purchased for $25, for $100. In both cases, the shareholder has $100 before taxes. With dividends, however, he pays $15 in taxes (100*15 percent), leaving $85 after-tax. With the sale, he pays $11.25
gains, unlike dividends, enable individuals to accelerate utilization of their pool of capital losses, an important consideration for many individuals following the downturn in the equity markets from 2000 to 2002.

The fifth reason that the 2003 Act might not materially increase dividends is that changes in dividends alter employee stock option compensation. Dividends reduce the value of stock options because the distribution of cash reduces the net assets, and thus share price, of the firm; however, those dividends are not distributed to option holders. Thus, increasing dividends may require granting additional stock options to employees and/or shifting to other forms of compensation. The costs of restructuring existing compensation arrangements and increasing potential principal-agent problems by undermining the incentives provided by stock options may exceed the benefits of lower dividend taxes on individuals. If so, some firms may opt to leave their dividend policy unaltered.

The fourth reason we might not observe a large response to the 2003 Act relates to the alternative minimum tax (AMT), which taxpayers pay if it exceeds their regular tax. Because the AMT applies to individuals with reasonably high levels of income (typically taxable income between $100,000 and $500,000), the AMT is most likely the relevant tax for many individual shareholders. The legislation reduced the maximum statutory tax rate on dividends to 15 percent for both regular and alternative minimum tax purposes. However, since the maximum statutory tax rate on dividends was already capped at 28 percent for the AMT, shareholders facing the AMT enjoy less benefit from the 2003 Act than individuals facing the regular tax, who may have been taxed at Federal rates as high as 38.1 percent on their dividends.

Furthermore, since the regular tax reduction for dividends exceeds the AMT tax reduction for dividends (because of the differences in statutory rates), the 2003 Act will cause some individuals, who have avoided the AMT in the past, to face the AMT in the future (because it exceeds their now-reduced regular tax). As a result of facing the AMT (the calculation of which is beyond the scope of this paper),

\[(100-25)*15\text{ percent}\] in taxes, leaving 88.75 after-tax. The $3.75 ($88.75-85) difference is one of timing. When the stock is finally sold, the basis will be recovered.
these individuals will now lose some non-dividend tax preferences. Consequently, their marginal tax
rates on dividends can exceed 15 percent. In other words, because the AMT disallows the exclusion or
deductibility of various tax preferences permitted under the regular tax, the net effect of a shift from
regular tax to AMT can be marginal tax rates on dividends that exceed 15 percent. Thus, the benefits of
the 2003 Act are further mitigated, lessening any demand for increased dividends.

The fifth reason that the dividend tax cut may not affect corporate payouts is that the dividend tax
rate reduction only benefits shares held by individuals or flow-through entities, e.g., mutual funds,
partnerships, trusts, S corporations, or limited liability corporations that pass dividend income through to
investors’ personal tax returns. Moreover, these shareholders must hold shares for at least 60 days in the
120-day period beginning 60 days before the ex-dividend date for the reduced rates to apply.
Shareholders with shorter trading horizons, tax-exempt organizations, tax-deferred accounts (e.g.,
qualified retirement plans, including IRAs and 401(k)), corporations and foreigners are unaffected by the
legislation. Thus, companies held by unaffected shareholders have no incentive to alter their dividend
policy.

Stated in alternative form, the first hypothesis predicts that:

H1: Increases in dividend payments following the 2003 Act were increasing in the percentage
of the payer’s stock held by individual investors.

Rejecting the null hypothesis that changes in dividend payments are unrelated to individual ownership
would provide strong evidence that corporations took shareholder tax preferences into account when they
set their dividend policy following the 2003 Act. This evidence would be particularly compelling because
it is difficult to construct an alternative non-tax explanation of why firms with heavy individual stock
ownership increased their dividend declarations following the dividend tax rate reduction more than
companies with large institutional ownership.

On the other hand, we will fail to reject the null if firms ignore their shareholders’ tax preferences
in setting dividend policy. Prior literature is mixed on this question. Barclay, Holderness and Sheehan
(2003) report that dividends seldom change following the substitution of a new large blockholder with
different tax status. Conversely, Perez-Gonzalez’ (2003) reports that dividend policy is heavily influenced by the tax status of the largest shareholder. Lie and Lie’s (1999) add that managers consider shareholders’ tax considerations when deciding between dividends and share repurchases.

The final two reasons motivate the second hypothesis, which concerns the type of dividend paid—regular, quarterly dividends versus special dividends. First, firms are reluctant to increase their regular, quarterly dividends since the increase likely will have to be rescinded (Healy and Palepu, 1988). By increasing their quarterly dividends in response to the 2003 tax change, firms greatly increase the probability that they will have to cut their quarterly dividends in the future (or accept a suboptimal distribution policy) because the rate reduction is temporary.

The dividend tax rate will revert to 35 percent on January 1, 2009. Furthermore, John Kerry has promised to rescind the 2003 dividend tax rate reduction for individuals in the highest two tax brackets, if he is elected President in November, 2004. Since many individual shareholders fall in these upper brackets, restoration of the higher tax rates for them likely would substantially undermine the support for corporate distributions in the form of dividends. Given this uncertainty about future dividend tax rates and because the market is known to respond negatively to reductions and omissions of dividend payments (Brav et al. 2003), it seems reasonable that many companies would forgo the opportunity provided by the 2003 Act to increase their regular, quarterly dividends to avoid the probable rescission.

Lastly, regular, quarterly dividends may alleviate asymmetric information costs by conveying information about future earnings to the market. If so, tax-motivated adjustments in the quarterly dividends could distort the intended signal. The information costs associated with investors’ inability to distinguish between increases that are tax-induced and increases that are profitability-induced may exceed

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6 Some may assume that sunset provisions, such as the reversion of the dividend tax rate to 35 percent, will be automatically extended before they take effect. Gale (2003), however, makes a compelling case that the costs of extending all the various sunset provisions currently in the law is probably fiscally impracticable. He estimates that removing all the sunsets in the tax code would reduce government revenue by almost $2 trillion over the next decade.

7 Individuals in the highest two brackets (maximum statutory rates of 33 percent and 35 percent) receive 38 percent of all the dividend income reported in the United States.
the benefits of reduced shareholder taxes under the new law. Thus, it is possible that managers would intentionally not alter their regular, quarterly dividend policy to maintain credibility with the market.

These final two reasons—costs associated with rescission and asymmetric information—can be avoided by declaring a special dividend rather than altering the firm’s regular quarterly distribution. This leads to the second hypothesis:

\[ H_2: \text{ Firms are more likely to pay special dividends following the 2003 Act than to boost their regular, quarterly dividends.} \]

The final hypothesis assumes that special dividends are a substitute for share repurchases. Unlike regular, quarterly dividends, neither special dividends nor share repurchases imply any ongoing commitment to future payments. Both are irregular, unusual and often large as compared with a single quarterly dividend.

The tax treatment, however, differs between the two distributions. Special dividends are taxed the same as regular dividends and thus enjoy the dramatic 2003 reduction in tax rates. Share repurchases are treated as capital gains. Although the capital gains tax rate was also reduced in 2003, its reduction was more modest with maximum rates tumbling from 20 percent to 15 percent. As a result, the relative reduction in the tax penalty on special dividends was greater in 2003 than the corresponding reduction in the tax penalty for share repurchases.

Therefore, if special dividends and share repurchases are substitutes and a decrease in the dividend tax rate results in an increase in special dividends, we predict a corresponding decline in share repurchases. This leads to the third hypothesis:

\[ H_3: \text{ Following the 2003 Act, firms substituted special dividends for share repurchases.} \]

3. **Empirical Approach**

This section of the paper describes the selection of our sample of 1,463 regular dividend-paying companies. It then details the tests conducted on these companies to determine whether corporate
distributions changed following enactment of the 2003 Act. Further tests are conducted to determine whether the changes are correlated with the mix of individual and institutional shareholders.

A. Sample

The sample selection is designed to identify corporations that declared dividends during the first six months following the Congressional passage of the bill on May 23, 2003 or (for purposes of constructing a control sample) during the same period in 2002. We draw the initial sample from the 14,258 dividend declarations representing 3,101 firms from the Center for Research in Security Prices (CRSP) between May 23, 2003 and November 22, 2003 and/or the same period in 2002. To exclude non-corporate distributions on common stock, we require firms to have CRSP share code 11 (eliminates 1,151 firms). Since we are examining changes in firm payout policy over time, we require our firms to be in existence from October 1, 2001 through December 31, 2003 (eliminates 195 firms). We limit our sample to regular quarterly cash dividends (distribution code 1232) and special cash dividends (code 1272) for firms that did not change fiscal year-ends during the period (eliminates 226 firms). Firms also must have Compustat earnings information available for the quarter immediately preceding the dividend declaration date as well as our proxies for individual holdings (eliminates 66 firms). This leaves a final sample of 1,463 companies.

