BONDHOLDER WEALTH EFFECTS FROM DIVIDEND CHANGES

Mark S. Klock*, Katherine I. Gleason**

Abstract

Bhagat and Romano (2002a, 2002b) document the importance of event study analysis of equity returns in corporate governance. We extend their analysis with the argument that analysis of bond returns around important corporate events can provide additional important information. Such information is particularly important in the current active public discussions over corporate governance. We provide an example of event study analysis of bond returns examining the impact of large dividend changes on both stockholders and bondholders in an effort to differentiate between the information content (transparency) and possible wealth transfers (theft) around dividends. Our study replicates earlier studies on investment grade bonds with ambiguous results using a sample of noninvestment grade bonds. Our results suggest that for ordinary dividend changes, wealth expropriation is a significant explanation in the gain to stockholders.

Keywords: bondholders, corporate governance, dividends, information asymmetry, wealth expropriation

**Department of Finance, George Washington University, Washington, D.C. 20052*
***University of New Orleans.*
The authors would like to thank Allan Eberhart, John Glascock, Scott Hein, David Kuipers, Erik Lie, Pete Locke, Lance Nail, and Ramesh Rao for helpful suggestions and especially Bill Maxwell for valuable guidance.

1. Introduction

Two recent papers by Bhagat and Romano (2002a, 2002b) survey the application of the event study methodology commonly employed in finance for the field of law. We extend their research by demonstrating that the event study methodology can also be applied to securities other than equity, and that analysis of changes in the market value of other securities can also provide important empirical information for policy. We provide an application that analyzes dividend policy. The wealth effects of changes in dividend policy is important in corporate finance because the theoretical models of dividend policy are based on two of the most important obstacles to better corporate governance—information asymmetry and costly contracting.

Event study methodology attempts to examine the wealth effects that occur around important corporate events such as adoption of antitakeover charter amendments (Bhagat and Jefferis, 1991), change in auditor (Klock, 1994), or reincorporation (Romano, 1985). The technique involves collecting a sample of firms and statistically testing whether the event is associated with a significant change in market value. Bhagat and Romano (2002a) explain the methodology in more detail. Bhagat and Romano (2002b) extensively survey event studies related to corporate law and regulation. Every study cited involves analysis of changes in the value of stock. This is understandable for two reasons. First, most event studies have examined equity returns because the data has been widely available in easy to use form for a long time (Fama, Fischer, Jensen and Roll, 1969). Second, corporate scholarship typically treats the objective of the firm as maximization of shareholder wealth that creates a strong justification for focusing on equity returns.

There are at least three good reasons that we should be interested in the wealth effects of events on fixed income securities. The first is that we cannot know the effect of an event on the value of the firm unless we know the effect on both the stock and the fixed income securities. For example, Gompers, Ishii, and Metrick (2003) analyze the effects of antitakeover provisions on equity value and conclude that takeover defenses lower equity value and therefore lower firm value. The next jump is to suggest that takeover defenses should be discouraged. But it does not follow that firm value goes down when equity value goes down because there could be an offsetting change in the value of the fixed income securities. Klock, Mansi, and Maxwell (2005) find evidence that takeover defenses lower the cost of debt.

One could argue that since the stockholders are the owners of the firm, we should not care about what happens to total firm value as long as we know what happens to the owners' value. The difficulty with this argument is that knowing what happens to the other securities can shed light on *why* the equity was affected and this is important. For example, if we know that an event increased the value of both equity and debt then we can conclude without ambiguity that such events are beneficial. On the other hand, if the event caused the value of equity to

rise and also created an equal size loss for debt, then we can conclude that the reason for the equity increase was likely to have been expropriation of bondholder wealth. It is not clear that such events are desirable. The possibility of ex post expropriation of bondholder wealth by stockholders is likely to lead to higher ex ante costs of debt born by the stockholders. The second reason it is important to conduct event studies on debt then is that the information is useful for determining the how and why of the equity effect. This is particularly important in the context of the current public discussion over corporate governance. Unless we have information about the effects on other claimants, we cannot really conclude that "good" corporate governance practices are in fact good.

The third reason is technical. Event studies examine abnormal returns. These are the deviations from the normal expected return. This is not observable and must be estimated using a model. The studies are subject to the criticism that their statistical validity depends on the correct specification of the equilibrium asset pricing model (Klock, 2002). Because debt is much less complex than equity, typically involving fixed payments for a finite time period, there is a much lower concern about specification error—we can more accurately measure the normal returns to debt and therefore can more accurately measure the abnormal returns. Thus, even where an event is likely to have the same effect for equity and debt, finding statistical significance in an event study using debt can validate the findings from an equity study and mitigate the criticism of potential specification error.

Our current study focuses on large changes in dividends. Large increases in dividends increase stock value. One explanation for this is that the increase reduces information asymmetry between the market and the management. But an alternative explanation is that the increase transfers wealth from debt to equity. The two possibilities lead to the same effect on equity, but they provide differing predictions of the effect on debt. Thus event study analysis of debt around large dividend changes can provide some relevant empirical information. This could be important information for the improvement of bond covenants, and to the debate about whether directors owe fiduciary duties to claimants other the common equity (Mitchell, 1990).

Miller and Modigliani (1961) show that in perfect capital markets with no information asymmetry and predetermined investment decisions the value of the firm is independent of the financing decision. Hence, a firm's financing decisions, including dividends, have no effect on the value of the firm, nor the distribution of wealth between classes of security holders. However, in an imperfect setting, dividends can influence shareholder wealth by providing information to investors (transparency) or through wealth redistribution among claimants (theft).[1] Transparency and theft are particularly important elements in the active debate over good corporate governance. In this paper, we attempt to shed some light on the relative importance of these two differing hypotheses by examining the effect of dividend changes on stockholders, bondholders, and the total value of the firms with noninvestment grade bonds.

With information asymmetry, Bhattacharya (1979) demonstrates that dividends provide information about the firm's future cash flow and thus the dividend decision can change a firm's value. Fama and Miller (1972) and Jensen and Meckling (1976) demonstrate another potential real impact of financial decisions – a transfer of wealth between classes of claimants can occur in the absence of imperfect priority rules. Along this line, Galai and Masulis (1976) argue that the abnormal stock returns around dividend announcements could in fact transfer wealth among claimants. Bondholders recognize this conflict, and Smith and Warner (1979) find that almost all bond indenture agreements place limitations on the firm's ability to increase dividends. Consistent with this idea, Kalay (1982) finds that firms generally are under these limitations.

