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Dividend Signaling: What Can We Learn from Corporate Bond Responses?

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Abstract

The literature has reported significant abnormal returns associated with the announcements of dividend changes. Various hypotheses such as information signaling hypothesis, agency theory and wealth transfer hypothesis, have been suggested to explain the abnormal returns and volumes following the corporate stock dividend changes. The response of corporate bond, as a related security not subject to the immediate capitalization changes are used to provide evidence to help distinguish between the signaling and wealth transfer hypothesis. Corporate bonds have a significant decline in bond yields following dividend increase and a significant increase in bond yields following dividend decrease, supporting signaling hypothesis rather than wealth transfer effect.

Keywords: **Dividend Change; Signaling Hypothesis; Wealth Transfer; Corporate Bonds**

INTRODUCTION

Corporate dividend policy has captured the interest of financial economists and over the last five decades has been the subject of intensive theoretical modeling and empirical examination. A number of conflicting theoretical models attempts to explain corporate dividend behavior and its implications for corporate performance and security valuation. Corporate dividend announcements and the significant stock price responses of the related companies have been observed for decades and several hypotheses have been proposed to explain the abnormal stock price responses and volume changes associated with dividend announcements, including the information content hypothesis, wealth transfer hypothesis, and agency theory. This study investigates the changes in the corporate bond price and yield of the companies announcing the dividend increase/decrease and provides results that might help distinguish between some of these important hypotheses, such as signaling and information content hypothesis and wealth redistribution hypothesis.

Since all three proposed hypotheses predict positive stock returns to the dividend increase, the event study on the equity price change is not easy to distinguish between these competing hypotheses. These hypotheses have different predictions to bond prices responses to the dividend change announcement. The information signaling hypothesis suggests that dividend increase will lead to bond price increase as dividend increase indicates a strong company performance, however, wealth redistribution hypothesis predicts dividend increase might lead to bond price decrease. When dividend increases, it is a good news to shareholders but may be negative news for bond holders as increased dividend payments may transfer corporate asset value to stockholders from the bondholders who should have a payout priority. Therefore, an increased dividend payout policy may reduce the cash resources otherwise available to the firm to make bond interests payment or investment in the future. The aim of this study is to determine if the information component or signaling effect associated with the dividend announcements is stronger than the impact of “loss of assets” on the corporate bond yields. There may not be one simple answer; the reaction may be stratified on the basis of the strength of the company.

Studies in previous literature focus more on stock equity response to dividend announcement and evidences from the test of these hypotheses in previous studies based on bond price response are mixed. Signaling hypothesis suggest dividend payout or increase can be a signal to the investors about the management’s optimistic expectation of future performance, which will reduce the risk and required rate of return for bond holders and lead to bond price increase. In contrast, wealth transfer hypothesis suggests dividend payout would reduce the cash holdings of the company that can be used to secure the debt payback, which will increase the credit risk faced by bond holders and increase their required rate of returns and thus lead to bond price decrease.

Handjinicolaou [1] analyze the bond returns around dividend changes and find that bond prices respond negatively to the dividend decrease but are not affected significantly by dividend increases, which support the information signaling hypothesis. Whereas, Dhillon [2] examine both the stock and bond price reaction to dividend changes and report positive stock returns and negative bond returns to large dividend increase, and negative stock returns and positive bond returns to large dividend decrease. They argue that their results support wealth transfer hypothesis.

In this paper, we use both the univariate and multivariate regression analysis based on daily bond prices and bond yield to distinguish between the signaling hypothesis and the wealth transfer hypothesis from the perspectives of non-equity corporate securities.
The rest of the paper is organized as follows: Section 2 examines the stock dividend literature to identify the implications for the bond market. Section 3 explains the sample data and empirical methodology. Section 4 reports the empirical results and Section 5 concludes.

LITERATURE REVIEW

The abnormal stock price responses associated with dividend announcements are widely reported in the finance literature. A few hypotheses are formulated to explain such price responses, including free cash flow hypothesis, agency theory [3], the information content and signaling hypothesis [4,5] and wealth transfer hypothesis [2].

