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## Capital Gains, Dividends, and Taxes: Market Reactions to Tax Changes

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# CAPITAL GAINS, DIVIDENDS, AND TAXES: MARKET REACTIONS TO TAX CHANGES

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## ABSTRACT

*The purpose of this study is to examine the effect of a capital gains tax reduction on the stock price of firms that have not historically paid a dividend. If markets are semi-strong-form efficient, one would expect that the market price would have already adjusted prior to the day the announcement was made, assuming no new information was included in the announcement. If markets have not already incorporated the information, there would be a possibility for abnormal returns from investing in the stocks on the date of the announcement. This paper studies the returns from companies prior to, and subsequent to, the capital gains tax reduction announcement date and compares the price changes of non-dividend paying companies to those of similar firms that have historically paid dividends. The a priori expectation of the study is that the majority of a change in prices will take place prior to the announcement date as investors anticipate the likelihood of passage by the Congress and the President.*

## INTRODUCTION

From the time firms first began paying their stockholders dividends, an argument has raged between those who believe dividends add to stock value and those who believe dividends detract from stock value. Miller & Modigliani (1961) only add another school of thought by proposing that dividends are irrelevant in a world without taxes. The United States, however, is not a world without taxes and previous research finds a significant positive impact on the price of tax-favored assets from an increase in beneficial tax treatments (Scholes & Wolfson, 1992). The focus of this paper is on the effects of the 1997 reduction of the capital gains tax on the price of stocks that have not historically paid dividends to their shareholders. The study incorporates the use of parametric tests to determine the relative impact of the tax reduction on stocks that do not pay dividends compared to those that do pay dividends. This capital gains tax change was unique in that it: 1) occurred during a period of a relatively bullish market, 2) was not coupled with a change in the ordinary tax rate, and 3) occurred during an otherwise uneventful week in the stock market. These factors aid in distinguishing the unique impact of the tax change on the valuation of common stock. Other studies focus on capital gain tax reductions that are accompanied by changes in the ordinary

tax rate and/or market anomalies such as the Crash of '87, which make it much more difficult to gauge the impact of the capital gains tax change.

First, it may be helpful to briefly explain the capital gains tax on equity investments and its implications for the stock market. Capital gains are defined as the increase in an asset's value over its purchase price. When the asset is sold, the resulting gains are said to be realized and now subject to taxation at the capital gains tax rate. Until the asset is sold, the gains are referred to as unrealized and are not subject to taxation. Corporate stocks account for 78% of the total amount of capital gains on all assets with the next closest category being bonds.

When Congress first established the income tax system in 1913, capital gains were taxed as ordinary income. From 1913 until the beginning of the 1980's, the capital gains tax has, at times, been a favorite way of generating revenue and generating votes, as evidenced by the political timing of changes in the tax laws. Prior to 1986, capital gains and dividend payment were taxed differently with 60% of long-term capital gains exempt from taxation. Such incentives made stocks offering higher capital gains, as opposed to higher dividends, more attractive to investors. In 1986, Congress passed the 1986 Tax Reform Act which changed the way capital gains were taxed. It essentially brought the taxation of dividends and capital gains to the same level. The act made all capital gains taxable at the same rates as other income. This removed the essence of the preference bias for capital gains as opposed to dividend income. It has been argued that part of the motivation behind this increase in the capital gains tax rate was an attempt to reduce the level of investment in risky assets, i.e., stocks that rewarded investors with capital gains rather than dividends. The entire history of capital gains tax rates is included in Exhibit 1.

<b>Exhibit 1: Summary of Tax Treatment of Long-Term Capital Gains 1913 - 2010</b>							
Years	Maximum tax rate on capital gains(%)	1/	Maximum tax rate on ordinary income (%) 1/	Exclusion percentage for long-term capital gains (%)		Holding period required for long-term gain or loss	
1913-15	7		7	None		n/a	
1916	15		15	None		n/a	
1917	67		67	None		n/a	
1918	77		77	None		n/a	
1919-21	73		73	None	n/a		
1922-33	12.5		24-63	None	2/	2 years	
1934-35	18.9		63	20,40,60,70	3/	1,2,3,5,10 years	
1936-37	23.7		79	20,40,60,70	3/	1,2,3,5,10 years	
1938-41	15		79-81.1	33,50	3/	18 mo.,2 yr.	
1942-51	25		82-94	50		6 mo.	
1952-53	26		92	50		6 mo.	
1954-63	25		91	50		6 mo.	
1964-67	25		70-77	50		6 mo.	