The two hypotheses (information content and wealth transfer) are testable because of their different implications for the returns of creditors. Under either view, a dividend increase is beneficial for stockholders as it either conveys good information or constitutes a reallocation of wealth towards stockholders. But the implications for bondholders are different since positive information about the firm's future prospects should not hurt the creditors, but wealth expropriation from them obviously does. The signal of reducing or omitting dividends is clearly negative to stockholders, but it could be beneficial to bondholders by reducing cash outlays. While managers would not undertake to reduce dividends to benefit bondholders to the detriment of stockholders, bondholders could be the beneficiaries of the change.

Early empirical studies concluded that dividend changes are associated with significant information content but not wealth transfers. Woolridge (1983) investigates the effects of unexpected dividend increases and decreases. Using a mean-adjusted return approach, he finds that for firms with unexpected dividend increases the abnormal bond returns are positive but not statistically significant. For unexpected dividend decreases, the abnormal bond returns are negative and statistically significant. Given these results, he concludes that the signal effect dominates the wealth redistribution effect. Handjinicolaou and Kalay (1984) use a similar size sample, time-period and methodology to study

[1] A second line of research focuses on the bondholder versus stockholder conflict as it relates to the firm's investment decision (Jensen and Meckling 1976, Myers 1977, and Parrino and Weisbach, 1999).

unexpected dividend changes. They also use a mean adjusted model but modify the methodology based upon infrequent bond trading and changes in the term structure to measures the abnormal bond returns. They find that bond prices are not affected by dividend increases but are negatively affected by dividend reductions. They conclude an increase in the future cash flows signaled by an increase in dividends benefits the stockholders, but that a decrease in future cash flows signaled by a decrease in dividends affects both stockholders and debtholders. They interpret their results as supporting the information content hypothesis.

In a more recent paper, Dhillon and Johnson (1994) come to a different conclusion. They look at dividend changes which are greater than thirty percent, and they separate dividend initiations (after periods of five or more years without dividends) and dividend omissions (after periods of two or more years of dividends). They focus on large changes in order to better identify and separate the possible effects. Though the results are only weakly significant, their results suggest that bond returns move in the opposite direction of dividend changes for dividend increases, initiations, decreases and omissions. These results are consistent with the wealth expropriation hypothesis.

Given the similarity and substitutability of share repurchases and dividend payments (Grullon and Michaely (2002) and Jagannathan, Stephens and Weisbach (2000)), the findings of potential wealth transfers around repurchase announcements is also relevant. Dann (1981) conducts an early study on the effects of stock repurchases on different classes of security claimants. Dann finds that share repurchases result in significant positive returns to common stockholders and insignificant returns to other claimants, which is supportive of the information content hypothesis. In contrast, Maxwell and Stephens (2003) using a larger sample find that open market repurchases are in fact associated with wealth redistributions from bondholders to stockholders. However, they also find that the total value of the firm has increased, and hence, their results are consistent with both the information content and the wealth redistribution hypotheses. We note the limitations on the comparability of stock repurchase plans to dividend changes as there are different tax consequences and repurchases are associated with larger leverage changes. Even though the information content and wealth redistribution hypotheses are not mutually exclusive, the results by Woolridge (1983) and Handjinicolaou and Kalay (1984) generally support the information content hypothesis. On the other hand, Dhillon and Johnson (1994) interpret their results as generally supporting a wealth redistribution hypothesis. Overall, the conclusions of the previous research are contradictory and weakly significant. Adding to this difficulty is the noise inherent in most bond return data. Given these difficulties the dominant effect of a dividend change, wealth redistribution or information content, is still undetermined. Yet in spite of this, it is a common assertion that changes in stock value coinciding with dividend changes are the result of information signaling without mentioning the possibility of wealth redistribution (e.g., Brealey and Myers, 2000, p. 445; Brigham, Gapenski and Ehrhardt, 1999, pp. 664-665; and Ross, Westerfield and Jaffe, 1999, pp. 478-479).

A more powerful test distinguishing between these two views can be obtained by focusing on a sample where the differences between the theories will be most extreme. Because of their high level of default risk, firms with noninvestment grade bonds provide such a sample. Information about a firm's future cash flows should have a pronounced effect on a noninvestment grade bond whereas it is harder to distinguish the effect on a well-secured investment grade bond. Thus, this sample should provide more extreme differences in the expected impact associated with the two different explanations. In addition, since a dividend increase could both convey information increasing firm value and simultaneously expropriate wealth from bondholders, the information content and wealth expropriation hypotheses are not mutually exclusive hypotheses. This makes it difficult to distinguish between the two hypotheses. However, by examining the change the total value of a firm's publicly traded securities, we are better able to separate out these effects.

As a summary, our results are mixed. We find statistically significant results suggesting a wealth redistribution without a change in firm value on the announcement of dividend increases, initiations, and dividend decreases. Contrary to Dhillon and Johnson (1994), we find no evidence of wealth redistribution for dividend omissions as it appears to be negative for both bondholders and stockholders suggesting that in this situation the information content is dominant. Whether this last finding is specific to the sample, specific to the population of firms with noninvestment grade debt, or whether omissions are fundamentally different from other changes in the general population of public corporations is an issue that requires further investigation. Overall, our results provide evidence that more attention should be given to the wealth expropriation explanation of dividends.

The remainder of the paper is organized as follows. The sample selection procedures and resulting sample characteristics are described in Section 2. Section 3 explains our methodology. The results of the event study are found in Section 4, and conclusions are offered in Section 5.

2. Sample and Data Collection

Given the illiquid nature of bonds, a great deal of noise is introduced into an event study using bond pricing data (Warga, 1992). This lowers the

probability of identifying significance in any tests (Brown and Warner, 1980 & 1985). We attempt to handle the problem of noise in bond data around dividend changes by focusing on a sample for which the differences between the two hypotheses will be greatest–noninvestment grade bonds and large changes in dividends. Noninvestment grade bonds are highly sensitive to changes in cash flow or information about changes in cash flow, making them more susceptible to wealth redistribution. This sample should be better suited to distinguishing between the hypotheses.