The significant positive (negative) stock abnormal returns have been documented for those companies that make announcement about dividend increase (decrease). Previous studies focused more on examining stock equity response to dividend announcement and evidence on these hypotheses is mixed. Some important past literature in the area includes: Dividend signaling models developed in Bhattacharya [4], Miller et al. [5], and John et al. [6] suggest that announcements of unexpected dividends contain information about future earnings. Evidence from empirical to test these models and hypotheses related to dividend announcement are mixed and thus inconclusive.

Consistent with theoretical predictions, empirical studies document that stock prices tend to increase (decrease) when dividends are increased (cut), such as Pettit [7], Brickley [8], Healy [9], Bajaj [10], Dhillon [2], and Benartzi [11], among others. Recently, Nissim [12] document a significant relationship between dividends and future earnings changes. Other researchers (e.g. Watts [13], DeAngelo [14] and Benartzi [11]) find that though there is a significant relationship between dividend changes and contemporaneous earnings, the relationship between dividend changes and future earnings is not significant, which calls into question the signaling role of dividend announcement. DeAngelo [14] in their analysis of special dividends also argue against the signaling role of regular dividend changes. Amihud [15] document declining information content for dividends related to higher institutional holdings.

Study of corporate bond yield changes following dividend announcement would help

distinguish between some of these competing hypotheses as these hypotheses have similar implication for stock prices, but have different implications for bond price and yield changes. One motivation for using the bond to examine dividend announcement in this project is that both the classic finance theory and some recent empirical evidence suggesting a close relationship between stock and bond returns. There are several recent studies that report significant abnormal price changes for corporate bonds responding to stock and corporate events of the same company. For example, Eberhart [16] test the efficient market hypothesis (EMH) with seasoned equity offering (SEO) events by examining the long-term performance of their sample firms' bonds and stocks following their SEO. Their results are inconsistent with the EMH and also provide evidence that SEOs transfer wealth from shareholders to bondholders because SEO reduce default risk. Along the same line, a dividend increase is the opposite of an SEO and this may increase the risk or reduce the value of bonds. Maxwell examine the bond price response to distinguish between different hypotheses explaining the abnormal returns following stock repurchase and find evidence consistent with both signaling and wealth transfer hypothesis.

Two major hypotheses used to explain the abnormal stock returns following dividend announcements are information content hypothesis and wealth redistribution hypothesis. Previous evidence in testing these hypotheses is mixed and thus inconclusive. Handjinicolaou [1] try to distinguish between the relative importance of these two hypotheses by examining the excess returns of stocks and bonds of those companies that make dividend announcements during 1976-1977 find asymmetric response to dividend announcement, i.e. significantly negative bond and stock returns to dividend decrease, whereas positive stock returns and insignificant bond returns to dividend increase. So they conclude that their results support information content about firm value in dividend announcements.

Whereas, Dhillon [2] examine the excess returns of stocks and bonds of those companies that make dividend announcements during 1978-1987. They report significantly positive stock returns and negative yet insignificantly bond returns to dividend increase and significantly negative stock returns and positive bond returns, suggesting that their results capture the wealth transfer effects that have been missed in previous studies.

There are important changes documented in recent literatures about the dividend paying pattern and firm payout policy since 1980s. There are recent trends after 1980s that the number of dividend-paying company is declining and the total amount of dividend payout increase and more and more firms use stock repurchase as an important way to pay cash back to their shareholders. It is worthwhile to examine the sample period after the period examined by Dhillon [2].