**Exhibit 1: Summary of Tax Treatment of Long-Term Capital Gains 1913 - 2010**

Years	Maximum tax rate on capital gains(%)	1/	Maximum tax rate on ordinary income (%) 1/	Exclusion percentage for long-term capital gains (%)		Holding period required for long-term gain or loss	
1968	26.9		75.3	50		6 mo.	
1969	27.5		77	50		6 mo.	
1970	32.21		71.8	50		6 mo.	
1971	34.25		70	50		6 mo.	
1972-75	45.5	4/	70	50		6 mo.	
1976-78	49.125	4/	70	50		6 mo., 9 mo., 1 yr.	
1979-80	28		70	60		1 yr.	
1981	28/20	5/	69.125	60		1 yr.	
1982-86	20		50	60		6 mo., 1 yr.	
1987	28		38.5	None		1 yr.	
1988-90	28 (33 in Bubble)		28 (33 in Bubble)	None		1 yr.	
1991-92	28.93 (28)	6/	31.93 (31)	None		1 yr.	
1993-96	29.188 (28)	6/	40.788 (39.6)	None		1 yr.	
1997	21.188 (20)	7/	40.788 (39.6)	None		12,18 months	8/
1998-00	21.188 (20)	7/	40.788 (39.6)	None		1 yr.	
2001	21.173 (20)	7/	40.273 (39.1)	None		1 yr.	
2002	21.158 (20)	7/	39.758 (38.6)	None		1 yr.	
2003-05	16.105 (15)	7/	36.105 (35)	None		1 yr.	
2006-08	15.7 (15)	9/	35.7 (35)	None		1 yr.	
2009-10	18.7 (18)	9/	35.7 (35)	None		1 yr.	

- 1/ Includes the effects of the exclusion, the alternative tax, the minimum tax, the alternative minimum tax, the maximum tax, the phase-out of itemized deductions, and income tax surcharges.
- 2/ From 1922 to 1933, taxpayers could elect an alternative tax rate of 12.5 percent.
- 3/ From 1934 to 1941, the exclusion increased with the holding period.
- 4/ These rates include the effects of the tax on included gains, the minimum tax on excluded gains and the "spoiling" of the maximum tax on earned income. Without the interaction with the maximum tax, the maximum rates were 36.5 percent in 1972-75 and 39.875 percent in 1976-78.
- 5/ An alternative 20 percent rate applied to gains on assets sold after June 9, 1981.
- 6/ The statutory tax rate on capital gains is capped at 28 percent. Effective tax rates can be higher due to various phase-out provisions. Rates for 1991-96 include the effects of the 3 percent phase-out of itemized deductions.
- 7/ The statutory tax rate on capital gains is capped at 28 percent. Effective tax rates can be higher due to various phase-out provisions. Tax rates for 1997-2005 include the 3% phase-out of itemized deductions.
- 8/ After May 6, 1997 but before July 29, 1997, gains on assets held over one year were taxed at 10 and 20 percent rates. From July 29 through December 31, 1997 the 10 and 20 rates only applied to gains on assets held over 18 months, and gains on assets held 12 to 18 months were taxed as under pre-1997 law.
- 9/ Beginning in 2006, gains on assets acquired on or after January 1, 2002 (or marked-to-market and capital gains tax paid on the accrued gains) and held over 5 years are eligible for an 18% rate. Rates for 2006-2007 include a 2% phase-out of itemized deductions.