While focusing on noninvestment grade bonds provides potential advantages, it is not without costs. First, we are not able to use the daily return methodology. Noninvestment grade bonds are in general traded too infrequently to have meaningful daily returns, and therefore, no daily data set exists for this sample. Thus, we must rely on monthly data for our bond analysis. As discussed by Brown and Warner (1980), the use of monthly data in an event study bias the results towards not finding significant returns. Second, the sample size is limited.

Our data source for the monthly bond returns is the Lehman Brothers Bond Database (LBBD) containing monthly data for the time period 1973-1997[2]. We identify all industrial and financial firms in the LBBD with noninvestment grade[3] debt, as rated by Moody's or Standard & Poor's, between 1987-1997. Unfortunately, there is no comparable updated data available. Dividend changes are identified using Compustat and CRSP. Dividend increases or decreases greater than or equal to fifteen percent (as well as dividend initiations and omissions) are included in the sample. We chose fifteen percent to have a sample with only substantial changes, but not so substantial as to make for too small a sample size. We then use Dow Jones News Retrieval to identify announcement dates, verify the size of the change, and check for contaminating events within two months prior to the event month. The typical types of contaminating events were joint announcements of restructuring such as a secondary stock offering, preferred stock offering, or share repurchase. Table I displays the number of potential announcements we exclude as well as the type of contaminating event.

We are left with a sample of 223 noninvestment grade bonds from 94 firms with large dividend increases, decreases, initiations, or omissions. Table II lists the company, event month, type of event, senior bond rating by Moody's and S&P's, and the number of traded bonds during the event month. Firms may appear more than once as a firm may have more than one large dividend change. Descriptive statistics for the samples (increase sample and decrease sample) are reported in Table III. These include information on the type of change, duration, coupon, YTM, sales, total interest bearing debt (COMPUSTAT), and market capitalization (CRSP). The increase and decrease samples have similar attributes, but the decrease sample firms are larger and more levered.

3. Abnormal Bond, Stock and Firm Returns

We calculate abnormal bond and stock returns around the announcement of the dividend change. Given the relation between the signs of the bond and stock returns, we then examine if there is a wealth transfer or information content to the dividend change. Since the wealth expropriation and information content hypotheses are not mutually exclusive, we attempt to determine the dominant effect of the dividend change by examining the change in the total firm value on the announcement.

3.1. Abnormal Bond Returns

Similar to Maxwell and Stephens (2003), we use a mean-adjusted return model accounting for changes in the term structure to calculate abnormal bond returns. The LBBD database, the source of bond returns data, contains only monthly data; consequently our test of the announcement impact on bondholder wealth is restricted to the month of the dividend announcement. To account for changes in bond returns related to shifts in the term structure, we calculate a bond's premium monthly holding period return for the announcement month as the bond's monthly return minus the return on a duration equivalent Treasury security. The expected premium bond return in the announcement month is estimated as the average premium bond return for the previous 3 months (the estimation period). After estimating the expected return, the abnormal bond return is calculated as the premium bond return in the announcement month minus the expected bond return. There are two methods to deal with firms that have multiple noninvestment grade bond issues.[4] First, we can treat each bond as a separate observation. Second, we can treat each firm as a separate observation. Using the latter approach, firm bondholder returns are measured as a weighted average (based upon the market values) of the

[2] See Hong and Warga (2000) for a discussion of the Lehman Brothers Bond Database.

[3] Companies are included in the sample if any of the firm's traded bonds are rated below BBB- (S&P's) or Baa3 (Moody's). If the company has multiple bonds, the Moody's and S&P rating listed in Table II reflects the highest rating (usually the most senior bond). Subordinate bonds are typically rated two minor rating categories lower than the senior rating displayed.

[4] Eberhart and Siddique (2002) discuss the problems associated with using each bond as a separate observation or calculating a firm level bond return for companies with multiple bond issues as a separate observation. They conclude that a firm return is more appropriate but calculate firm return as a simple average of a firm's bonds.

abnormal returns to the different bond issues. Given the likely high correlation between returns of noninvestment grade bonds issued by the same firm, treating each bond as a separate observation would inflate the t-statistics and more heavily weight firms with multiple issues in the sample. On the other hand, since a firm's bond returns are not perfectly correlated, aggregating the returns would overestimate the standard error and biases the t-statistics downward. To be conservative, we only report the firm returns.

We examine the significance of the abnormal bond returns using both parametric and nonparametric test statistics. The parametric statistics are calculated using standard event study methodology by standardizing the abnormal bond return by the standard deviation in the estimation period. To check for robustness of our findings, we also examine the statistical significance of the abnormal bond returns using a nonparametric test statistic (the Wilcoxon Signed Rank test).

3.2. Abnormal Stock Returns

Abnormal stock returns are calculated using the market model with the CRSP equally-weighted index as the market portfolio on both a daily and monthly basis.[5] The estimation period for the daily market model coefficients is 255 trading days ending 30 days before the announcement date. The estimation period for the monthly market model is 60 months ending 1 month before the event. For daily data, we report cumulative abnormal returns (CAR) over a two-day announcement period (-1,0). For monthly data, we report the announcement return for the announcement month, similar to the manner in which we handled bonds.

3.3. Abnormal Firm Returns

If the wealth gains to stockholders are roughly equal to the wealth loss to bondholders, then dividend changes are arguably pure wealth-transferring events with no wealth creation. On the other hand, if the wealth gain to stockholders is larger than the loss to creditors, then the wealth transfer hypothesis provides only a partial explanation for the abnormal returns to stockholders. If the wealth gain to equity holders is smaller than the loss to creditors, then it would appear that the potential wealth transfer gains from bondholders are mitigated by other costs engendered by the dividend. To examine the overall impact of the announcement, we calculate the percent abnormal change in the market value of publicly traded debt and equity during the announcement month.

Consistent with Eberhart and Siddique (2002) and Maxwell and Stephens (2003), we focus only on publicly traded securities. Consequently our measure of aggregate returns to publicly traded debt and equity is only an approximation of aggregate firm returns. While it is possible to calculate aggregate firm returns by assuming that non-traded securities in a given security type (e.g., long term debt) exhibit returns similar to publicly traded securities of the same general type, we believe this would overestimate any loss to bondholders. For example, most firms have non-traded long-term debt that include secured debt (mortgage loans, real estate liens, construction loans, equipment notes, etc.), capitalized lease obligations, and revolving credit agreements. The change in underlying price of these securities is probably limited given the secured nature of these contracts and therefore could bias the results if they are assumed to react similar to traded debt securities. It is important to observe that all of the publicly traded debt in this sample is noninvestment grade.