DATA AND METHODOLOGY

Data

The sample data of dividend increase and decrease announcements from January 1995 to December 2008 are collected from the CRSP. The samples are limited to firms with stocks and bonds traded on the NYSE, AMEX or NASDAQ. Sources of corporate bond data are fairly limited. Using the sample firms that have undergone either a dividend increase or decrease, corporate bond price and yield data are obtained from the Datastream and Bloomberg sources. For firms with multiple bond issues, only the most frequently traded issue is used in the sample to avoid interdependence of returns. Bonds with convertible features are omitted from the sample. Only the straight bond issues with at least 20 days' prices available during a 30-day interval around the stock dividend announcement are included so as to ensure sufficient returns around the announcement and comparison periods. Firms with simultaneous announcements of important corporate events, such as earning announcements that are within three trading days of the dividend announcement date are removed. In addition, bond maturity information is obtained to match the maturity date of a Treasury bond to calculate the yield spread between the two bonds. After this filtering, the sample size of the daily stock price and bond price and yield data is 308 firms for dividend increase announcement and 135 firms for dividend decrease announcement between 1995 and 2008.

Table 1 reports the summary of the yearly and size distribution of dividend changes during the 1995-2008 period. To avoid an unequal weighing of any single firm, only the first occurrence of dividend increase (decrease) by one company is included in the sample.

Table 1: Yearly and direction of stock dividend changes.

Exchange	**Dividend Increases**	**Dividend Decreases**	**Total Firms**
NYSE	2677	2255	4212
AMEX	373	341	596
NASDAQ	1485	950	2522
Total	4,535	3556	7330
Year/Size	**Number of Dividend Increases**	Number of Dividend Increases	
1995–1997	2245	1339	
1998-2001	679	748	
2002-2004	664	508	
2005-2008	947	961	
Below 5%	832	377	
5-15%	1,427	399	

15-30%	1,059	307
Above 30%	1,217	2,473
Total 1995-2008	4,535	3,556

This Table 1 reports the yearly and size distribution of stock dividend changes in the entire sample by 1995-2008 period.

The descriptive statistics of the sample is reported in Table 2. The bond yield spread decreases from 1.389 to 1.375 in mean and from 1.383 to 1.366 in median after the stock dividend increase, and bond yield spread increases from 1.802 to 1.867 in mean and increases from 1.782 to 1.845 in median after dividend decrease.

Table 2 reports descriptive statistics for stocks and corporate bonds for companies with stock dividend changes during the 1995–2008 period. Panel A presents mean and median daily volatility using a 180-day window around the dividend change event for the stocks during the 1995–2008 period. Panel B presents corporate bonds yield and spread changes from one year before stocks dividend changes to one year after for those companies that underwent a stock dividend change during the 1995–2008 period.

Table 2: Descriptive statistics.

Before Div Change Statistics		**After Div Change Test**	
Panel_A. Dividend Increase statistics (%)			
Yield-Mean	6.268	6.240	-1.383
Yield-Median	6.266	6.233	-4.672***
Spread-Mean	1.389	1.375	-0.893
Spread-Median	1.383	1.366	-3.541***
Stock return-Mean	0.0480	0.0835	1.4635
Stock return-Median	-0.0117	0.0451	5.978***
Panel_B. Dividend Decrease statistics (%)			
Yield-Mean	6.732	6.776	0.6086
Yield-Median	6.717	6.756	-1.8876*
Spread-Mean	1.802	1.867	0.886
Spread-Median	1.782	1.845	-1.265
Stock return-Mean	0.0166	0.0884	1.302
Stock return-Median	0.0196	0.0310	-0.361

***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Methodology

The mean-adjusted return as developed in Masulis is applied to analyze bond and stock returns. The Handjinicolaou [1] methodology is used to handle the infrequent trading problem and to adjust for term structure changes. Bond returns are a series of single and multiple day returns and are adjusted to yield equivalent single day returns using Handjinicolaou [1] methodology. A 15-day interval around the event is used to estimate the comparison and announcement period returns. The comparison period is 15 days before the announcement (Day -17 to Day -3) excluding the 2-day announcement period (Day 0-1).