Taxation of capital gains has long been a source of controversy between those in the financial markets and the federal government. Many in the financial world believe this tax has an adverse effect on the market by limiting investment in growth industries whose gains to investors would be taxed at the higher capital gains rate. For many years, Congress has been petitioned to lower or remove the capital gains tax to give investors the incentive to invest in more small capitalization, growth companies. However, some government leaders have long seen the capital gains tax as a convenient source of funding for government expenditures. Estimates from the Congressional Budget Office place the amount of revenue generated by capital gains taxes at \$35 to \$50 billion annually. These legislators also believe the tax is borne by a small constituency of wealthy investors who can most afford to pay. This is only partly true. Individuals in the \$200,000 and up category account for the major portion of the dollar tax savings from the reduction in capital gains. The Congressional Budget Office found that the top 5% of households, with regard to income, realized 76% of the total dollar gains from capital gains (Rubin, 1997). However, a study by the nonprofit Tax Foundation (1995) finds that 38% of tax returns filed which included capital gains reported from 1942 to 1992 have been filed by taxpayers with less than \$100,000 in annual income (measured in constant dollars). By 1995, the figures show that the percentage of total filings by this segment had risen to 82%. Economic analysis shows that lower income investors will benefit proportionally more than high income investors. More and more, the capital gains tax is a matter for middle class America since 40% of the population currently own stock in some form or fashion and this percentage is rapidly increasing with the introduction of discount brokerages and online trading. Thirty percent of capital gains are realized by the fastest growing segment of the population, senior citizens. This class of citizen currently makes up nearly 13% of the population. Others in government believe a reduction in the capital gains tax will promote investment and stimulate growth in the economy. They feel that an increased incentive to invest in small, growth companies can only lead to economic expansion and prosperity. There has been, however, some contradictory evidence concerning the benefit of the tax cut. Eichner & Sinai (2002) attempt to measure capital gains elasticity to tax rate changes. They estimate a long-run elasticity of -0.74 and estimate that -0.97 would be revenue neutral. This is based on the idea that investors would have eventually realized the gains at the higher tax rate in the future if the rate had not been reduced and the PV of these lost revenues is higher than the increased revenues received in 1997 at the lower rate. The evidence to date suggests that a capital gains tax cut, may or may not, be effective for encouraging new capital formation in startup companies. Other tax options are seen as being equally conducive to the formation of capital with fewer of the negative side effects (McGee, 1998). The debate has been sporadic and emotionally charged for many years and will continue to rage for years to come.

In the past two decades, the capital gains tax has undergone four different structural changes. The period from early 1979 to mid 1981 saw a maximum capital gains tax rate of 28%. Capital gains were subject to a 60% deduction and then taxed at a rate no higher than the maximum marginal tax rate of 70%, thus the top capital gains tax rate was 28%. In 1981, the top income tax

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bracket was lowered to 50% by the Economic Recovery Tax Act, effectively lowering the capital gains tax rate to 20%. This rate persisted until the Tax Reform Act of 1986 reduced the tax rate on ordinary income and repealed the capital gains deductions. The maximum rate on ordinary income was lowered to 28% and capital gains were then taxed at the ordinary income tax rate. On August 5, 1997, the President signed the Taxpayer Relief Bill of 1997 into law. The effect of the legislation was to lower tax rates on several types of capital gains, from the sale of a home or securities to gifts and inheritances. The top capital gains tax rate for individual taxpayers is reduced from 28% to 20%. Taxpayers in the 15% tax bracket would pay a net capital gains tax rate of 18% and only 8% after the year 2000 for assets held more than five years. It is stipulated that all assets be held for a minimum of 18 months unless sold after May 6, 1997 but before July 29, 1997. If sold during this interval, they must have been held for a minimum of 12 months. Short-term gains on assets held less than the 18-month minimum will still be taxed as ordinary income at the appropriate rate. In 2003 President Bush's tax law changes reduced the top tax rate on long-term capital gains from 20% to 15%. The new rate applies to gains realized after May 5, 2003, but the rate will expire after Dec. 31, 2008. Lower income earners in the 10% and 15% tax brackets now pay 5% on their long-term capital gains instead of the current 8% rate.