The abnormal change in the value of the equity is the abnormal stock return multiplied by the firm's previous month's market equity capitalization. To match the periodicity of the bond data, the monthly abnormal stock return is used in the calculation. Next, we quantify the abnormal change in the market value of the interest-bearing debt as the abnormal bond return times the prior month's market value of debt from the LBBD database. To examine the statistical significance of the change in the value of the firm, we rely on both non-parametric test statistics and a parametric student t-statistic based upon the variance in the event period.

4. Results

We report three test statistics of the abnormal returns associated with dividend changes. The conventional t-statistic is reported, as well as the nonparametric Wilcoxon signed rank-sum test and sign test. The t-statistic requires two assumptions: first, that the abnormal returns come from independent normal distributions; and second, that these normal distributions are identical. While the first assumption is palatable, the second one might not be. Therefore, we also utilize the Wilcoxon signed rank-sum and sign test which make no assumption about the form of the distribution generating the abnormal returns. These tests instead look at the sign and in the case of the Wilcoxon the magnitude of the abnormal returns. Our discussion of statistical significance focuses on the *t*-statistics and the Wilcoxon *z*.

4.1. Dividend Increases and Initiations

Table IV presents results for abnormal returns for large dividend increases and initiations. We examine dividend increases and initiations as one sample and then break down the sample into subsets for increases and initiations. As mentioned in the previous section, the bond returns are calculated both

[5] To confirm our findings, we also run the results using a value-weighted index. We find little difference in the results.

as a weighted average of the firm's individual bond returns and as if each bond is an independent observation. Separate results are provided for initiations but given the small sample size any conclusions are tempered.

When examining increases and initiations, the abnormal stock returns are positive as expected. The daily stock returns have a higher level of statistical significance, but the monthly stock returns have a higher abnormal stock return. The abnormal bond returns are negative (-73 basis points) and both the t-statistic and the Wilcoxon *z* are statistically significant at the five-percent level. With monthly average returns of 0.87% for BB and 0.89% for B rated bonds[6] and bid-ask spreads on noninvestment grade bonds averaging 19 basis points (Hong and Warga, 2000), an average loss of 73 basis points seems economically significant. After examining the separate results for the stock and bond returns, we next examine the abnormal change in the total value of the firm in the event month. When examining both dividend increases and initiations, the results suggest that overall the firm value does not change enough to detect statistical significance.

The abnormal bond returns for the subset of dividend increases are negative and statistically significant at a 95% and 90% confidence level for the parametric and nonparametric tests respectively. The abnormal stock returns are positive on both a monthly and daily basis but only statistically significant on a daily basis.

For the change in the total firm value the mean value is negative and the median is positive and both test statistics are negative though not statistically significant.

For initiations, the bond returns are negative and statistically significant at the 90% confidence level using the nonparametric statistic. The stock returns are positive and significant over a monthly and daily time period. The change in the firm value is positive but not statistically significant.

Overall the results suggest that the statistically significant increase in equity value associated with dividend increases and initiations is associated with an offsetting and statistically significant decrease in debt value rather than an increase in total firm value. These results are consistent with the hypothesis that firm value does not change and dividend increases and initiations merely transfer wealth.

4.2. Dividend Decreases and Omissions

Table V provides results from the analysis of large dividend decreases and omissions. When both dividend decreases and omissions are included in the sample the bonds do not show statistically significant changes, and the abnormal stock returns are statistically significant and negative. What is more interesting is to examine the subset of omissions and decreases.

For dividend decreases, abnormal bond returns are positive (209 basis points) and statistically significant. Stock returns around dividend decreases are negative and significant, but the total effect on the firm value is not statistically different from zero. This result suggests that dividend decreases are wealth transfers from stockholders to bondholders.

It is difficult to make inferences from the differing magnitudes of returns in the increase and decrease samples since the size of the average dividend decrease differs from the size of the average increase. Additionally, the capital structures of the firms differ between the samples. However, the results are not symmetrical. Dividend decreases seem to have a larger effect on bond and stock returns when compared to dividend increases. This is consistent with Lintner's (1956) work finding managers are more reluctant to decrease dividends than to raise them. More recent support for this view was provided by Kaplan and Reishus (1990) finding that managers who cut dividends substantially are more likely to lose their jobs.

Contrary to Dhillon and Johnson (1994) dividend omissions appears to be fundamentally different in nature than dividend decreases when analyzing the return to stockholders and bondholders. Dividend omissions result in a negative and statistically significant abnormal return to bonds (237 basis points) and stocks (756 basis points). The negative abnormal bond return on a dividend omission is significant and is consistent at the 95% confidence level for both parametric and nonparametric tests. The overall estimated change in the value of the firm also decreases significantly at the 99% confidence level. We cannot rule out the possibility of a wealth transfer, but these results suggest that for dividend omissions the information content clearly dominates any wealth transfer.

While we estimate a larger drop in equity value for omissions than decreases, our results are not necessarily inconsistent with Christie's (1994). Christie finds that omissions are not the harshest dividend cut as cuts of sixty to eighty percent appear to hurt more than omissions in his sample. However, the limited sample of firms with high yield debt precludes us from conducting the sample stratification which Christie conducted.

5. Conclusions

Event studies analyzing equity returns have been extensively used in corporate law policy and scholarship. We suggest that much additional relevant empirical information can be gained from event studies analyzing bond returns, and we illustrate the methodology with an investigation of the effects of large dividend changes. We find that dividend initiations, increases and decreases all result in statistically significant abnormal returns of

[6] The average calculated from the LBBD indexes between 1987 and 1998.

the opposite sign to debt and equity. We then examine the magnitude of these changes. The net abnormal estimated change in the total firm value for these changes is not significantly different from zero. This suggests that these types of dividend changes result in wealth transfers and while there may be information content to the change it is not large enough to detect. The change in equity value is attributable to an offsetting change in debt value father than a change in total firm value.

For dividend omissions, the results are unique as we find no evidence of a wealth transfer as both equity and debt suffer significant losses and the total value of the firm changes in a significant manner. We cannot state whether this finding is due to a fundamental difference between cuts and omissions applicable to all corporations, or something that is specific to firms with noninvestment grade debt. An explanation for why dividend omissions hurt noninvestment grade debt when dividend cuts benefit noninvestment grade debt will require further research. Overall, our results suggest that more attention should be given to the wealth transfer hypothesis in future work.