Table 1 provides descriptive information for the 1,463 sample firms. The mean (median) company has a market capitalization of $4.8 ($0.6) billion with total assets of $12.5 ($1.3) billion. Its mean (median) sales are $1.0 ($0.1) billion, on which it earns $74 ($6) million.

The 1,463 sample firms are concentrated in financial services and manufacturing. 615 firms (42 percent of the sample) are in SIC 6 (finance, insurance and real estate); 459 companies (31 percent) are manufacturers (SIC 2 and 3). The remaining companies are mostly in SIC 4 (transportation and utilities) with 137 firms (9 percent) and SIC 5 (trade) with 115 corporations (8 percent).

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8 Share code 11 indicates that dividends are declared on ordinary common shares. This restriction results in the exclusion of ADRs, REITS, closed-end funds and partnership units that face dividend taxation unaffected by the 2003 Act.
B. Comparing Regular, Quarterly Dividend Payments Before and After the 2003 Act

To determine the initial impact of the 2003 Act on regular, quarterly dividend payments, we compare dividends declarations during the first two quarters following passage of the bill with previous quarters. (Assuming boards of directors meet at least once every three months to declare dividends, this investigation period ensures that we captured the boards’ first two opportunities to alter dividends following rate reduction.) Specifically, we compare the dividends declared from May 23, 2003 (the first working day following Congressional approval of the 2003 Act) to November 22, 2003 with the dividend payments declared during the five quarters ending May 22, 2003. Since Congressional passage occurred late at night on May 22, 2003, corporate boards meeting on the 23rd would have known that their shareholders would face a maximum statutory rate of only 15 percent and presumably could have confidently adjusted dividends upward beginning on that date. Thus, although the bill did not become law until the President signed it on May 28, 2003, it should have been clear to corporate officials, beginning on May 23, 2003, that the bill would become law because the President had strongly supported dividend tax relief throughout the legislative process.

Table 2, Panel A provides summary statistics for the regular, quarterly dividend declarations of the 1,463 sample firms. We find that 1,402 firms declared dividends during the quarter immediately following passage of the bill (May 23-August 22, 2003). In the subsequent quarter (August 23, 2003-November 22, 2003) 18 more firms declared dividends for an average of 1,411 firms during the two quarters following enactment. This compares with an average of 1,332 firms in the same two quarters a year earlier. Over the seven-quarter period, total dividends rose from $36.0 billion to $41.9 billion, a 16 percent increase. Total dividend declarations rose every quarter with the largest jump around enactment, swelling $2.8 increase (7 percent) from the quarter ended May 22, 2003 to the quarter ended August 22, 2003. This compares with a $1.9 billion cumulative increase over the five months before enactment and a $1.2 billion rise in the second quarter following enactment.
The mean (median) dividend declaration rose steadily from 0.145 (0.110) per share in the quarter ended May 22, 2002 to 0.153 (0.120) in the quarter ended November 22, 2003. The difference in the means (medians) of these extreme quarters is statistically significant at the 10 (1) percent level.\(^9\) The mean (median) dividend payment across the two quarters comprising the post-enactment period is 0.152 (0.120), compared with 0.146 (0.114) in the five quarters comprising the pre-enactment period. This aggregate pre/post mean (median) difference is significant at the 0.05 (0.01) level.

We further test whether dividend declarations increased over the investigation period by comparing within-firm dividend changes. That is, we subtract each firm’s dividend declaration in the quarter ended May 22, 2002 (the earliest quarter) from its dividend announcement in the quarter ended November 22, 2003 (the last quarter). The mean (median) increase is 0.017 (0.010), which is significant at the 0.001 level. This is consistent with dividend declarations increasing over the investigation period.

Furthermore, the largest changes appear to have occurred around enactment. If we subtract each firm’s dividend declaration in the quarter ended May 22, 2002 (the quarter before enactment) from its dividend announcement in the quarter ended August 22, 2003 (the first quarter after enactment), we find that the mean increase is 0.007, which is significant at the 0.001 level. As seen in the last column of Panel A, this mean difference exceeds the mean difference for all other adjacent quarters. However, we detect two other highly significant dividend increases: 0.004 (between the two quarters immediately after enactment) and 0.003 (between the two quarters immediately before enactment). Interestingly, for every pair of quarters, the median difference is zero. However, the median test is always significant at 0.001, consistent with dividends increasing every quarter.

Table 2, Panel B repeats this analysis for the 1,281 firms that paid regular dividends in each of the seven quarters. These 1,281 firms paid roughly 99 percent of the dividends in the full sample of 1,463 firms. Inferences are qualitatively unaltered. As in the full sample, declarations rose every quarter with the largest increase ($2.5 billion or 7 percent) around enactment. The mean (median) dividend payment

\(^9\) When we compare other pairs of quarters, the only significant ones are the median differences between the quarter ending November 22, 2003 and the quarters ended August 22, 2002 and November 22, 2002. Both median differences are significant at the 0.05 level.
rose steadily from 0.145 (0.113) in the quarter ended May 22, 2002 to 0.159 (0.130) in the quarter ended November 22, 2003. Both mean and median differences are significant at the 0.01 level.\(^{10}\) The mean (median) dividend payment across the two quarters comprising the post-enactment period is 0.157 (0.130), compared with 0.148 (0.120) in the five quarters comprising the pre-enactment period. We can reject that this mean (median) difference is random at the 0.01 (0.01) level. The last column of Panel B confirms that within-firm differences in dividend declarations are greatest around enactment (0.005), but are steady throughout the investigation period.

We conclude that the largest dividend increases were immediately following enactment. However, dividends were rising before enactment and continued rising in the second quarter after enactment. This leaves us to conclude that non-tax factors (such as an improving economy) played a role in boosting dividends. The unresolved question is the extent to which taxes assisted in the dividend increases.

C. Regression Model

These initial findings are consistent with both more firms paying dividends and more dividends being paid after the passage of the 2003 Act. Although this is consistent with the tax rate reduction boosting dividend payments, we cannot rule out the possibility that dividends have been on an upward trend or that dividends increased in this period for reasons unrelated to taxes, such as improved earnings or stronger cash flow. In the regression analyses discussed in the next section, we consider these alternative explanations.

Furthermore, besides ruling out the possibility that changes in earnings or cash flow explain the increase in dividends following enactment, the regression analysis tests the hypothesis that dividend increases are greatest in those companies whose shareholders benefit most from the rate reduction, i.e.,

\(^{10}\) The mean difference for the quarter ended November 22, 2003 is significantly greater than zero when compared with every pre-enactment quarter, except for the last quarter before enactment. The median difference is significantly greater than all pre-enactment quarters. Mean and median differences for the first quarter after enactment (one ending August 22, 2003) are significantly greater from any quarter ending in 2002. The mean and median differences of none of the other pairs are significantly different from zero.
companies held predominantly by individuals. Documenting a link between dividend increases and the mix of shareholders would provide particularly compelling evidence that the dividend increases are attributable to tax changes because it is difficult to construct a non-tax reason why dividends surged in the second half of 2003 for companies held disproportionately by individuals.\textsuperscript{11} Conversely, if we fail to find a link between declarations and individual ownership, it is difficult to rule out the possibility that the increase in dividend declarations is caused by omitted correlated variables (such as changes in expectations about future profitability).

The dependent variable is the dividends declared in period $t$ ($DIV_t$), where period $t$ includes dates before and after enactment. The first control variable, which is designed to capture any stickiness in dividends, is the dividends declared in period $t-1$ ($DIV_{t-1}$). To capture variability in the source of dividends, we include earnings from period $t-1$ ($EARN_{t-1}$). All three variables are expressed in per share amounts.\textsuperscript{12}

The explanatory variables of primary interest measure the extent of individual ownership. The first measure of individual ownership ($IND$) is one less the percentage of shares that are held by institutional investors as reported in 13-f filings and collected by CDA/Spectrum, as of June 30, 2002.\textsuperscript{13} Ayers, et al. (2002, 2003), Blouin, et al. (2003), and Dhaliwal, et al. (2003) employ variations of this measure of individual ownership in recent studies. The second measure of individual ownership

\textsuperscript{11} As an illustration of the difficulty of constructing an alternative hypothesis, imagine one based on stories in the business press that investors have become more focused on cash dividends than accounting earnings after Enron, WorldCom and similar debacles. If this is true, the shift to cash from profits should be greatest in companies with the most asymmetric information between managers and investors. One possible set of such companies are those with many, small individual shareholders. If so, it is feasible that a positive correlation could be detected between individual ownership and dividend increases, as predicted and found in this paper. However, since Enron, WorldCom and most of the financial collapses occurred in 2001 and early 2002, it is unclear why this shift in preferences to dividends did not occur until the summer of 2003. Also, we find that dividend hikes were increasing in insider ownership, which is contrary to the asymmetric information story. Also, it is unclear how paying a one-time, special dividend allays long-term concerns about information asymmetries.