The 1997 Tax Relief and Budget Reconciliation Act was viewed at that time by some as an attempt by the government to, once again, encourage risky investment by giving preferential tax treatment to capital gains. Many of the companies which rely on capital gains over dividends to reward their investors are in the pharmaceutical and higher technology industries. Encouraging investment in these industries was seen, by the government, to have a significant impact on the welfare of the nation and the continuance of the economic boom of the 1990's. It would, therefore, be in the best interest of the nation to encourage continued investment in these industries by granting favorable tax consideration to their shareholders. The decrease in capital gains would also allow investors, who were trapped by capital gains tax, to avoid some of the impact of the inflation adjusted capital gains tax rate. Under the 28% maximum rate, an investor with a \$100,000 unrealized capital gain in 1992 on a \$100,000 investment made in 1980 would have an effective capital gains tax rate of 94.6% after the adjustment for the effects of inflation. Inflation would have eroded 70.4% of the value of the gain and another 28% would be owed in taxes resulting in the effective capital gains tax rate given above. Under such a scenario, an investor is almost condemned to hold a security with a large capital gain due to the abnormally high effective capital gains tax rate. In the above instance, if the assets were sold for less than \$197,778, the tax owed would be greater than the inflation adjusted gain from the sale.

## LITERATURE REVIEW

Event studies have long been used to test for the presence of abnormal returns on a particular security occurring around a particular announcement (or event). If abnormal returns do coincide

with announcement, then it is possible to conclude that the announcement contained some new information that was not already reflected in the price of the security.

If this is true, then the semi-strong form market efficiency hypothesis does not hold. Fama (1970) defined semi-strong-form market efficiency as investors' inability to earn excess returns using public information. According to this hypothesis, when the announcement of passage of the 1997 Taxpayer Relief bill occurred on May 7, the market should, if there is *new* information contained within the announcement, immediately incorporate that information into the price of securities. Additionally, it is reasonable to believe that there may be a small, possibly significant, impact on stock prices on the day of the actual signing of the legislation into law on August 5. President Clinton had stated that he intended to sign the bill and most people believed he was sincere, but the actual signing removed all uncertainty.

Merton Miller & Franco Modigliani (1961) demonstrate that in the absence of taxation, dividend policy has no effect on the valuation of shares by the market. But in the real world, taxes and tax policies do exist and do impact the way individuals value a share of stock. Poterba & Summers (1984) conduct a study on how the tax codes affect the valuation of dividends by investors. They find that changes in the taxation of dividends have a substantial effect on the premiums required by investors to induce them to receive returns in the form of dividends. This study was conducted when the top tax rate on capital gains had been lowered to 20% from its previous 28%. They also conclude that taxes account for part of the positive relationship between yields and stock market returns. Bolster, Lindsey & Mitrusi (1989) conduct a study of the effect of the 1986 Tax Reform Act on stock market trading. They find that the tax induced effects are significant and that holdings of long term winners fell in 1986 as individuals opted away from the capital gains stocks which were suddenly being taxed as ordinary income.

Does the fact that the announcement is preceded with a pledge to pass a capital gains tax change remove some of the effect of the announcement? Subramanyam (1996) concludes that the average price response declines with the absolute magnitude of the surprise. The amount of information disclosed could change as the market anticipates the outcome of the Congressional fight over the capital gains tax. Subramanyam suggests that, in fact, the level of reaction will be subdued as the level of surprise about the announcement diminishes. Ball & Brown (1968), in a study on the effects of earnings announcements on stock prices, concludes that only 10-15% of the information contained in the announcement is not anticipated prior to the actual announcement. Would the stock market discount the information content of the passage of the Taxpayer Relief Act prior to the actual passage of the bill? Ball suggests that the presence of abnormal returns is often the result of some deficiency in the asset pricing model used in the study, not from inefficiencies of the market. If this is the case, using the proper pricing model, there should be no observable abnormal returns present at the announcement of the bill's passage.