Previous literature has found significantly positive stock price response to dividend increase and negative response to dividend decrease. If investors take information content from dividend payment or changes, dividend increase will have a positive information content, which will lead to bond price increase, while the dividend decrease will have a negative information implication for the bond price and yield change, which will lead to bond price decrease. The sample of dividend announcement will be divided into dividend increase group and dividend decrease group, which will have different information implication and expect different bond price and yield changes following dividend announcement. Corporate bond price responses from these different sub-sample groups are compared to test the signaling and wealth transfer hypothesis.

The methodologies in previous studies are mainly standard univariate benchmark comparison event study approaches. In addition to the univariate analysis, this paper also uses multivariate regression analysis on the corporate bond yield prior to and after the event, to see if investors adjust their expectations on firm's performance and required rate of return on bonds around dividend announcement. Dividend payout or increase can be a signal of optimistic future prospects to the investors about the future company performance and will reduce the required rate of return for bond holders and lead to bond price increase. In contrast, wealth transfer hypothesis suggests dividend payout would reduce the cash holdings of the company that can be used to secure the debt payback, which will increase the credit risk faced by bond holders and increase their required rate of returns and thus lead to bond price decrease. If we observe a significant increase in the bond price following announcement of dividend payout or increase, then it will be a piece of evidence supportive of signaling hypothesis. If we observe a significant decrease in the bond price following announcement of dividend payout or increase, then it will be a piece of evidence more consistent with wealth transfer hypothesis.

A multivariate regression approach is adopted in this paper to test the impact of dividend change announcements on the bond yields of the companies that make the dividend changes. In this approach, a dummy variable is used to distinguish if there is any intercept or slope change to the corporate bond yield or earnings performance of those dividend change companies following a stock dividend change. Since different

firms' time series data are pooled together to run the regression, an ordinary least square (OLS) regression method can no longer be used because OLS estimators would be biased and inconsistent due to an omitted variable problem. This paper uses the fixed effects approach of panel data. The model used is the least squares dummy variable (LSDV) model of panel data $y_j = X_j\beta + j\alpha + \varepsilon_j$ or $y = X\beta + D\alpha + \varepsilon$, where X is a k by NT matrix and has K regressors in it; D is an NT by n matrix and has N dummy variables with each variable indicating the jth firm. This amounts to running an OLS regression using the transformed data $X^* = M_D X$ and $y^* = M_D y$,where $M_D = I - D(D'D)^{-1}D'$. The least square estimator of β is $b = [X'M_D X]^{-1}[X'M_D y]$.

The event dummy variable is included in the regression to detect if there is any intercept or slope change in the performance of those dividend change companies in addition to the upward/downward time trend in performance that could already exist for these companies even without the dividend changes. Three regressions are estimated for the companies that make dividend increase/decrease announcements. In the first regression, corporate bond yield spreads are regressed on the stock dividend change event dummy variable, which is 0 prior to the event and 1 after the event, along with other variables that have been found relevant in determining the bond yield spread, such as Treasury bond yield, Moody Corporate Bond Index, stock price and time to maturity[1].

EMPIRICAL RESULTS

Regression Analysis on Corporate Bond Yield Spread

The bond yield spread is calculated as the yield difference of the corporate bonds over the Treasury bond with a matched maturity: $\text{Spread} = Y_t^{Corporate} - Y_t^{Treasury}$, where $Y_t^{Corporate}$ is corporate bond yield at period t, $Y_t^{Treasury}$ is the Treasury bond yield with a matched maturity. Both corporate bond yields and yield spreads are used as the dependent variables in the regressions. Also included in the regressions are control variables that have been found to have explanatory power on corporate bond yields. The current interest rate, corporate bond market movement, the time to maturity and the credit risk of the company are not all directly observable, so three variables are used as proxies. The long-term Treasury bond yield is used as a proxy for the interest rate changes, the BAA corporate bond index proxies for the overall corporate bond market movements, and the stock price proxies for the credit risk of the firm[2]. We estimate the following regression equations to capture the effect of the dividend increase/decrease announcement on corporate bond yields:

$$Yield_{jt} = a + b * TBond_t + c * MoodyIndex_t$$

[1] See Fama and French (1993), Duffee (1998), Campbell and Taksler (2003) and Longstaff, Mithal and Neis (2005) for a discussion of these variables that explain corporate bond yields.