\textsuperscript{12} Inferences are robust to scaling by total assets or share price.

\textsuperscript{13} We intentionally chose individual ownership data from a date before Bush’s original dividend exclusion proposal in January 2003 to avoid the possibility that clienteles began to shift in anticipation of a reduction in dividend tax burden. If we use post tax relief measures of individual ownership, we could erroneously infer that high individual ownership firms responded to the legislation by increasing dividends, when in actuality individuals simply bought disproportionately large numbers of shares in companies that were increasing their dividends.
(INSIDE) is the percentage of shares held by insiders as measured by holdings of officers and directors as reported in Thomson Financial’s Insider Filing Data.

We also include the firm’s dividend for the quarter immediately preceding enactment divided by its stock price (DYIELD) as an explanatory variable. This measure is designed to capture the capacity for dividend increases. Firms with high dividend yields presumably had less capacity to increase their dividends after enactment than firms paying little or no dividends.

We interact IND, INSIDE and DYIELD with a categorical variable (POST), which is one if the dividend was declared after enactment and zero otherwise. This recognizes the possibility that IND, INSIDE and DYIELD may have had different impacts on dividend declarations after enactment. A positive estimated regression coefficient on POST*IND will be interpreted as evidence that dividend declarations after enactment of the 2003 Act were increasing in the level of individual ownership in the company. Since we are unaware of any non-tax reason that dividends should have risen with the percentage of stock held by individual investors during the summer of 2003, we will interpret a positive coefficient on POST*IND as strong evidence that the 2003 rate reductions increased dividends. Likewise, a positive estimated regression on POST*INSIDE will be interpreted as evidence that dividends increases were rising in the percentage of the firm owned by insiders.

\[
DIV_{it} = \beta_0 + \beta_1 DIV_{i,t-1} + \beta_2 EARN_{i,t-1} + \beta_3 (1 + POST) * [\alpha_0 + \alpha_1 IND_i + \alpha_2 INSIDE_i + \alpha_3 DYIELD_i] + CONTROLS + \varepsilon_{it}
\]

(1)

CONTROLS are intended in the model to capture other possible determinants of the level of dividends, such as industry, growth, risk, and size, which are presumed not to vary systematically with the change in dividend tax rates (and thus are not interacted with POST).

Rather than tabulate the results from estimating equation (1), we convert the levels expression in equation (1) to a changes model and report the results from a simpler, though inferentially identical, expression. Equation (1) produces two observations for every firm in the sample, one observation from before enactment and another from after enactment. Below in equation (2), we employ a difference-in-differences approach that yields one observation per firm.
\[ \Delta DIV_i = \beta_0 + \beta_1 \text{LAGDIV}_i + \beta_2 \text{LAGEARN}_i + \beta_3 \text{IND}_i + \beta_4 \text{INSIDE} + \beta_5 \text{DYIELD}_i + \epsilon \quad (2) \]

\( \Delta DIV_i \) is the difference between the dependent variables in firm i’s post-enactment equation and firm i’s pre-enactment equation. Similarly, \( \text{LAGDIV}_i \) is firm i’s post-enactment \( DIV_{t-1} \) and its post-enactment \( DIV_{t-1} \), and \( \text{LAGEARN}_i \) is the difference between \( EARN_{t-1} \) after and before the rate reduction. The other possible control variables (\( \text{CONTROLS} \)), which are constant before and after the legislative change (e.g., industry), drop from the regression model when the differences are taken. So does \( \text{POST} \), since all observations now include data from both before and after enactment. This leaves the coefficient on \( \text{IND} \) (\( \text{INSIDE} \)) to capture the impact of individual (insider) ownership on changes in dividend payments and the coefficient on \( \text{DYIELD} \) to capture differential effects of capacity on dividend payments.

A positive estimated regression coefficient on \( \text{IND} \) (\( \text{INSIDE} \)) will be interpreted as evidence that the increase in dividends following passage of the 2003 Act was increasing in the percentage of a firm owned by individuals (insiders). Since we are unaware of any non-tax reason that dividends should have risen with the percentage of stock held by individual investors (insiders) during the summer of 2003, we will interpret a positive coefficient on \( \text{IND} \) (\( \text{INSIDE} \)) as strong evidence that the 2003 rate reductions increased dividends.

D. Descriptive Statistics and Univariate Results

To estimate equation (2), we must define the pre and post enactment quarters. We begin by defining the post-enactment quarter as the first quarter following enactment (May 23-August 22, 2003) and the pre-enactment quarter as the same period in 2002. (As discussed below, inferences are unaltered by the selection of the comparison quarters.) Consequently, \( \Delta DIV \) is dividends per share as declared from 5/23/03 to 8/22/03 less dividends per share as declared from 5/23/02 to 8/22/02. \( \text{LAGDIV} \) is dividends per share as declared from 2/23/03 to 5/22/03 less dividends per share as declared from 2/23/02 to 5/22/02. \( \text{LAGEARN} \) is quarterly earnings per share as reported during the period, 2/23/03 to 5/22/03 less quarterly earnings per share as reported during the period, 2/23/02 to 5/22/02.
Table 3, Panel A provides descriptive statistics for the regression variables. The dependent variable ($\Delta DIV$) ranges from a 47.5-cent decline in dividends per share during the quarter following enactment, compared with the same period a year earlier, to a 36-cent increase in dividends per share. Its mean (median) increase is 1.3 (0.6) cents per share. $LAG\Delta DIV$ has a mean (median) value of 0.6 (0.4) cents per share. Mean (median) lagged earnings ($LAG\Delta EARN$) are 5 (3) cents per share. The mean and median quarterly dividend yields ($DYIELD$) are 0.6 (0.6) percent.

$IND$ and $INSIDE$ are the two key explanatory variables for testing the hypothesis that shareholder mix affects dividends. Our estimate of individual ownership varies widely with the interquartile ranging from 26.7 percent to 81.2 percent. Mean (median) $IND$ is 52.4 (50.1) percent. Mean (median) $INSIDE$ is 9.7 (3.5) percent.

Table 3, Panel B provides Pearson’s and Spearman’s rank correlation matrices for the regression variables. As expected, using Spearman's rank correlation, we find that both $IND$ and $INSIDE$ are positively correlated with $\Delta DIV$, consistent with dividends increasing after tax relief in the level of individual (insider) ownership. However, we find no significant relation between these variables using Pearson’s correlation.

Further analysis provides some evidence that $IND$ varies across firms in a manner consistent with dividend policy incorporating shareholder tax considerations. Specifically, we find a mean (median) $IND$ of 56.4 (57.2) percent for the 858 firms that initiated or increased their dividends per share during the quarter following the reduction in the dividend tax rate. This compares with a mean (median) $IND$ of 46.7 (41.1) percent for the remaining 605 firms in this study, which maintained, reduced, or omitted their dividends per share. This difference in individual ownership is significant at the 0.01 level using both a $t$-test of the means and a non-parametric Wilcoxon test of the medians (one-tailed).

We then conduct a similar test, splitting the sample on the median $IND$ of 50.1 percent. We find that the mean (median) $\Delta DIV$ for the above-median group is 1.4 (1.0) cents while the mean (median) $\Delta DIV$ for the below-median group is 1.1 (0.2) cents. We cannot reject the null proposition that dividend
changes are unrelated to the shareholder mix, using a $t$-test of the means. However, the medians are significantly different at the 0.01 level using a non-parametric Wilcoxon test (one-tailed), consistent with dividends increasing more in firms where more shareholders benefit from the rate reduction.

4. Regression Results

A. Primary Tests

Table 4 reports the summary statistics from ordinary least squares estimation using the 1,463 sample firms. The first column reports the estimation results with $IND$ in the regression; the second column with $INSIDE$ in the regression; and the third with both measures of individual ownership. In all three columns, the coefficient on $LAG\Delta DIV$ is positive, as expected, consistent with dividends being sticky. The coefficient on $LAG\Delta EARN$ is positive, as expected, and marginally significant at the 0.10 level. The coefficient on $DYIELD$ is negative and significant, as expected, consistent with a smaller increase in dividends following the 2003 Act for firms that already had a high dividend yield. We reestimate the model with several other control variables, including lagged operating cash flow and free cash flow. The coefficients on these control variables are never significantly different from zero nor does their inclusion qualitatively alter the coefficients on the other explanatory variables.