Anderson and Butler (1997) conduct an experimental market to test the impact of tax incentives on the price of risky securities. Students at an accredited university participate as buyers

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and sellers in a simulated market where differing levels of risk are associated with securities depending on their tax status. The students trade the securities during a series of trading sessions. They are told the relative risk of the securities and allowed to buy or sell during each session. The study finds that tax-favored securities did, indeed, enjoy a higher price than that of securities that did not receive preferential capital gains tax treatment. The study uses a benchmark, described as an equally risky, non-tax-favored asset, against which it weighs the impact of the tax incentive. The authors find that the risk premia were greater for stocks with ordinary tax treatment than for those which enjoyed a tax-favored status. Reese (1998) uses IPOs issued prior to TRA 1986 and finds significant price reduction and increased volume for appreciated stocks during the week after qualification. This apparently indicates that investors are motivated to delay capital gain realization until they are treated as long-term instead of short-term due to differential tax treatment. In a supporting theoretical piece, Shackelford & Verrecchia (2002) develop a model dealing with Intertemporal Tax Discontinuity (IDT) defined as “a circumstance in which different tax rates are applied to gains realized at one point in time versus some other point in time”. Their model suggests that IDTs amplify price changes at the time of disclosure.

In an attempt to explain the impact on future taxable capital gains resulting from a change in capital gains taxes, Ricketts & White (1992) examine the capital gains tax changes that took place in 1978, 1981 and 1986. They predict that the highest pretax returns should result from the period in which capital gains are highest and that the increases in capital gains taxes should increase a firm's cost of capital. The authors test linear regression models for aggregate monthly returns from the DJIA, S&P 500, and the NASDAQ indices. Each of the indices is tested separately since they hypothesize that the composition of the markets should reflect upon the impact of the changes. The OTC markets which are comprised of largely individual investors (Henderson, 1990) should see a more substantial impact than the NYSE market which is more weighted toward large, institutional investors. The S&P, which is more mixed than the others, should lie between the two extremes. Interest rates and an index of indicators are used as control variables to absorb the impact of the changing economic environment over the period between the various tax rate changes. The period around the Crash of 1987 is removed to reduce the impact of the excessive large negative returns associated with the crash. The authors conclude that the pretax returns on stocks are, indeed, higher during the periods of higher capital gains tax rates and fall when the maximum tax rate is reduced.

Lang & Shackelford (1999) document that stock prices moved inversely with dividend yields during the week surrounding the announcement of an agreement on the 1997 budget accord. The authors find that the change in share prices are decreasing in dividend yields among firms paying dividends. Lower dividend payer's share prices are less adversely affected by the reduction in the capital gains tax rate than higher dividend payers. Investors place more value relevance on the expected capital gains tax rate when assessing firms with lower dividend yields. Stocks that will pay their shareholders in the form of capital appreciation become more valuable to the investor with decreases in the capital gains tax rate. Share prices should increase as investors purchase the stocks



in hopes of taking advantage of the preferential tax treatment of the gains. The authors also find no evidence to support the contention that shareholders will sell off their shares of stocks with higher capital gains in order to take full advantage of the lower tax rate on their investments. The increase in price due to the advantage of the tax reduction more than negated any sell off of appreciated assets by investors. The authors, however, limit their data to the 2000 largest U.S. firms and therefore exclude the set of firms which would be expected to have experienced the largest capital gains during the stock market boom of the mid nineties.

Liang, Matsunaga & Morse (2002) using the same data set, but a different methodology, as Lang & Shackelford (1999) find that the market reaction to the capital gains reduction is inversely related to the expected holding period of the stock and that this effect is greater for non-dividend-paying securities. In addition, there is an insignificant negative overall market return for the 3-day window around the announcement day and for the week of announcement and this effect is strongest for non-dividend-paying stocks. Blouin, Raedy & Shackelford (2002) look at the 1998 long-term capital gain holding period change from a minimum of 18 to 12 months. Rather than use all listed securities, this study only uses IPOs that had been listed at least 12 months, but not more than 18 months. Parametric statistical tests are performed on appreciated stocks vs. non-appreciated stocks. They find a -2.54% decline in the price of appreciated stocks compared to non-appreciated stocks on the announcement day. However, when four outliers are removed there is only a -1.3% decline.