[2] We also use stock volatility as a proxy for credit risk in the regression of bond yield spreads. These results are similar to using the stock price as the proxy and are available upon request.

$+ d * Stockprice_{jt} + e * Maturetime_{jt} + f * EventDum_{jt} + \varepsilon_{jt}$

where $Yield_{jt}$ is the corporate bond yield spread for firm j at time t; $TBond_t$ is the yield of long-term treasury bonds at time t; $MoodyIndex_t$ is the BAA Moody corporate bond index level at time t; $Stockprice_{jt}$ is the stock price of firm j at time t; $Maturetime_{jt}$ is the time to maturity of the bond for firm j at time t; $EventDummy_{jt}$ is the dividend announcement indicator variable, which is 0 before and 1 after the dividend announcement; ε_{jt} is a disturbance term.

Next the corporate bond yield and yield spreads are regressed on the dividend announcement event dummy variable. To compare the performance of these corporate bonds around the announcement date, both the bond yield and the spread are employed separately as dependent variables in the regression since the yield spread is not as influenced by any interest rate changes or inflation rate changes compared to the bond price or bond yield. The announcement date of the dividend announcement as reported in CRSP is used as the event date. Other explanatory variables included in the regression are controls for interest rate changes, any corporate bond market movement, the time to maturity and the credit risk of the firm. The regressions are then estimated to capture the effect of the intercept and slope changes on the corporate bonds. Both bond yields and yield spreads within one year before and one year after the stock dividend change announcement date are separately used as dependent variables and their results show a similar pattern[3]. Because of the similar results, only the regression results of the bond yield spreads. The regression results for sample of dividend increase are reported in Table 3.

Table 3 presents the coefficients and t-statistics of the following regression on the corporate bond yield spread of companies that announce dividend increase during the the 1995-2008 period: (Sample size 308 firms)

Model: $Yield_{jt} = a + b * TBond_t + c * MoodyIndex_t$

$+ d * Stockprice_{jt} + e * Maturetime_{jt} + f * EventDum_{jt} + \varepsilon_{jt}$

Table 3: Corporate bond yield spread regression for dividend increase firms.

Regressor	**Cef**	**T-stat**	**P-value**
Constant	-1.23	-16.73***	0.00
TBond	-0.907	-131.55***	0.00
MoodyIndex	0.712	106.75***	0.00
StockPrice	0.479	31.15***	0.00
MaturityTime	0.018	1.70*	0.15
EventDummy	-0.02	-4.87***	0.00
R-square	0.17		
No of Obs	103,827		

[3] The bond yields and yield spreads within shorter horizon are also used as dependent variables, such as 1-month and 3-month period prior to and following the stock dividend changes, and the regression results (available on request) demonstrate a similar pattern and statistical significance.

***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.
The t-statistics of event dummy variables in Table 3 are significantly negative and these regression results indicate that corporate bond yield spreads significantly decrease after a stock dividend increase announcement. These results indicate that investors' have adjusted their required rate of return on corporate bonds following dividend increase, supporting the notion that bond investors take dividend increase as a positive signal about the future prospects of the company. The event dummy variable is significant, indicating that corporate bond yield spread decreases after the announcement about the dividend increase. Such a pattern is supportive of the positive information content of dividend increase and the signaling hypothesis.

The regression results for sample of dividend decrease are reported in Table 4. The t-statistics in the table are significantly positive and these regression results indicate that corporate bond yield spreads significantly increase after a stock dividend decrease. These results indicate that investors' have adjusted their required rate of return on corporate bonds following dividend decrease, showing that bond investors take dividend decrease as a negative signal about the future prospects of the company. The event dummy variable is significantly positive and it indicates that the required rate of return by investors on the corporate bonds of the company decreasing their dividend payment rises. Such a pattern is supportive of the negative information content of dividend decrease and the signaling hypothesis.