References

1. Bhagat, S., and R. Jefferis, 1991, Voting power in the proxy process: The case of antitakeover charter amendments, *Journal of Financial Economics* 30, 193-226.
2. Bhagat, S., and R. Romano, 2002a, Event studies and the law: Part I: Technique and corporate litigation, *American Law and Economics Review* 4, 141-167.
3. Bhagat, S., and R. Romano, 2002b, Event studies and the law: Part II: Empirical studies of corporate law, *American Law and Economics Review* 4, 380-423.
4. Bhattacharya, S., 1979, Imperfect information, dividend policy, and 'the bird in the hand fallacy,' *Bell Journal of Economics* 10, 259-270.
5. Brealey, R. and S. Myers, Principles of Corporate Finance, McGraw Hill, 6th edition, 2000.
6. Brigham, E., L. Gapenski, and M. Erhardt, Financial Management: Theory and Practice, Dryden Press, 9th edition, 1999.
7. Brown, S. and J. Warner, 1980, Measuring security price performance, *Journal of Financial Economics* 8, 205-58.
8. Brown, S. and J. Warner, 1985, Using daily stock returns: The case of event studies, *Journal of Financial Economics* 14, 3-31.
9. Christie, W., 1994, Are dividend omissions truly the cruelest cut of all? *Journal of Financial Economics* 29, 459-480.
10. Dann, L., 1981, Common stock repurchases: An analysis of returns to bondholders and stockholders, *Journal of Financial Economics* 9, 113-138.
11. Dhillon, U. and H. Johnson, 1994, The Effect of Dividend Changes on Stock and Bond Prices, *Journal of Finance* 49, 281-9.
12. Eberhart, A. and A. Siddique, 2003, The long-term performance of corporate bonds (and stocks) following seasoned equity offerings, *forthcoming in Review of Financial Studies.*
13. Fama, E. and M. Miller, The Theory of Finance, Holt, Rinehart and Winston (1972).
14. Fama, E., L. Fischer, M. Jensen, and R. Roll, 1969, The adjustment of stock prices to new information, *International Economic Review* 10.
15. Galai, D. and R. Masulis, 1976, The Option Pricing Model and the Risk Factors of Stock, *Journal of Financial Economics* 3, 53-82.
16. Gompers, P., J. Ishii, and A. Metrick, 2003, Corporate governance and equity prices, *Quarterly Journal of Economics* 118, 107-155.
17. Grullon, G. and R. Michaely, 2002, Dividends, share repurchases and the substitution hypothesis, forthcoming, *Journal of Finance*.
18. Handjinicolaou, G. and A. Kalay, 1984, Wealth redistributions or changes in firm value: An analysis of returns to bondholders and stockholders around dividend announcements, *Journal of Financial Economics* 13, 35-63.
19. Hong, G., and A. Warga, 1999, An Empirical Study of Bond Market Transactions, *Financial Analysts Journal* 56, 32-46.
20. Jagannathan, M., C. Stephens and M. Weisbach, 2000, Financial flexibility and the choice between dividends and stock repurchases, *Journal of Financial Economics*, 57, 355-384.
21. Jensen, M. and W. Meckling, 1976, Theory of the firm: Managerial behavior, agency cost and ownership structure, *Journal of Financial Economics* 3, 305-60.
22. Kalay, A., 1982, Stockholder-Bondholder Conflict and Dividend Constraints, *Journal of Financial Economics* 10, 211-233.
23. Kaplan, S. and D. Reishus, 1990, Outside Directorships and Corporate Performance, *Journal of Financial Economics* 27, 89-410.
24. Klock, M., 1994, The stock market reaction to a change in certifying accountant, *Journal of Accounting, Auditing, and Finance* 9, 339-347.
25. Klock, M., 2002, Are waste and flamboyance really virtues? Use and abuse of economics, *University of Cincinnati Law Review* 71, 1-72.
26. Klock, M., S. Mansi, and W. Maxwell, 2005, Does Corporate Governance Matter to Bond Holders? *Journal of Financial and Quantitative Analysis* 40.
27. Lintner, J., 1956, Distributions of Incomes of Corporations Among Dividends, Retained Earnings and Taxes, *American Economic Review* 46, 97-113.
28. Maxwell, W. and C. Stephens, 2002, The wealth effects of repurchases on bondholders, *Journal of Finance* 58, 895-919.
29. Miller, M. and F. Modigliani, 1961, Dividend Policy, Growth and the Valuation of Shares, *Journal of Business* 4, 411-433.
30. Mitchell, L., 1990, The fairness rights of corporate bondholders, *New York University Law Review* 65.
31. Myers, S., 1977, Determinants of corporate borrowing, *Journal of Financial Economics* 5.
32. Parrino, R. & M. Weisbach, 1999, Measuring investment distortions arising from stockholder-bondholder conflicts, *Journal of Financial Economics* 53, 3-42.
33. Romano, R., 1985, Law as a product: Some pieces of the incorporation puzzle, *Journal of Law, Economics, & Organization* 1, 225-283.
34. Ross, S., R. Westerfield, and J. Jaffe, Corporate Finance, Irwin McGraw-Hill, 5th edition, 1999.

35. Smith, C. and J. Warner, 1979, On financial contracting: An analysis of bond covenants, *Journal of Financial Economics* 7, 117-161.
36. Warga, A., 1992, Bond Returns, Liquidity, and Missing Data, *Journal of Financial and Quantitative Analysis* 27, 605-17.
37. Woolridge, R., 1983, Dividend Changes and Security Prices, *Journal of Finance* 38, 1607-15.

Appendices

Table I. Reasons for Sample Exclusions

To ensure against contaminating events, companies were excluded if there were significant news announcements in the event month or in the sampling period (t = -3, 0). News announcements were obtained using Dow Jones News Retrieval Service. Contaminating events included changes in capital structure and changes in bond rating. Three companies were excluded from the sample for lack of complete data.