## **DATA DESCRIPTION AND METHODOLOGY**

The data used in this study consists of daily returns of stocks trading on the NYSE, AMEX and NASDAQ that had paid regular dividends in each of the twelve quarters prior to announcement of the passage of the tax reform bill and stocks on those same indices which paid no dividend in the past twelve quarters prior to that date. The period of interest is between 1995 and 1997 with the events occurring at the interval around the announcement of the Taxpayer Relief Act of 1997. The first event is the three-day window around May 2, 1997, which is the day President Clinton and the GOP announced their budget. On this date, the two parties made it clear that they intended to pass some form of capital gains tax reduction. The second event is the three-day window around May 7, the effective date of the capital gains tax reduction (also the day it was announced). The amount of the reduction was not announced on this date, but the media consensus was that the new rate would be 20 percent. If the market was sufficiently convinced of the imminent tax reduction on May 2, there should be no abnormal returns generated by the official announcement of the reduction. The third event is the three-day window around August 5, 1997, the day the President signed the legislation into law.

Once the individual companies in each category are identified, the returns are collected from the Center for Research in Security Prices (CRSP) tapes. A screening of the sample is done to detect firm specific announcements around the event windows that would have had a substantial impact

on the value of the firm's securities. Those companies with anomalous market announcements during the event windows are eliminated from the sample to avoid introducing bias into the estimation. A three-day event window is used to aid in capturing the true impact of the announcement given possible information leakage. Brown & Warner (1985) suggest narrowing the window as much as possible to increase the power of statistical tests since a longer window tends to diminish power. A ten day window was originally tested for this research, but no abnormal returns were found to be significant. Therefore, due to the loss of power from larger windows, the lack of significance of any individual abnormal return, and an effort to conserve space, the results are not included.

The estimation period for this study begins 271 trading days before the May 2 declaration of an imminent tax cut and ends 21 days before the actual May 2 announcement. The first event window examined is around May 2, the second event window is around May 7, and the third is around August 5. The estimation period is from -271 to -22 and is used to determine the parameter estimates. Individual events occur between -1 and +1 for each date of interest.

A market model is used to estimate normal expected stock returns on the sample of companies. Returns of the individual securities are regressed against the returns of the market during the same interval. The common market model given by Fama, Fisher, Jensen and Roll (1969) is:

$$R_{it} = a_i + b_i R_{mt} + \epsilon_{it} \quad \text{for } t = 1, 2, \dots, T$$

Where:

- $R_{it}$  = the return on stock  $i$  for period  $t$
- $R_{mt}$  = the return on the market index for period  $t$
- $a_i$  = Intercept
- $b_i$  = the slope coefficient
- $\epsilon_{it}$  = the disturbance term
- $T$  = the number of periods in the estimation window (250)

The individual security return is given by the following formula:

$$R_{i,t} = (P_{i,t} - P_{i,t-1}) / P_{i,t-1} \quad \text{for the non-dividend paying companies, and}$$

$$R_{i,t} = ((P_{i,t} + D_i) - P_{i,t-1}) / P_{i,t-1} \quad \text{for the dividend paying companies}$$

Where:

- $R_{i,t}$  = the return of the  $i$ th security at time  $t$
- $P_{i,t}$  = the closing price of the  $i$ th security at time  $t$
- $P_{i,t-1}$  = the closing price of the  $i$ th security at time  $t-1$
- $D_i$  = the dividends paid to the  $i$ th security during the estimation period

The returns of the dividend paying companies are dividend-adjusted to capture the full impact of their difference from companies that did not pay dividends. Since a part of the return to shareholders in the dividend paying category is the dividends received, these dividends must be included to accurately reflect the security's rate of return. Companies that paid a dividend in the 21 days prior to the May 2 announcement or the 21 days after the August 5 announcement are not included in the sample due to the dividend bias presented by the payment. These returns are then compared to a sample of returns from companies that did not pay dividends during the period in question.