The estimated regression coefficient on $IND$ in the first column enables us to test whether dividends increased during the quarter following enactment of the 2003 Act (compared with the same period in 2002) in proportion to the percentage of the company held by individuals. Contrary to expectations, we find a negative estimated regression coefficient on $IND$, though not significantly different from zero. The second column finds a positive, though insignificant, coefficient on $INSIDE$. The third column shows that neither coefficient is significant when both are included in the regression.

We are unable to infer from these results that the increases in regular, quarterly dividend payments, documented in Table 2, can be linked to firm differences in individual ownership. This does not necessarily mean that the reduction in dividend tax rate had no effect on dividend payments. The tests
in this study struggle with the usual problems associated with empirical research, such as measurement error. However, these results do give us pause. If we had detected a relation between changes in dividend payouts and individual ownership, we would have interpreted such a result as providing strong evidence that the dividend increases were related to the tax rate reductions. Now, we are left to search for other possible explanations for the dividend boosts reported in Table 2.

B. Alternative Explanations

The first alternative explanation that we consider is that the pre- and post-enactment quarters are misspecified. Table 5 reports the results when the model includes INSIDE only under five different quarter specifications. In the first column, we define the dependent variable ($\Delta DIV$) as the change in dividend payments between the first quarter after enactment (May 23-August 22, 2003) and the quarter immediately before enactment (February 23, 2003-May 22, 2003). $LAG \Delta DIV$ in the first column of Table 5 is the difference between the last quarter immediately before enactment (February 23, 2003-May 22, 2003) and the penultimate quarter before enactment (November 23, 2002-February 22, 2003). Using this specification, the estimated regression coefficient on INSIDE remains near zero. In other words, here as in Table 4, we find no evidence that links dividend changes to the shareholders that benefited from the tax rate reductions.

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14 Inferences are unaltered if IND is used in lieu of or in addition to INSIDE since the coefficients on IND are never significantly different from zero.

15 Note that this alternative specification has less explanatory power than the specification used in Table 4. The adjusted $R^2$ tumbles to 5 percent, down from 51 percent. The decline can be attributed to the loss of explanatory power in $LAG \Delta DIV$. When dividends are lagged on the prior quarter’s dividends (as in Table 5, column 1), the explanatory power of $LAG \Delta DIV$ is far less than when it is lagged on the dividends from the same quarter in the prior year (as in Table 4). One possible explanation for this decline in explanatory power results from a seasonality in dividend changes. That is, firms tend to change dividends in the same quarter each year. They are less likely to increase dividends in subsequent quarters. Although we are unaware of any scholarly research that documents this seasonality in dividend changes, the business press asserts that it exists. For example, earlier this year, the Wall Street Journal (April 15, 2004, page C1) stated, “…Most dividend moves are done in the first and second quarters of the year, as companies try to court investors around the time of an annual meeting.” If so, the year-to-year comparison in Table 4 probably provides a better specification than the quarter-to-quarter comparison in Table 5, column 1. However, conclusions remain unchanged. Neither specification shows that dividends increased more in firms whose investors benefited most from the reduction in dividend tax rates.
Table 5 presents the results from four other specifications. Columns 2 and 3 test whether a relation can be detected looking at the combined change in dividends over the first two quarters following enactment (May 23—November 22, 2003). The estimated regression coefficient on INSIDE remains insignificantly different from zero.

One possibility is that boards of directors were unable to adjust dividends in the first quarter following enactment. Perhaps they increased dividends in the subsequent quarter. To test this possibility, the last two columns in Table 5 define $\Delta DIV$ as the difference in dividend payments between August 23-November 22, 2003 and May 23-August 22, 2003. Again the coefficient on INSIDE remains insignificant. We conclude from Table 5 that the specification of pre and post-enactment quarters is not the reason that we fail to detect a relation between dividend increases and individual ownership.

Another possibility for our failure to detect a relation between dividend increases in 2003 and the tax rate reduction is that firms were increasing their dividends because the economy was beginning to expand after a recession in the early years of the decade. In other words, the 2003 increases in regular quarterly dividends were results of the usual causes of dividend increases (stronger earnings and improved cash flow) more so than the dividend rate reduction. This could account for the dividend increases documented in Table 2 coupled with the failure to link the increases to individual ownership in Tables 4 and 5.

We attempted to control for earnings effects in the regression by including $LAGEARN$ in the model. We find that the estimated regression coefficient on $LAGEARN$ in most specifications is marginally positive, at best. We do know, however, that earnings were rising steadily during the period that the study investigates. We find that median earnings (lagged one quarter on the assumption that dividends lag earnings) never declined for the sample of 1,463 firms during the seven quarters listed in Table 2. For example, the mean (median) climbed from 31 (30) cents per share from February 23-May 22, 2002 to 37 (36) cents per share from August 23-November 22, 2003.
Finally, as discussed above, perhaps regular, quarterly dividends were not the mechanism by which firms increased their distributions to shareholders following the rate reduction. If managers are concerned about the temporary nature of the rate reduction or the deleterious effects on signaling of a tax-motivated change in dividends, then firms may have opted for one-time, special dividends to make a distribute profits to shareholders while dividend tax rates were at a historical low. The next section reports results from tests designed to determine whether special dividends increased following enactment of the 2003 Act.

5. Special Dividends

To assess whether special dividends rose after the dividend tax rate reduction, we repeated the procedures that were used to select the sample of regular, quarterly dividends. Not surprisingly, special dividends occur much less often than regular, quarterly dividends with 62 firms declaring 84 special dividends over the seven-quarter investigation period (February 23, 2002 to November 22, 2003).

Table 6 reports the frequency of the special dividends across the seven quarters examined in the study. Fifty-three (62 percent) special dividends were paid in the two quarters after enactment. Using the non-parametric binomial test, we can reject at the 0.001 level that the increased frequency of special dividends following enactment occurred by chance. This result is consistent with the 2003 Act increasing the frequency of special dividends.

Next, we attempt to assess whether the amount of the special dividend increased after enactment using regression analysis. Unlike regular, quarterly dividends, which have been studied extensively, little is known about the determinants of special dividends. We rely on the share repurchase literature to structure our special dividend tests because special dividends and repurchases share common non-tax characteristics. Specifically, neither implies any ongoing commitment to future payments. Both are irregular, unusual and often large compared with a single quarterly dividend.

Table 7 shows the results from regressing the 81 special dividends per share on three control variables and a categorical variable (POST) that equals one if the distribution is one of the 53 special
dividends declared in the six months following enactment. The firm-level control variables are earnings per share (\(EPS\)), intended to capture the firm’s profitability; free cash flow (\(FCF\)), a measure of the firm’s dividend capacity; and market-to-book (\(MTB\)), designed to control for growth opportunities for which firms might retain excess cash. Table 7, Panel A provides descriptive statistics for the regression variables. The dependent variable, special dividends per share (\(SD\)) ranges from one penny to $1.46 with a mean (median) value of 58 (25) cents.

Table 7, Panel B shows the regression results. The first (second) column reports summary statistics using ordinary least squares (rank regressions). The variable of interest (\(POST\)) is not significantly different from zero. This finding implies that although the frequency of special dividends increased after enactment, the amount paid per special dividend did not change.

The third column in Table 7, Panel B confirms the earlier univariate finding that the frequency of special dividends increased after enactment. The dependent variable is binary with firm-years in which special dividends are paid assuming the value of one and other firm-years assigned zero. Using a logit approach, we find that significantly more special dividends were paid after enactment, consistent with the non-parametric test results reported above.

Next, we investigate the extent to which individuals and insiders own the firms that pay special dividends. If special dividends dominate regular, quarterly dividends as efficient means of distributing profits during a temporary reduction in tax rates, then individual shareholders, the sole beneficiaries of the rate reduction, should hold disproportionate interests in firms that issued special dividends after enactment. Table 8 reports the individual and insider ownership of firms paying special dividends before enactment, during the first quarter following enactment and during the subsequent quarter. It also lists the same measure for the 1,463 firms in the study that paid regular, quarterly dividends.

We find that individuals hold a greater percentage of the shares in companies that pay special dividends than they do in companies that pay regular, quarterly dividends. For example, individuals held 76 percent, on average, of the 22 firms that paid special dividends in the quarter following enactment. This compares with 54 percent for firms paying regular, quarterly dividends. Similarly, insiders held 15
percent of the special dividend firms, but only 7 percent of the regular dividend companies.

Reductions in the dividend tax rate, however, do not appear to account for the differences between investors in special dividend firms and investors in regular, quarterly dividend firms. The reason is that individuals and insiders were holding large proportions of special dividend firms before enactment. For example, Table 8 shows that individuals (insiders) held 84 (20) percent of the 1 firms paying special dividends only before enactment, compared with 79 (12) percent of the 31 special dividend firms in the second quarter following enactment.