This table presents the coefficients and t-statistics of the following regression on the corporate bond yield spread of companies that announce dividend increase during the period 1995 to 2008: (Sample size 135 firms)

Model: $Yield_{jt} = a + b * TBond_t + c * MoodyIndex_t$
$+ d * Stockprice_{jt} + e * Maturetime_{jt} + f * EventDum_{jt} + \varepsilon_{jt}$

Table 4: Corporate bond yield spread regression for dividend decrease firms.

Regressor	**Cef**	**T-stat**	**P-value**
Constant	-0.676	-3.20***	0.00
TBond	-1.245	-61.58***	0.00
MoodyIndex	1.127	55.84***	0.00
StockPrice	0.173	4.06***	0.00
MaturityTime	0.031	1.27	0.21
EventDummy	0.079	6.40***	0.00
R-square	0.08		
No of Obs	46,173		

***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Univariate Tests and Abnormal Returns

To compare the methodology and results with those in the previous literature, a standard event study methodology is also used to calculate abnormal bond returns around stock dividend change announcements. To calculate the abnormal returns for bondholders around stock dividend change announcements, the mean-adjusted return model that accounts for changes in the term structure is used. The abnormal change in bond prices is calculated as the difference between the returns of straight bonds and their matching Treasury bonds with similar remaining maturities. In the calculation of abnormal returns for bonds, there are two specific problems: (1) bonds are traded infrequently, and (2) their returns are influenced by changes in the term structure of interest rates. Holding period returns are calculated between two trading days. The resulting time series are mixtures of daily and multiple-day returns and thus we need to adjust for the effects of the term structure of interest rates. In short, the return on a Treasury bond (with the closest maturity and coupon rate) is subtracted from the measured returns of each corporate bond over the same holding period and any differences are designated as premium bond returns. Premium bond returns are assumed to follow a stationary process. All testing procedures are performed on this series.

The mean-adjusted returns methodology is used to analyze bond returns. The Comparison and announcement period returns are estimated for a 15-day period before the announcement (day -17 to day -3). The comparison period is the P days before the announcement (P=15 is used in the paper). Let n be the number of days between reported bond trades. The number of days between trades will vary with time, of course, but we suppress the time subscript on n.

To adjust for changes in the term structure of interest rates the adjusted bond returns ($ABR_{i,n}$) is calculated as follows: $ABR_{j,n} = BR_{j,n} - TBR_{j,n}$, where $BR_{j,n}$ is the bond holding period return for firm j over n days and $TBR_{j,n}$ is the return over the same holding period for an equivalent Treasury bond. The mean of the comparison period returns ($R_{j,cp}$) for bond j is then: $R_{j,cp} = \frac{1}{K-1} * \sum_{cp} (\frac{ABR_{j,cp}}{n})$

where $ABR_{j,n}$ is divided by n to give a daily return, q is the number of recorded trades for bond j over the comparison period, and $\sum_{cp}$ means sum over the K-1 returns in the comparison period. This equation is equivalent to equation (6) of Handjinicolaou and Kalay (p.44). The standard deviation (S_j) of the daily adjusted bond returns for bond j is:

$$S_j = \{\frac{1}{K-2}[\sum_{cp}(\frac{ABR_{j,n}}{\sqrt{n}} - R_{j,n}\sqrt{n})^2]\}^{0.5}$$

This expression is equivalent to equation (7) of Handjinicolaou and Kalay. The standardized daily excess return ($SER_{j,t}$) for firm j on day t is then:

$$SER_{j,n} = \frac{(ABR_{j,n} / \sqrt{n}) - R_{j,n}\sqrt{n}}{S_j}$$

Equally weighted portfolios of bonds are formed for each day by combining the standardized daily excess returns ($SER_{j,t}$) for each traded bond. The mean portfolio standardized excess return for day t is: $SMER_t = \frac{\sum_j SER_{j,t}}{N_t}$ where N_t is the number of bonds trading on Day t. Assuming that the individual standardized excess bond returns are independent through time and normally distributed, the appropriate test statistic had a Student t-distribution as given by: $t = \frac{SMER_t}{\sqrt{N_t}}$