Firms are chosen that had paid dividends in each of the previous twelve quarters to conform to the requirement placed on non-dividend paying companies. Companies that left the market during the event time period are dropped from the sample. The CRSP equally-weighted index will serve as the market proxy. The parameters  $a_i$  and  $b_i$  are calculated using the 250 trading day period before the first announcement of an imminent agreement. Each firm's residuals (abnormal returns) during the event periods are calculated by the following equation:

$$AR_{i,t} = R_{i,t} - (a_i + b_i R_{m,t})$$

Average abnormal return across companies for a given date  $t$  is:

$$\text{Average } AR_t = \text{sum}(AR_{i,t}/N)$$

Where:

$N$  = number of companies in the sample

The cumulative abnormal returns during the event windows are calculated as:

$$CAR = \text{sum}(\text{average } AR_t) \quad \text{For } T = 3$$

Cumulative abnormal returns are computed for each of the intervals of interest. The hypothesis test is that the CARs are equal to zero. If the cumulative abnormal returns are found to be statistically not different from zero, then there is no impact from the events. T-tests are conducted on each of the time intervals to determine if the dividend paying companies differ from the non-dividend paying companies in their average abnormal return and, if so, when the impact occurred.

The t-statistics for the cumulative abnormal returns are calculated as:

$$CT = CAR / (\sigma_{CAR}/\text{sqrt}(N))$$

Where:

$\sigma_{CAR}$  = the standard deviation of the 3-day excess returns, and  
 $N$  = the number of firms in the sample.

## RESULTS

The data is analyzed to meet the criteria given and the result is a sample of 7,359 stocks from the CRSP data files. Of this sample, 3182 were identified as dividend paying and 4177 were identified as non-dividend paying.

<b>Table 1: Deal Announcement Window</b>										
This table examines the three-day window around the date of the announcement that a budget deal has been reached which contains a capital gains tax reduction.										
		Non-Dividend Paying				Dividend Paying				
	DAY	AR	T	CAR	CT	AR	T	CAR	CT	
	05/01/97	-1	-0.093	-1.177	-0.093	-1.177	-0.009	-0.561	-0.009	-0.561
	05/02/97	0	-0.104	-1.315	-0.196	-1.762*	-0.007	-0.409	-0.016	-0.686
	05/05/97	+1	-0.108	-1.376	-0.305	-2.233*	-0.011	-0.655	-0.026	-0.938
* statistically significant at the .10 level										
** statistically significant at the .01 level										

Table 1 contains the results of examining a three-day window around the budget announcement date of May 2. The findings show that the non-dividend paying companies experienced statistically significant abnormal returns on the day of the announcement of a budget deal and the following trading day. Dividend paying stocks experienced no statistically significant abnormal returns on either of the days. The magnitude of abnormal returns for the non-dividend paying stocks is almost ten times that of the group of dividend paying companies.

<b>Table 2: Announcement of May 7 Effective Date</b>										
This table examines the three-day window around the date of the announcement that the effective date would be May 7, 1997.										
		Non-Dividend Paying				Dividend Paying				
	DAY	AR	T	CAR	CT	AR	T	CAR	CT	
	05/06/97	-1	-0.092	-1.173	-0.092	-1.173	-0.010	-0.621	-0.010	-0.621
	05/07/97	0	-0.061	-0.780	-0.154	-1.381	-0.010	-0.627	-0.020	-0.882
	05/08/97	+1	-0.078	-0.988	-0.232	-1.698*	-0.014	-0.832	-0.034	-1.201
* statistically significant at the .10 level										
** statistically significant at the .01 level										

Table 2 shows the results of examining a three-day window around the announcement of the effective date of the capital gains reduction. On May 7, an effective date for the tax cut was announced by Senate Finance chairman William Roth and House Ways and Means Chairman William Archer. The effective date was May 7, 1997 but there was no specified capital gains tax rate. It was known that the rate would decline and speculation was that the rate would be between 15 and 20 percent. The results show that there was a statistically significant cumulative abnormal return present on the day following the announcement of the effective date. The lower level of significance may be indicative of the fact that the market participants may have anticipated that the effective date would have been much earlier in the year. If this was true, much of the market adjustment would have already taken place.