To summarize, the frequency of special dividends increased following the 2003 Act, consistent with firms distributing excess cash balances during a period marked by historically low dividend tax rates. Moreover, special dividends appear to be paid by firms with unusually high ownership by individuals, the sole taxpayers who benefit directly from the lower tax rates. However, we are unable to tie individual ownership to post-enactment special dividend payments. The reason is that, before enactment, special dividend-paying firms were already held disproportionately by individual investors. In short, firms that pay special dividends have a higher proportion of individual ownership, but this distinction appears to predate the reduction in dividend tax rates. Having said this, a casual review of press releases announcing special dividends immediately after enactment repeatedly identified the tax rate reduction as a factor in the special dividend declaration. Three examples are reviewed in Appendix A

6. Share Repurchases

This section of the paper investigates whether the dividend tax legislation affected share repurchases. If share repurchases are substitutes for dividends, then a tax-induced boost in dividend payments after enactment should have resulted in a reduction in share repurchases. This is true even though the capital gains tax rate, which applies to individuals who sell their shares in share buybacks, fell from 20 percent to 15 percent. The reason is that the dividend tax rate fell further than the capital gains tax rate.
To explore the possibility that share repurchases declined after enactment, we review the repurchase activity of the 1,477 different companies studied in the regular and special dividend analyses above. To avoid the possibility that firms delayed share repurchases once the President proposed dividend exemption in January 2003, we define the pre-enactment period as the seven months ending in December 2002 (i.e., June—December 2002). The post-enactment period is the same months one year later (i.e., June—December 2003). We find that share repurchases accounted for 29 percent of total distributions (defined as regular and special dividends plus repurchases) in the 2002 period, but only 19 percent in the 2003 period. We can reject at the 0.001 level that this slump in share repurchases after enactment occurred by chance. Furthermore, we find that 800 firms repurchased shares before enactment, but only 646 firms following enactment, a 19 percent decline. This decline in frequency is also significant at the 0.001 level.

To determine whether firms shifted from share repurchases to dividends, we further examined the 718 firms that changed both their dividends per share and their repurchases per share between 2002 and 2003. Of these firms, 93 percent increased their dividends (further confirmation that dividends rose dramatically between 2002 and 2003). Conversely, only 36 percent increased their share repurchases, consistent with dividends substituting for share repurchases, after enactment.

Finally, we test whether individuals were more likely to own firms that both increased dividends and decreased share repurchases. Contrary to expectations, we find no evidence consistent with this proposition. Specifically, we find individual ownership does not vary between companies that appear to substitute dividends for share repurchases following enactment and other firms.

7. Conclusion

The 2003 Act cuts the maximum statutory personal tax rate on dividend income from 38.1 percent to 15 percent, the largest reduction ever. Because dividend taxes are fundamental to capital and organizational structure, we anticipate this legislation providing a rich setting for studies in accounting, finance, and economics. We begin that inquiry by asking whether the legislation led to an immediate
increase in dividend declarations. Many have long assumed that dividend taxes are an important binding constraint on corporate distributions. If so, we would expect at least some companies to avail themselves of the first opportunities to adjust their dividends upward to a new optimal level.

We find evidence that the legislation triggered increases in the frequency of regular and special dividends and dampened share repurchases. The firms in this study increased their total regular dividends by $2.8 billion (7 percent) in the quarter immediately following passage of the legislation and another $1.2 billion (3 percent) in the subsequent quarter. They increased their special dividends three-fold ($389 million) in the quarter immediately following passage of the legislation and then declared another 643 million in the subsequent quarter. They reduced their total shares repurchased by 25% in the seven months of 2003 following enactment, compared with the same period a year earlier. In short, the aggregate data provide strong evidence that regular and special dividends rose and share repurchases fell after Congress reduced the dividend tax rate.

It remains possible that the changes in distribution patterns relate to nontax influences, such as an expanding economy. Our attempts to rule out alternative explanations by linking changes in distributions to ownership in the companies by individuals, the sole beneficiaries of the 2003 tax legislation, is less compelling. In general, we find little evidence that the companies whose shareholders most benefited from the tax savings were the first to increase their dividends.
References


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Bhattacharya, Sudipto, 1979, Imperfect information, dividend policy, and “the bird in the hand” fallacy, Bell Journal of Economics 10, 259-270.


Appendix A

This appendix includes excerpts from three press releases announcing a special dividend in the post-enactment period. Each specifies that the dividend tax rate reduction for individual shareholders spurred the special dividends. I

First, individuals (insiders) own 79 (38) percent of Sun Hydraulics Corporation. In their July 10, 2003 announcement of a special dividend of $2.00 per share, they specifically attributed the idea of the special dividend to their largest shareholder, Robert E. Koski, former chairman and current board member. Chairman Clyde Nixon said, “This distribution was proposed to the board of directors by the company’s largest shareholder, as a way to provide a measure of liquidity and a return to the company’s shareholders, in light of the stagnant market price of the company’s stock over the past four years. Several factors influenced the board’s decision: the recent reduction in the dividend tax rate to 15 percent, current low borrowing costs, and Sun’s strong balance sheet and cash flow.”

Second, the July 17, 2003 announcement of Iomega Corporation (63 percent individual ownership and 50 percent insider ownership) quotes Chairman David J. Dunn: “The Board of Directors, working closely with management, has for some time been actively exploring ways to improve shareholders’ return on the Company’s excess cash. We have looked at a myriad of opportunities, inside and outside the storage industry, domestically and internationally. While there have been a number of interesting opportunities, there have been none which met our twin goals of attractive returns and safety for shareholders. Considering this, and the recently reduced tax rate on dividends, the Board has decided to distribute the cash which it believes is not needed to run the business to shareholders.” Ironically, several months after Iomega paid this $5 special dividend, the company announced that it did not qualify as a dividend under the tax law. Instead it was a non-taxable return of a capital. Thus, this distribution did not benefit from the reduction in dividend tax rates.

Third, Adtran, Inc. also wanted to distribute excess cash. Adtran has 71 (11) percent individual (insider) ownership. In its July 15, 2003 press release, it attributed both a special dividend of $2 per share
and newly initiated regular, quarterly dividend of 15 cents per share to the dividend tax rate reduction. Chairman and Chief Executive Officer Mark Smith stated, “Our company’s strong operating model has generated cash over the years well in excess of its needs and with recent legislation cash dividends are now a tax-efficient way to release value to shareholders. As a result of recent tax legislation, we anticipate distributing cash dividends to our shareholders quarterly, as we remain confident of our continuing ability to generate earnings and surplus cash.”
TABLE 1
Firm Characteristics for 1,463 Sample Firms Who Declared Dividends in the Six Months Following
Enactment of the Jobs and Growth Tax Relief Reconciliation Act of 2003

This table reports descriptive statistics for a sample of 1,463 U.S. firms. The data sample consists of all corporations reported by CRSP as declaring a regular quarterly dividend between February 23, 2002 and November 22, 2003 that have available information on the following variables: ∆DIV, LAG∆DIV, LAG∆EARN, IND, and INSIDE. ∆DIV is dividends per share as declared from 5/23/03 to 8/22/03 less dividends per share as declared from 5/23/02 to 8/22/02. LAG∆DIV is dividends per share as declared from 2/23/03 to 5/22/03 less dividends per share as declared from 2/23/02 to 5/22/02. LAG∆EARN is quarterly earnings per share as reported during the period, 2/23/03 to 5/22/03 less quarterly earnings per share as reported during the period, 2/23/02 to 5/22/02 (Compustat item 69). DYIELD is annualized dividends in the quarter preceding 5/23/03, as a percentage of its share price on the declaration date. IND is one less the percentage of shares that are held by institutional investors as reported in 13-f filings and collected by CDA/Spectrum. INSIDE is the percentage of shares held by insiders as measured by holdings of officers and directors as reported in Thomson Financial’s Insider Filing Data. Market value of equity is the market value of common stock (Compustat item 14 time Compustat item 61). Total assets is the book value of assets (Compustat item 44). Sales is net sales (Compustat item 2). Net income is total net income (Compustat item 69). Debt-to-asset is the ratio of book value of debt (Compustat item 54) and total assets. Return on assets is the ratio of annualized net income in the quarter preceding 5/23/03 divided by total assets in the same period. Return on equity is the ratio of annualized net income in the quarter preceding 5/23/03 divided by book equity (Compustat item 60) in the same period. Share price is the closing share price (Compustat item 14) in dollars. Shares outstanding is (Compustat item 61) in millions. Except where noted all dollar figures are in millions and are as of the end of the first quarter in fiscal year ending 2003.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
<th>Std Dev</th>
<th>Min</th>
<th>25th</th>
<th>75th</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market Value of Equity</strong></td>
<td>4,836</td>
<td>578</td>
<td>17,857</td>
<td>3</td>
<td>134</td>
<td>2,384</td>
<td>46,677</td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td>12,534</td>
<td>1,281</td>
<td>62,260</td>
<td>7</td>
<td>459</td>
<td>4,510</td>
<td>1,187,035</td>
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<tr>
<td><strong>Sales</strong></td>
<td>1,022</td>
<td>144</td>
<td>3,450</td>
<td>0</td>
<td>22</td>
<td>618</td>
<td>57,224</td>
</tr>
<tr>
<td><strong>Net Income</strong></td>
<td>74</td>
<td>6</td>
<td>281</td>
<td>-480</td>
<td>1</td>
<td>39</td>
<td>4,324</td>
</tr>
<tr>
<td><strong>Debt-to-Asset</strong></td>
<td>0.68</td>
<td>0.72</td>
<td>0.24</td>
<td>0.04</td>
<td>0.52</td>
<td>0.90</td>
<td>1.33</td>
</tr>
<tr>
<td><strong>Return on Assets</strong></td>
<td>0.04</td>
<td>0.02</td>
<td>0.06</td>
<td>-0.46</td>
<td>0.01</td>
<td>0.06</td>
<td>0.56</td>
</tr>
<tr>
<td><strong>Return on Equity</strong></td>
<td>0.12</td>
<td>0.12</td>
<td>0.81</td>
<td>-21.06</td>
<td>0.07</td>
<td>0.17</td>
<td>17.15</td>
</tr>
<tr>
<td><strong>Share Price</strong></td>
<td>28</td>
<td>24</td>
<td>32</td>
<td>0</td>
<td>16</td>
<td>34</td>
<td>727</td>
</tr>
<tr>
<td><strong>Shares Outstanding</strong></td>
<td>140</td>
<td>26</td>
<td>480</td>
<td>1</td>
<td>7</td>
<td>84</td>
<td>7,894</td>
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TABLE 2
Regular Quarterly Dividends Per Share Declared