	Number Excluded	
Contaminating Event	Companies (total)	Bonds (total)
Joint Preferred Offering	1	1
Sale of Majority Stake	1	1
Shelf Offering of Preferred and Common Stock	1	2
Special One-Time Dividend	2	3
Common Stock Offering	1	1
Large Acquisition (20% mkt value)	5	8
Joint Announcement with Stock Repurchase	2	2
Joint Announcement Stock Split	1	1
Change in Bond Rating in Month of Announcement	1	1

Table II. Companies with Noninvestment Grade Bonds and Large Dividend Increases or Decreases From 1987 –1997

This table lists companies with noninvestment grade bonds that instituted large dividend changes (+15%) between 1987 – 1997. Firms with large dividend changes were identified from CRSP and Compustat data and confirmed with Dow Jones News Retrieval Service. Bond rating information was obtained from the Lehman Brothers Bond Database. Companies were included in the sample if any of the firm's trades bonds were rated below BBB- (S&P's) or Baa3 (Moody's). If the company has multiple bonds, the Moody's and S&P rating listed in the table reflects the highest rating (usually the most senior bond). Subordinate bonds were typically rated two minor rating categories lower than the senior rating displayed.

Company Name	Event Date	Moody's (Senior Debt Rating)	S & P's (Senior Debt Rating)	Type of Change (% Change)	# of Traded Bonds
Panel A. Companies with Dividend Initiations or Increases Greater than 15%					
AMERICAN ANNUITY CORP	10/22/97	Ba1	BBB-	Initiation	2
BLOUNT, INC.	09/26/94	B1	B+	Increase (16%)	1
BLOUNT, INC.	11/27/95	B1	BB-	Increase (15%)	1
CMS ENERGY	05/28/93	Ba3	BB+	Increase (50%)	1
COASTAL BANCORP	01/29/96	B1	BB-	Increase (25%)	1
COLORADO NAT'L BANKSHARES	01/24/89	Ba	BB+	Increase (33%)	1
CONSECO, INC	10/07/88	B1	NR	Initiation	2
CONSECO, INC	03/08/96	B1	B+	Initiation	2
CONSECO, INC	08/08/96	Ba2	BB+	Increase (213%)	2
FAIRCHILD CORP	09/12/91	B	B	Increase (40%)	2
FOOTHILL GROUP INC	01/23/89	NR	B+	Increase (40%)	1
FREEPORT-MCMORAN INC	01/24/89	Ba	BBB-	Increase (150%)	1
FREEPORT-MCMORAN INC	08/01/95	Ba	BB-	Increase (100%)	1
GEORGIA GULF CORPORATION	02/07/95	Ba3	BB-	Initiation	1
GOODYEAR TIRE AND RUBBER	10/06/92	Ba1	BB	Increase (150%)	1
HARLEY-DAVIDSON,INC	05/10/93	Ba3	B	Initiation	1
HARLEY-DAVIDSON,INC	08/23/95	Ba3	B	Increase (25%)	1
HARMAN INTERNATIONAL	05/03/95	B1	B+	Increase (400%)	1
HARVEY CASINOS RESORTS	08/01/96	B	B	Increase (25%)	1
IDEX CORPORATION	12/12/94	Ba3	B+	Initiation	1
IMO DELAVAL INC.	06/15/89	Ba3	BB-	Increase (38%)	1
LA QUINTA MOTOR INNS	08/30/93	B	BB-	Initiation	1
LEUCADIA NATIONAL CORP	12/14/92	Ba1	BB+	Initiation	2

LIFE PARTNERS	05/22/95	Ba3	BB+	Increase (50%)	1
MARK IV INDUSTRIES, INC	06/01/92	B1	B	Increase (20%)	2
MATTEL, INC	05/08/91	B1	B+	Increase (67%)	1
MIDLANTIC CORPORATION	07/20/94	Baa3	BB	Initiation	1
MITCHELL ENERGY & DEV	12/07/89	Ba1	BBB-	Increase (33%)	2
MITCHELL ENERGY & DEV	12/05/90	Ba1	BBB-	Increase (25%)	2
ORIOLE HOMES	02/17/89	B1	NR	Increase (100%)	1
PENNCORP FINANCIAL GROUP	09/27/95	B1	BB-	Increase (200%)	1
PENNCORP FINANCIAL GROUP	03/01/96	B1	BB+	Increase (67%)	1
PIER 1 INC.	03/19/92	B	NR	Initiation	1
PIER 1 INC.	12/17/92	B	NR	Increase (33%)	1
PIER 1 INC.	06/24/93	B	NR	Increase (25%)	1
PIER 1 INC.	12/07/95	B1	NR	Increase (33%)	1
PRESIDENTIAL LIFE CORP	12/04/95	Ba	BB+	Increase (33%)	1
QUANEX CORP	05/18/88	B1	B+	Initiation	1
QUANEX CORP	08/23/88	B1	B+	Increase (200%)	1
RELIANCE GROUP HLDING	10/11/88	NR	B+	Increase (33%)	1
SIGNET BANKING CORP	07/15/97	Ba	BB-	Increase (50%)	1
ST PAUL BANCORP	10/23/92	Ba	BBB-	Increase (25%)	1
STANDARD PACIFIC - NEW	07/30/97	Ba	BB	Increase (25%)	1
STONE CONTAINER CORP	01/23/89	Ba3	BB-	Increase (100%)	1
TCF FINANCIAL CORPORATION	03/24/93	B	B	Increase (50%)	1
TERRA INDUSTRIES	08/05/97	Ba3	B+	Increase (25%)	1
TOSCO CORPORATION	08/15/89	Ba3	B+	Initiation	1
UNITED COMPANY FIN CORP	01/24/96	Ba	BBB-	Increase (15%)	2
UNITED COMPANY FIN CORP	11/11/96	Ba1	BBB-	Increase (40%)	2
VICTORIA BANKSHARES, INC	01/17/95	Ba1	BB+	Increase (23%)	1
VINTAGE PETROLEUM	09/12/97	B1	B+	Increase (33%)	2
WCI STEEL INC	03/11/96	B1	B+	Initiation	1
WHITTAKER CORP	09/01/87	Ba3	NR	Increase (67%)	2

Table II. Companies with Noninvestment Grade Bonds and Large Dividend Increases or Decreases From 1987 –1997