<b>Table 3: Signing Date Window</b>									
This table examines the three-day window around the date that the legislation was signed by President Clinton.									
		Non-Dividend Paying				Dividend Paying			
	DAY	AR	T	CAR	CT	AR	T	CAR	CT
08/04/97	-1	-0.062	-0.787	-0.062	-0.787	-0.012	-0.738	-0.012	-0.738
08/05/97	0	-0.058	-0.742	-0.120	-1.082	-0.011	-0.681	-0.023	-1.003
08/06/97	+1	-0.064	-0.807	-0.184	-1.349	-0.009	-0.581	-0.033	-1.155
* statistically significant at the .10 level									
** statistically significant at the .01 level									

Table 3 summarizes the results of examining a three-day window around the date the legislation was actually signed by President Clinton. If the market had already responded to the news of the deal and the surprise factor had disappeared, we would expect to see little or no significant information contained in the actual signing. The results show that, indeed, there is no evidence of abnormal returns for either of the two groups on the signing date. This seems to indicate that the market participants had anticipated the outcome and adjusted their holdings to conform with their expectations.

### SUMMARY AND CONCLUSIONS

In the summer of 1997 the Congress and President lowered the capital gains tax rate on equities held for at least 18 months (12 months if sold between May 7<sup>th</sup> and July 28<sup>th</sup>). This change in the tax structure provides an opportunity to test the relationship between dividend payment, taxes, and the market value of equity. This paper tests the reaction of the stock market to this change by observing the daily returns of firms that have historically paid dividends to their owners and those that have retained their earnings and rewarded their owners in the form of capital gains.

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There are three dates of interest to this study. On May 2<sup>nd</sup> the Congress and President announced their *intent* to lower the capital gains rate. GOP leaders announced on May 7<sup>th</sup> that the reduction would be effective on transactions from that date forward if approved by the President. On August 5<sup>th</sup> all uncertainty was resolved when the President signed the Taxpayer Relief Bill of 1997 into law.

The results show a consistently negative reaction by the market on all three dates of interest. No one-day abnormal return is statistically significant, but the three-day cumulative abnormal returns are significant for the non-dividend paying stocks around the Deal Announcement day and the tax change Effective date. This would appear to indicate that rather than stimulate the purchase of non-dividend paying stocks, the tax reduction prompted investors that had felt trapped by the high tax liability to realize their gains. If large numbers of these investors attempted to sell at the same time, the supply increase would force the price down. While few would argue against the market's overall long-term efficiency, there are very few observers of the market that will argue that short-term supply and demand imbalances do not exist and that these imbalances can not result in unusual short-term gains or losses. It is also apparent that some investors jumped the gun and began to sell their holdings around the Deal Announcement date. This early liquidation was probably in anticipation of the new rates being applied to the entire 1997 tax year rather than a mid-year effective date.

The tax policy implications are clear. There was a substantial amount of capital that was tied up in firms that had experienced high appreciation during the previous years. When the burden of high taxes was removed, investors felt freed to move this capital to what they considered to be more productive areas. Even if the work of Eichner & Sinai (2002) is correct and the 1997 tax cut resulted in a small net loss in government revenue, the resultant reallocation of capital by the market to other more attractive firms should be a stimulus to the economy. This reallocation effect is completely overlooked by Eichner. A reasonable argument can be made that *any* level of long-term capital gains tax is a millstone around the neck of the economy. If the markets are allowed to freely move capital from less productive uses to more productive uses without the penalty of taxation, the economy becomes more efficient, produces more jobs, and grows more quickly.

There are several areas yet to be explored. One area is the relative volume of trades around the various dates of dividend and non-dividend stocks. The question of total volume, relative volume, and number of trades is left to later research using *actual* gainers and losers during the years leading up to the tax reduction. A second is the reaction of high dividend yield vs. low dividend yield stocks to the tax change. Finally, after the negative market pressure of investors realizing their gains has subsided, did the market revalue non-dividend paying stocks upwards relative to those that pay high dividends?

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