This table reports dividend per share descriptive statistics for a sample of 1,463 U.S. firms. The data sample consists of all corporations reported by CRSP as declaring a regular quarterly dividend between February 23, 2002 and November 22, 2003.

**Panel A**
Dividend Declarations by Quarter for the full Sample of 1,463 Firms

<table>
<thead>
<tr>
<th>Declaration Periods</th>
<th>N</th>
<th>Total $ (billions)</th>
<th>Mean</th>
<th>Median</th>
<th>Std Dev</th>
<th>Min</th>
<th>25th</th>
<th>75th</th>
<th>Max</th>
<th>Within-Firm Increases</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 23, 2003—November 22, 2003</td>
<td>1,420</td>
<td>41.9</td>
<td>0.153</td>
<td>0.120</td>
<td>0.127</td>
<td>0.005</td>
<td>0.067</td>
<td>0.200</td>
<td>1.450</td>
<td>0.004 *</td>
</tr>
<tr>
<td>May 23, 2003—August 22, 2003</td>
<td>1,402</td>
<td>40.7</td>
<td>0.150</td>
<td>0.120</td>
<td>0.129</td>
<td>0.005</td>
<td>0.063</td>
<td>0.200</td>
<td>1.450</td>
<td>0.007 *</td>
</tr>
<tr>
<td>February 23, 2003—May 22, 2003</td>
<td>1,358</td>
<td>37.9</td>
<td>0.147</td>
<td>0.120</td>
<td>0.127</td>
<td>0.005</td>
<td>0.060</td>
<td>0.191</td>
<td>1.450</td>
<td>0.003 *</td>
</tr>
<tr>
<td>November 23, 2002—February 22, 2003</td>
<td>1,324</td>
<td>36.9</td>
<td>0.148</td>
<td>0.120</td>
<td>0.128</td>
<td>0.005</td>
<td>0.060</td>
<td>0.190</td>
<td>1.450</td>
<td>0.001</td>
</tr>
<tr>
<td>August 23, 2002—November 22, 2002</td>
<td>1,334</td>
<td>36.8</td>
<td>0.145</td>
<td>0.110</td>
<td>0.127</td>
<td>0.005</td>
<td>0.060</td>
<td>0.190</td>
<td>1.400</td>
<td>0.001</td>
</tr>
<tr>
<td>May 23, 2002—August 22, 2002</td>
<td>1,330</td>
<td>36.2</td>
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<td>0.127</td>
<td>0.005</td>
<td>0.060</td>
<td>0.190</td>
<td>1.400</td>
<td>0.001</td>
</tr>
<tr>
<td>February 23, 2002—May 22, 2002</td>
<td>1,325</td>
<td>36.0</td>
<td>0.145</td>
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<td>0.127</td>
<td>0.004</td>
<td>0.060</td>
<td>0.188</td>
<td>1.400</td>
<td></td>
</tr>
</tbody>
</table>

* significant at the 0.001 level
TABLE 3  
Statistical Information for the Regression Variables

This table reports descriptive statistics for a sample of 1,463 U.S. firms. The data sample consists of all corporations reported by CRSP as declaring a regular quarterly dividend between February 23, 2002 and November 22, 2003 that have available information on the following variables: $\Delta DIV$, $LAG\Delta DIV$, $LAG\Delta EARN$, $IND$, and $INSIDE$. $\Delta DIV$ is dividends per share as declared from 5/23/03 to 8/22/03 less dividends per share as declared from 5/23/02 to 8/22/02. $LAG\Delta DIV$ is dividends per share as declared from 2/23/03 to 5/22/03 less dividends per share as declared from 2/23/02 to 5/22/02. $LAG\Delta EARN$ is quarterly earnings per share as reported during the period, 2/23/03 to 5/22/03 less quarterly earnings per share as reported during the period, 2/23/02 to 5/22/02 (Compustat item 69). $DYIELD$ is annualized dividends in the quarter preceding 5/23/03, as a percentage of its share price on the declaration date. $IND$ is one less the percentage of shares that are held by institutional investors as reported in 13-f filings and collected by CDA/Spectrum. $INSIDE$ is the percentage of shares held by insiders as measured by holdings of officers and directors as reported in Thomson Financial’s Insider Filing Data.

Panel A: Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Median</th>
<th>Std Dev</th>
<th>Min</th>
<th>25th</th>
<th>75th</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\Delta DIV$</td>
<td>1,463</td>
<td>0.013</td>
<td>0.006</td>
<td>0.044</td>
<td>-0.475</td>
<td>0</td>
<td>0.020</td>
<td>0.360</td>
</tr>
<tr>
<td>$LAG\Delta DIV$</td>
<td>1,463</td>
<td>0.006</td>
<td>0.004</td>
<td>0.036</td>
<td>-0.475</td>
<td>0</td>
<td>0.013</td>
<td>0.200</td>
</tr>
<tr>
<td>$LAG\Delta EARN$</td>
<td>1,463</td>
<td>0.050</td>
<td>0.030</td>
<td>0.761</td>
<td>-12.460</td>
<td>-0.050</td>
<td>0.110</td>
<td>16.580</td>
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<td>$DYIELD$</td>
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<td>0.006</td>
<td>0.004</td>
<td>0</td>
<td>0.003</td>
<td>0.008</td>
<td>0.044</td>
</tr>
<tr>
<td>$IND$</td>
<td>1,463</td>
<td>0.542</td>
<td>0.525</td>
<td>0.292</td>
<td>0.003</td>
<td>0.085</td>
<td>0.825</td>
<td>1</td>
</tr>
<tr>
<td>$INSIDE$</td>
<td>1,463</td>
<td>0.071</td>
<td>0.006</td>
<td>0.116</td>
<td>0</td>
<td>0.006</td>
<td>0.081</td>
<td>0.834</td>
</tr>
</tbody>
</table>

Panel B: Pearson’s (Spearman’s Rank) Correlation Coefficients over (under) the Diagonal (probability that the coefficient equals zero) for 1,463 observations