In Table 5, the t-statistics of the univariate analysis of the corporate bond abnormal returns for companies that dividend change their stocks during the period 1995 to 2008 are reported. The corporate bonds of companies that have a stock dividend decrease have significantly negative abnormal returns within 2 days after the announcement date, whereas the corporate bonds of companies that announce a stock dividend increase do not experience statistically significant returns. Such a pattern is consistent with the signaling effects negative information from stock dividend decrease that has been reported in the earlier part of this paper from multivariate regression analysis. The result on the dividend increase is not necessarily inconsistent with the positive information content from the stock dividend increase as the positive information content might be offset by the negative impact on the bond price from the wealth transfer effect.

Table 5 presents the t-statistics of the univariate analysis on the abnormal returns of corporate bonds prices of companies that have stock dividend increase or decrease events during the period 1995 to 2008:

Table 5: Univariate statistics on corporate bonds and stock returns.

Panel_A. Dividend Increase				
Time	**Bond Returns**	**T-stat**	**Stock Returns**	**T-stat**
[Day 0]	-0.0297	-0.4083	0.2141	1.785
[Day 1]	0.0577	0.7179	0.2643	2.511**
[Day 2]	-0.1214	-1.9127*	0.3477	3.183***
[Day 0-1]	0.0281	0.3484	0.4784	2.065*
[Day 0-2]	-0.0933	-0.9454	0.8261	2.418**
Panel_B. Dividend Decrease				
Time	**Bond Returns**	**T-stat**	**Stock Returns**	**T-stat**
[Day 0]	-0.1915	-2.098**	-0.079	-0.2696
[Day 1]	-0.0942	-1.0319	0.038	0.1069

[Day 2]	0.0508	0.5565	-0.23	-0.9365
[Day 0-1]	-0.2857	-2.2132**	-0.041	-0.077
[Day 0-2]	-0.2349	-1.4858	-0.271	-0.459

***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

CONCLUSIONS

This paper uses the price and yield information from the corporate bond market and finds evidence of information signaling effect around the announcement of dividend increase and decrease. The companies that announce dividend increase experience increase in their corporate bond price and decrease in the bond yield, whereas the companies that announce dividend decrease experience decrease in their corporate bond price and increase in the bond yield. The results in this paper are broadly consistent with the general predictions of dividend signaling models such as Bhattacharya [4], John [6], and Miller [5]. Our results differ from those of Dhillon [2] results on dividend decrease sample are consistent with those of Handjinicolaou [1] but dividend increase sample results are different. The differences in our results compared to the previous literature may come from the dividend payout and information pattern change in post 1990 period or the use of daily data and larger sample size compared to the previous studies.

This study finds that bond price goes up (down) following the announcement of dividend increase (decrease), which suggests that bond investors perceive information content from stock dividend changes. Our results also how that bonds provide a different perspective to test competing hypotheses associated with corporate events that can't be distinguished directly with the test on stock returns. The results support that the negative information content of dividend decrease and does not show strong wealth transfer effect. The bond yield and spread change of dividend increase sample show positive information effect but the insignificant abnormal bond return from the dividend increase sample might be due to the offsetting of positive information and the wealth transfer effect. The bond event study approach may be useful in examining other corporate finance events announcements and help provide alternative evidence to examine competing hypotheses. Such results may shed new light on the explanation of abnormal stock price responses to dividend changes announcements and the information contents of such announcements to the company shareholders and bondholders. One limitation of this study is that it only examines the short-term bond price responses following dividend changes and has not looked into the long-term performance of corporate bonds after dividend changes. Further study in this direction could yield promising results.

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