Company Name	Event Date	Moody's (Senior Debt Rating)	S & P's (Senior Debt Rating)	Type of Change (% Change)	# of TradedBonds
Panel B. Companies with Dividend Omissions or Decreases Greater than 15%					
AES CORP	02/17/94	Ba2	BB	Omission	1
APPLE COMPUTER	02/13/96	Baa3	BB+	Omission	1
ARMCO INC	01/25/91	Ba3	BB	Omission	5
BALTIMORE BANCORP	08/16/91	B2	BB-	Decrease (-40%)	2
BALTIMORE BANCORP	10/28/91	B2	BB-	Omission	2
BANK SOUTH CORPORATION	07/18/91	Ba3	BB+	Omission	2
BETHLEHEM STEEL CORP	01/29/92	Ba2	BB	Omission	4
BRADLEES INC	05/23/95	B3	B+	Omission	2
CHIQUITA BRANDS INTL	08/02/93	B2	BB-	Decrease (-71%)	7
CHRYSLER	03/07/91	Baa3	BBB-	Decrease (-50%)	8
CONSECO, INC	03/03/95	Ba1	BBB-	Decrease (-16%)	1
COTT CORP	04/15/96	Ba3	BB-	Omission	1
CUMMINS ENGINE	05/21/91	Baa3	BBB-	Decrease (-91%)	3
DEKALB CORPORATION	05/09/91	Ba2	BB-	Omission	2
DELTA AIRLINES INC	04/22/93	Baa2	BBB-	Decrease (-83%)	10
DOMINION BANKSHARES CORP	01/15/91	Ba1	BBB	Decrease (-50%)	1
FEDERAL MOGUL CORP	02/13/92	Ba1	BBB-	Decrease (-48%)	3
FINANCIAL CORP OF AMER	12/18/87	NR	B+	Decrease (-50%)	1
FIRST UNION REAL ESTATE EQ	03/02/94	Ba2	BBB-	Decrease (-44%)	1
FLEMING COS	03/28/96	Ba1	BB-	Decrease (-93%)	1
FOOTHILL GROUP INC	12/10/90	NR	B+	Omission	1
GENERAL HOST CORP	03/03/94	B1	B-	Omission	1
GOODYEAR TIRE AND RUBBER	02/07/91	Ba1	BBB-	Decrease (-78%)	2
HECHINGER	02/22/96	Ba1	BB-	Omission	2
IMC FERTILIZER GROUP	04/15/93	Baa2	BB+	Omission	1
IMO DELAVAL INC	10/30/92	Ba3	BB-	Omission	2
K MART	12/20/95	Baa2	BBB-	Omission	8
KAY JEWELERS INC	02/08/90	B1	B+	Omission	1
KERR GLASS MANUFACTURING	11/13/90	B1	B+	Omission	1
MANUFACTER HANOVER CORP	11/23/88	BBB-	NR	Decrease (-43%)	1
MDC CORPORATION	12/28/90	B1	B	Omission	2
MIDLANTIC CORPORATION	01/16/91	Ba1	BBB-	Omission	2
MNC FINANCIAL INC	12/19/90	Ba1	BB	Omission	2
N L INDUSTRIES INC	10/28/92	Ba1	BBB-	Omission	1
NAT'L CONVENIENCE STORES	07/24/90	B1	B+	Omission	1
NORTEK INC	02/19/91	B	B	Omission	2
NORTHEAST UTILS	07/24/96	Baa3	BBB-	Decrease (40%)	2
NORTHEAST UTILS	03/25/97	Ba2	BB	Omission	1
OCCIDENTAL PETROLEUM	01/15/91	Baa2	BBB-	Decrease (-60%)	6
ORIOLE HOMES	08/18/95	B2	B	Omission	1
ORYX ENERGY CO	06/05/92	Ba2	BBB-	Decrease (-67%)	3
OUTBOARD MARINE	04/25/97	Ba2	BB	Omission	1

PETROLEUM HEAT & POWER	03/07/91	B1	NR	Decrease (-82%)	1
PIER 1 INC	03/15/91	B1	NR	Omission	1
PILGRIMS PRIDE CORP	11/22/95	B1	B	Omission	1
QUANTUM CHEMICAL CORP	10/26/89	Ba2	BB-	Omission	5
RIGGS NATIONAL CORP	01/23/91	Ba2	B+	Decrease (-52%)	1
RYLAND GROUP INC	04/30/97	Ba2	B+	Omission	3
SEQUA CORP	08/12/93	Ba3	BB+	Omission	2
SIGNET BANKING CORP	03/26/91	Ba1	BBB	Decrease (-49%)	1
SOUTHDOWN INC	04/25/91	Ba2	BB-	Omission	1
SOUTHEAST BANKING CORP	06/15/90	Baa1	BBB-	Decrease (-64%)	2
SOUTHEAST BANKING CORP	09/21/90	Ba2	BB+	Omission	2
STONE CONTAINER CORP	07/27/92	B1	BB	Omission	4
STONE CONTAINER CORP	01/27/97	B1	B+	Omission	7
TALLEY INDUSTRIES INC	02/25/91	B1	NR	Decrease (-60%)	1
TEXAS INDUSTRIES INC	07/12/90	B1	B+	Decrease (-75%)	2
TRANSCO ENERGY CO	11/01/91	Baa3	BBB-	Decrease (-56%)	6
TYCO TOYS INC	12/01/93	B1	B+	Omission	1
USF&G CORPORATION	11/07/90	Baa2	BBB	Decrease (-66%)	8
USF&G CORPORATION	02/28/91	Baa2	BBB	Decrease (-80%)	1
USX CORP	01/26/93	Baa1	BBB-	Decrease (-51%)	1
VALHI INC	06/10/93	B2	B-	Omission	1
WAXMAN INDUSTRIES INC	09/08/92	B2	B+	Omission	1
WAXMAN INDUSTRIES INC	10/04/93	B2	B-	Decrease (-33%)	2
WEIRTON STEEL CORP	02/12/91	Ba2	BBB-	Omission	1

Table III. Descriptive Statistics for Companies with Noninvestment Grade Bonds and Large Dividend Increases or Decreases Between 1987 –1997

This table provides descriptive statistics about the companies and bonds contained in the sample. The bond information is from the Lehman Brothers Bond Database and pertains to the month of the event. The total amount of interest bearing debt outstanding is obtained from Compustat and represents information from the previous fiscal year end. The market capitalization is from CRSP for the month preceding the event.