<table>
<thead>
<tr>
<th></th>
<th>$\Delta DIV$</th>
<th>$LAG\Delta DIV$</th>
<th>$LAG\Delta EARN$</th>
<th>$DYIELD$</th>
<th>$IND$</th>
<th>$INSIDE$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\Delta DIV$</td>
<td>1.00</td>
<td>0.70 (0.00)</td>
<td>0.03 (0.22)</td>
<td>-0.11 (0.00)</td>
<td>0.00 (0.94)</td>
<td>0.05 (0.05)</td>
</tr>
<tr>
<td>$LAG\Delta DIV$</td>
<td>0.74 (0.0)</td>
<td>1.00</td>
<td>-0.01 (0.82)</td>
<td>0.05 (0.04)</td>
<td>0.07 (0.01)</td>
<td>0.06 (0.03)</td>
</tr>
<tr>
<td>$LAG\Delta EARN$</td>
<td>0.10 (0.0)</td>
<td>0.08 (0.0)</td>
<td>1.00</td>
<td>-0.05 (0.05)</td>
<td>-0.05 (0.04)</td>
<td>-0.09 (0.00)</td>
</tr>
<tr>
<td>$DYIELD$</td>
<td>-0.07 (0.01)</td>
<td>0.14 (0.0)</td>
<td>-0.13 (0.00)</td>
<td>1.00</td>
<td>0.22 (0.00)</td>
<td>-0.04 (0.14)</td>
</tr>
<tr>
<td>$IND$</td>
<td>0.08 (0.00)</td>
<td>0.14 (0.0)</td>
<td>-0.02 (0.56)</td>
<td>0.27 (0.00)</td>
<td>1.00</td>
<td>0.29 (0.00)</td>
</tr>
<tr>
<td>$INSIDE$</td>
<td>0.08 (0.00)</td>
<td>0.08 (0.0)</td>
<td>0.016 (0.56)</td>
<td>-0.07 (0.01)</td>
<td>0.35 (0.00)</td>
<td>1.00 (0.00)</td>
</tr>
</tbody>
</table>
TABLE 4
Estimated Coefficient (t-statistic) from Regressions of the Change in Regular Quarterly Dividends Per Share Declared (ΔDIV) on Individual Ownership of Stocks (IND) and Control Variables

This table reports multivariate analyses for a sample of 1,463 U.S. firms. The data sample consists of all corporations reported by CRSP as declaring a regular quarterly dividend between February 23, 2002 and November 22, 2003 that have available information on the following variables: ΔDIV, LAGΔDIV, LAGΔEARN, IND, and INSIDE. ΔDIV is dividends per share as declared from 5/23/03 to 8/22/03 less dividends per share as declared from 5/23/02 to 8/22/02. LAGΔDIV is dividends per share as declared from 2/23/03 to 5/22/03 less dividends per share as declared from 2/23/02 to 5/22/02. LAGΔEARN is quarterly earnings per share as reported during the period, 2/23/03 to 5/22/03 less quarterly earnings per share as reported during the period, 2/23/02 to 5/22/02 (Compustat item 69). DYIELD is annualized dividends in the quarter preceding 5/23/03, as a percentage of its share price on the declaration date. IND is one less the percentage of shares that are held by institutional investors as reported in 13-f filings and collected by CDA/Spectrum. INSIDE is the percentage of shares held by insiders as measured by holdings of officers and directors as reported in Thomson Financial’s Insider Filing Data.

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.017</td>
<td>0.016</td>
<td>0.017</td>
</tr>
<tr>
<td></td>
<td>(9.1)</td>
<td>(10.8)</td>
<td>(9.0)</td>
</tr>
<tr>
<td>LAGΔDIV</td>
<td>0.864</td>
<td>0.863</td>
<td>0.863</td>
</tr>
<tr>
<td></td>
<td>(38.7)</td>
<td>(38.6)</td>
<td>(38.6)</td>
</tr>
<tr>
<td>LAGΔEARN</td>
<td>0.002</td>
<td>0.002</td>
<td>0.002</td>
</tr>
<tr>
<td></td>
<td>(1.6)</td>
<td>(1.6)</td>
<td>(1.6)</td>
</tr>
<tr>
<td>DYIELD</td>
<td>-1.417</td>
<td>-1.441</td>
<td>-1.402</td>
</tr>
<tr>
<td></td>
<td>(-7.6)</td>
<td>(-7.9)</td>
<td>(-7.5)</td>
</tr>
<tr>
<td>IND</td>
<td>(+) -0.002</td>
<td>-0.003</td>
<td>(-0.9)</td>
</tr>
<tr>
<td></td>
<td>(-0.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INSIDE</td>
<td>(+)</td>
<td>0.003</td>
<td>0.005</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.5)</td>
<td>(0.7)</td>
</tr>
<tr>
<td>adjusted R²</td>
<td>0.51</td>
<td>0.51</td>
<td>0.51</td>
</tr>
</tbody>
</table>
TABLE 5
Estimated Coefficient ($t$-statistic) from Regressions of the Change in Regular Quarterly Dividends Per Share Declared ($\Delta DIV$) on Individual Ownership of Stocks ($IND$) and Control Variables Under Various Specifications of the Pre- and Post-Enactment Quarters

This table reports multivariate analyses for a sample of 1,463 U.S. firms. The data sample consists of all corporations reported by CRSP as declaring a regular quarterly dividend between February 23, 2003 and November 22, 2003 that have available information on the following variables: $\Delta DIV$, $LAG\Delta DIV$, $LAG\Delta EARN$, $IND$, and INSIDE. $\Delta DIV$ is dividends per share as declared from 5/23/03 to 8/22/03 less dividends per share as declared from 5/23/02 to 8/22/02. LAG$\Delta DIV$ is dividends per share as declared from 2/23/03 to 5/22/03 less dividends per share as declared from 2/23/02 to 5/22/02. LAG$\Delta EARN$ is quarterly earnings per share as reported during the period, 2/23/03 to 5/22/03 less quarterly earnings per share as declared during the period, 2/23/02 to 5/22/02 (Compustat item 69). DYIELD is annualized dividends in the quarter preceding 5/23/03, as a percentage of its share price on the declaration date. $IND$ is one less the percentage of shares that are held by institutional investors as reported in 13-f filings and collected by CDA/Spectrum. INSIDE is the percentage of shares held by insiders as measured by holdings of officers and directors as reported in Thomson Financial’s Insider Filing Data.

<table>
<thead>
<tr>
<th>Define: $\Delta DIV$</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\Delta DIV$</td>
<td>5/23/03—8/22/03 less 2/23/03—5/22/03</td>
<td>5/23/03—11/22/03 less 11/23/02—5/22/03</td>
<td>5/23/03—11/22/03 less 5/23/02—11/22/02</td>
<td>8/23/03—11/22/03 less 5/23/03—8/22/03</td>
<td>8/23/03—11/22/03 less 8/23/02—11/22/02</td>
</tr>
<tr>
<td>$LAG\Delta DIV$</td>
<td>2/23/03—5/22/03 less 11/23/02—2/22/03</td>
<td>11/23/02—5/22/03 less 5/23/02—11/22/02</td>
<td>11/23/02—5/22/03 less 11/23/01—5/22/02</td>
<td>5/23/03—8/22/03 less 2/23/03—5/22/03</td>
<td>5/23/03—8/22/03 less 5/23/02—8/22/02</td>
</tr>
<tr>
<td>Intercept</td>
<td>0.017 (12.1)</td>
<td>0.044 (13.7)</td>
<td>0.050 (13.1)</td>
<td>0.009 (5.1)</td>
<td>0.010 (5.4)</td>
</tr>
<tr>
<td>$LAG\Delta EARN$</td>
<td>-0.027 (-0.6)</td>
<td>0.114 (3.3)</td>
<td>0.459 (18.0)</td>
<td>-0.010 (-0.3)</td>
<td>0.831 (36.4)</td>
</tr>
<tr>
<td>$DYIELD$</td>
<td>0.001 (0.9)</td>
<td>-0.000 (-0.2)</td>
<td>-0.002 (-0.9)</td>
<td>0.001 (1.4)</td>
<td>0.001 (1.7)</td>
</tr>
<tr>
<td>INSIDE</td>
<td>(+) 0.001 (0.3)</td>
<td>0.012 (1.1)</td>
<td>0.002 (0.1)</td>
<td>0.006 (1.0)</td>
<td>0.004 (0.7)</td>
</tr>
<tr>
<td>adjusted $R^2$</td>
<td>0.05</td>
<td>0.07</td>
<td>0.21</td>
<td>0.01</td>
<td>0.48</td>
</tr>
</tbody>
</table>
TABLE 6

Summary Statistics for the 84 Special Dividends Declared by 62 Firms from February 23, 2002 to November 22, 2003

This table reports dividend descriptive statistics for a sample of 62 U.S. firms. The data sample consists of all corporations reported by CRSP as declaring a special dividend between February 23, 2002 and November 22, 2003.

<table>
<thead>
<tr>
<th>Declaration Periods</th>
<th>Obs &gt; 0</th>
<th>Total $</th>
<th>Mean</th>
<th>Median</th>
<th>Std Dev</th>
<th>Min</th>
<th>25th</th>
<th>75th</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 23, 2003—November 22, 2003</td>
<td>31</td>
<td>0.643</td>
<td>0.512</td>
<td>0.250</td>
<td>0.780</td>
<td>0.01</td>
<td>0.095</td>
<td>0.680</td>
<td>4.000</td>
</tr>
<tr>
<td>May 23, 2003—August 22, 2003</td>
<td>22</td>
<td>0.555</td>
<td>0.810</td>
<td>0.275</td>
<td>1.152</td>
<td>0.020</td>
<td>0.100</td>
<td>1.000</td>
<td>5.000</td>
</tr>
<tr>
<td>February 23, 2003—May 22, 2003</td>
<td>8</td>
<td>0.166</td>
<td>0.711</td>
<td>0.525</td>
<td>0.863</td>
<td>0.040</td>
<td>0.050</td>
<td>1.000</td>
<td>2.500</td>
</tr>
<tr>
<td>November 23, 2002—February 22, 2003</td>
<td>2</td>
<td>0.001</td>
<td>0.200</td>
<td>0.200</td>
<td>0.000</td>
<td>0.200</td>
<td>0.200</td>
<td>0.200</td>
<td>0.200</td>
</tr>
<tr>
<td>August 23, 2002—November 22, 2002</td>
<td>14</td>
<td>0.161</td>
<td>0.440</td>
<td>0.165</td>
<td>0.623</td>
<td>0.024</td>
<td>0.045</td>
<td>0.360</td>
<td>2.000</td>
</tr>
<tr>
<td>May 23, 2002—August 22, 2002</td>
<td>6</td>
<td>0.001</td>
<td>0.169</td>
<td>0.050</td>
<td>0.219</td>
<td>0.018</td>
<td>0.033</td>
<td>0.560</td>
<td>0.560</td>
</tr>
<tr>
<td>February 23, 2002—May 22, 2002</td>
<td>1</td>
<td>0.000</td>
<td>0.100</td>
<td>0.100</td>
<td>0.000</td>
<td>0.100</td>
<td>0.100</td>
<td>0.100</td>
<td>0.100</td>
</tr>
</tbody>
</table>
TABLE 7
Special Dividend Regression Results

This table reports descriptive statistics for a sample of 62 U.S. firms. The data sample consists of all corporations reported by CRSP as declaring a special dividend between February 23, 2002 and November 22, 2003 that have available information on the following variables: SDPS, EPS, FCF and MTB. SDPS is dividends per share as declared from 2/23/02 to 11/22/03. EPS is quarterly earnings per share as reported during the period, 11/22/01 to 8/22/03 (Compustat item 69). FCF is free cash flow reported during the period 11/22/01 to 8/22/03, which is defined as cash and short-term securities (Compustat Item 36) less accounts payable (Compustat Item 46) less other current liabilities (Compustat 48) per share. MTB is the market to book ratio flow reported during the period 11/22/01 to 8/22/03, defined as the market value of equity (Compustat Item 14 x Compustat Item 61) scaled by net book value (Compustat Item 61). POST is a categorical variable that equals 1 if the special dividend was declared between 5/23/03 and 11/23/03; zero, otherwise.

Panel A: Descriptive Statistics (n=82)

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<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
<th>Std Dev</th>
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<th>25th</th>
<th>75th</th>
<th>Max</th>
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</thead>
<tbody>
<tr>
<td>SDPS</td>
<td>0.58</td>
<td>0.25</td>
<td>0.86</td>
<td>0.01</td>
<td>0.07</td>
<td>1.00</td>
<td>1.46</td>
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<tr>
<td>EPS</td>
<td>0.32</td>
<td>0.32</td>
<td>0.29</td>
<td>-0.23</td>
<td>0.12</td>
<td>0.42</td>
<td>1.52</td>
</tr>
<tr>
<td>FCF</td>
<td>-0.45</td>
<td>-0.05</td>
<td>0.75</td>
<td>-4.86</td>
<td>-0.75</td>
<td>0.00</td>
<td>0.29</td>
</tr>
<tr>
<td>MTB</td>
<td>1.75</td>
<td>1.59</td>
<td>0.95</td>
<td>0.61</td>
<td>1.16</td>
<td>1.97</td>
<td>6.99</td>
</tr>
<tr>
<td>POST</td>
<td>0.64</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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</table>

Panel B: Estimated Coefficient (p-value) from Regressions of the Special Dividends Per Share Declared on a Categorical Variable Indicating a Quarter after Enactment of the 2003 Act (POST) and Control Variables for the 82 Special Dividends Declared from February 23, 2002 to November 22, 2003

<table>
<thead>
<tr>
<th></th>
<th>OLS</th>
<th>Rank</th>
<th>Logit</th>
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<tr>
<td>Intercept</td>
<td>1.04</td>
<td>33.93</td>
<td>-2.23</td>
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<tr>
<td></td>
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<td>(0.001)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>EPS</td>
<td>-0.38</td>
<td>0.06</td>
<td>0.98</td>
</tr>
<tr>
<td></td>
<td>(0.24)</td>
<td>(0.90)</td>
<td>(0.05)</td>
</tr>
<tr>
<td>FCF</td>
<td>0.00</td>
<td>0.33</td>
<td>-0.11</td>
</tr>
<tr>
<td></td>
<td>(0.06)</td>
<td>(0.01)</td>
<td>(0.58)</td>
</tr>
<tr>
<td>MTB</td>
<td>-0.19</td>
<td>-0.32</td>
<td>-0.05</td>
</tr>
<tr>
<td></td>
<td>(0.06)</td>
<td>(0.01)</td>
<td>(0.69)</td>
</tr>
<tr>
<td>POST</td>
<td>0.16</td>
<td>6.69</td>
<td>1.74</td>
</tr>
<tr>
<td></td>
<td>(0.43)</td>
<td>(0.19)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>n</td>
<td>81</td>
<td>82</td>
<td>362</td>
</tr>
<tr>
<td>adjusted R²</td>
<td>0.09</td>
<td>0.19</td>
<td></td>
</tr>
</tbody>
</table>
TABLE 8
Individual and Insider Ownership of the Firms Paying Special Dividends

This table reports individual and insider holdings for a sample of 62 U.S. firms. The data sample consists of all corporations reported by CRSP as declaring a special dividend between February 23, 2002 and November 22, 2003. IND is one less the percentage of shares that are held by institutional investors as reported in 13-f filings and collected by CDA/Spectrum. INSIDE is the percentage of shares held by insiders as measured by holdings of officers and directors as reported in Thomson Financial’s Insider Filing Data.

Panel A: Individual Ownership (IND) of Firms Paying Special Dividends (n=62)

<table>
<thead>
<tr>
<th>Declaration Periods</th>
<th>Obs</th>
<th>Mean</th>
<th>Median</th>
<th>Std Dev</th>
<th>Min</th>
<th>25th</th>
<th>75th</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 23, 2003—November 22, 2003</td>
<td>31</td>
<td>0.79</td>
<td>0.84</td>
<td>0.22</td>
<td>0.29</td>
<td>0.72</td>
<td>0.97</td>
<td>1.0</td>
</tr>
<tr>
<td>May 23, 2003—August 22, 2003</td>
<td>20</td>
<td>0.76</td>
<td>0.78</td>
<td>0.20</td>
<td>0.17</td>
<td>0.89</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>February 23, 2002—May 22, 2003</td>
<td>11</td>
<td>0.84</td>
<td>0.88</td>
<td>0.14</td>
<td>0.58</td>
<td>0.72</td>
<td>0.98</td>
<td>1.0</td>
</tr>
<tr>
<td>IND for firms paying regular quarterly dividends</td>
<td>1,463</td>
<td>0.54</td>
<td>0.52</td>
<td>0.29</td>
<td>0</td>
<td>0.29</td>
<td>0.83</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Panel B: Insider Ownership (INSIDE) of Firms Paying Special Dividends (n=62)

<table>
<thead>
<tr>
<th>Declaration Periods</th>
<th>Obs</th>
<th>Mean</th>
<th>Median</th>
<th>Std Dev</th>
<th>Min</th>
<th>25th</th>
<th>75th</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 23, 2003—November 22, 2003</td>
<td>31</td>
<td>0.12</td>
<td>0.11</td>
<td>0.12</td>
<td>0</td>
<td>0.02</td>
<td>0.17</td>
<td>0.53</td>
</tr>
<tr>
<td>May 23, 2003—August 22, 2003</td>
<td>20</td>
<td>0.16</td>
<td>0.09</td>
<td>0.20</td>
<td>0</td>
<td>0.02</td>
<td>0.27</td>
<td>0.68</td>
</tr>
<tr>
<td>February 23, 2002—May 22, 2003</td>
<td>11</td>
<td>0.20</td>
<td>0.11</td>
<td>0.21</td>
<td>0</td>
<td>0.04</td>
<td>0.33</td>
<td>0.58</td>
</tr>
<tr>
<td>INSIDE for firms paying regular quarterly dividends</td>
<td>1,463</td>
<td>0.07</td>
<td>0.01</td>
<td>0.12</td>
<td>0</td>
<td>0.01</td>
<td>0.08</td>
<td>.83</td>
</tr>
</tbody>
</table>