	Lehman Brothers Bond Database				COMPUSTAT		CRSP	
	# of Obser.	# of Bonds	Median Duration [range]	Median Coupon [range]	Median YTM (%) [range]	Median Sales [range]	Median Total Debt [range]	Median Market Cap [range]
Panel A: Companies with Dividend Initiations or Increases Greater than 15%								
Initiations	13	17	4.49 [0.59-6.71]	11.13 [9.20-15.25]	11.13 [6.02-14.58]	630.9 [255.8-1,982.4]	213.8 [19.3-1,671.3]	529.7 [163.3-2,446.8]
Increases	40	49	5.20 [1.04-7.27]	10.63 [0.00-15.25]	10.61 [6.79-19.99]	569.6 [92.3-10,906.8]	296.6 [18.3-3,169.8]	376.8 [86.8-3,135.3
Initiations & Increases	53	66	5.11 [0.59-7.27]	10.88 [0.00-15.25]	10.62 [6.02-19.99]	591.4 [92.3-10,906.8]	292.7 [18.3-3,169.8]	450.9 [86.8-3,135.3]
Panel B: Companies with Dividend Omissions or Decreases Greater than 15%								
Omissions	39	80	5.35 [1.36-11.08]	10.50 [5.90-14.25]	11.00 [6.90-24.47]	1,072.51 [99.9-34,353.0]	469.7 [83.9-5,796.8]	331.7 [38.0-8.109.8]
Decreases	27	78	5.29 [1.08-9.81]	9.65 [4.63-15.13]	10.10 [6.03-18.23]	1,484.0 [74.3-29,797.0]	974.0 [114.8-22,900.0]	703.2 [36.7-5,427.3]
Omissions & Decreases	66	158	5.29 [1.08-11.08]	9.88 [4.63-15.13]	10.56 [6.03-24.47]	1,156.2 [74.3-34,353.0]	674.8 [83.9-22,900.0]	401.9 [36.7-8.109.8]

Table IV. Results for Dividend Increases & Initiations

This table documents the abnormal stock and bonds returns as well as the estimated percentage change in the total value of the firm. The abnormal bond returns (ABR) are calculated using a mean adjusted model, with mean being calculated as the premium over a Treasury bond with a similar duration. The abnormal stock returns (ASR) are calculated using a market model (CRSP Equally Weighted Index). The change a firm's total value is calculated as $((ABR_{i,t} \times DT_{i,t-1}) + (ASR_{i,t} \times MKTCAP_{i,t-1})) / (DT_{i,t-1} + MKTCAP_{i,t-1})$ with DT equal to the total amount of interest bearing debt.

				positives:		Wilcoxon
	n	Mean	Median	negatives	t-statistic	*z*-statistic
Panel A: Dividend Increases & Initiations						
Abnormal Bond Returns:						
Company's bond return is a weighted average	53	-0.0073	-0.0053	22:31	-2.53	-2.24
Abnormal Stock Returns:						
Monthly returns - equally weighted market	52	0.0282	0.0284	31:21	1.40	1.94
Daily - CAR (-1,0) equally weighted market	52	0.0166	0.0076	35:17	2.74	3.07
Change in Total Firm Value	46	0.0081	0.0110	28:18	0.93	0.71
Panel B: Dividend Increases						
Abnormal Bond Returns:						

Company's bond return is a weighted average	40	-0.0082	-0.0039	18:22	2.29	-1.87
Abnormal Stock Returns:						
Monthly returns - equally weighted market	39	0.0079	0.0274	22:17	0.38	1.16
Daily - CAR (-1,0) equally weighted market	39	0.0106	0.0069	28:11	2.47	2.61
Change in Total Firm Value	34	-0.0022	0.0088	20:14	-0.27	-0.13
Panel C: Dividend Initiations						
Abnormal Bond Returns:						
Company's bond return is a weighted average	13	-0.0059	-0.0081	4:9	-1.76	-1.71
Abnormal Stock Returns:						
Monthly returns - equally weighted market	13	0.0892	0.0561	9:4	2.56	1.88
Daily - CAR (-1,0) equally weighted market	13	0.0244	0.0197	9:4	1.97	2.24
Change in Total Firm Value	12	0.0375	0.0326	8:4	1.59	1.41

***, **, and * denote significance at the 99%, 95%, and 90% confidence levels respectively

Table V. Results for Dividend Decreases & Omissions

This table documents the abnormal stock and bonds returns as well as the estimated percentage change in the total value of the firm. The abnormal bond returns (ABR) are calculated using a mean adjusted model, with mean being calculated as the premium over a Treasury bond with a similar duration. The abnormal stock returns (ASR) are calculated using a market model (CRSP Equally Weighted Index). The change in a firm's total value is calculated as $((ABR_{i,t} \times DT_{i,t-1}) + (ASR_{i,t} \times MKTCAP_{i,t-1})) / (DT_{i,t-1} + MKTCAP_{i,t-1})$ with DT equal to the total amount of interest bearing debt.

	n	Mean	Median	positives: negatives	t-statistic	Wilcoxon *z*-statistic
Panel A: Dividend Decreases & Omissions						
Abnormal Bond Returns:						
Company's bond return is a weighted average	66	-0.0055	0.0013	34:32	-0.65	-0.21
Abnormal Stock Returns:						
Monthly returns - equally weighted market	64	-0.1058	-0.0944	15:49	-6.05	-4.00
Daily - CAR (-1,0) equally weighted market	64	-0.0580	-0.5430	16:48	-10.16	-3.92
Change in Total Firm Value	61	-0.0367	-0.0349	17:44	2.85	-3.39
Panel B: Dividend Decreases						
Abnormal Bond Returns:						
Company's bond return is a weighted average	27	0.0209	0.0189	20:7	1.85	2.52
Abnormal Stock Returns:						
Monthly returns - equally weighted market	27	-0.0691	-0.0498	7:20	-2.84	-2.37
Daily - CAR (-1,0) equally weighted market	27	-0.0394	-0.0393	9:18	-5.20	-1.71
Change in Total Firm Value	26	-0.0103	-0.0155	11:15	-0.74	-0.24
Panel C: Dividend Omissions						
Abnormal Bond Returns:						
Company's bond return is a weighted average	39	-0.0237	-0.0126	14:25	-2.11	-2.41
Abnormal Stock Returns:						
Monthly returns - equally weighted market	37	-0.1326	-0.1388	8:29	-6.78	-3.24
Daily - CAR (-1,0) equally weighted market	37	-0.0756	-0.0680	5:32	-9.49	-3.79
Change in Total Firm Value	35	-0.0563	-0.0620	6:29	2.90	-3.75

***, **, and * denote significance at the 99%, 95%, and 90% confidence levels respectively.