Erasmus University Rotterdam
Erasmus School of Economics
Master Thesis Financial Economics

Stock valuation effects of bond announcements for financial firms based on dividend and growth

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17 December 2009

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Abstract

We examined the effect of bond announcements on the stock price of financial companies. Two theories are important to explain possible effects. The first theory is the free cash flow theory used by Jensen (1986). In this theory new issuances of debt imply new control mechanisms for shareholders. The second theory is the cash flow signaling theory by Ravid and Savig (1991). For this theory new issuances imply a larger total commitment package of cash outflows for firms in the future. Empirical research for nonfinancial companies by Johnson (1995) follows the free cash flow theory. We used two-day excess returns to calculate the effects of bond announcements. The theory by Jensen does not hold for our results, but the results are in line with the theory by Ravid and Savig. Regression results show both growth and dividend as important determinants to explain the effects of bond announcements. As a sidestep we researched the underwriting of bond issuances. We did not found a significant book runner effect.

Key words

Bond announcements, stock valuation effects, free cash flow theory, cash flow signaling theory, book runner effect.

Acknowledgements

This way I would like to thank my thesis supervisor Mr. Remco Zwinkels for his support and helpful comments throughout the process of writing the master thesis. I also would like to thank my family and friends for their support, not only during the period of writing the thesis, but throughout the entire period of studying.

Content

1. Introduction

Firms can finance themselves either by directly or indirectly, as seen in Levine (1997). Indirect finance involves a financial intermediary for financing. The financial intermediary pools the surplus of funds of many lenders to re-lend to borrowers at a mark-up cost. Frequently used are bank loans, which pool surplus of different accounts and have borrowers using those funds at a rate with a mark-up above the cost of the funds. Many companies use both indirect finance by using banks for a credit line and direct finance by being stock listed and issue bonds. We only research the direct side of a firms financing ability. This paper is concentrated on finance without a financial intermediary, on securities sold directly into the market. The securities we focus on are shares and bonds. Firms can use both securities to access the capital markets, and so create new or additional capital resources. Most companies with a stock listing are also involved in bond issuances to finance externally. This paper researches the influence of announcing issuance of bonds on the firm's share price. Earlier empirical research shows a significant influence of announcements on stock prices (Johnson (1995)). First we will explain two theories that could help to explain the relationship between shares and bonds. After the explanation we will use the empirical study by Johnson to compare our results with.

There is substantial theoretical and empirical information to explain the subject of announcement effects. The first theory is the free cash flow theory, based on the work of Jensen (1986). Free cash flows is the amount that is left after all projects with a positive net present value are financed. The risk of substantial free cash flows is that managers use the cash flows for purposes that are not interest of the firm. A study by Donaldson (1984) concludes that managers are not driven by maximizing the value of the firm, but rather by maximizing "corporate wealth" or the aggregate purchasing power of the firm. This implies that the agents or corporate managers could make decisions that are not in the interest of the shareholders. To lower free cash flows and avoid a conflict of interest between agent and principal, a firm can decide to pay out dividend or issue debt. The cash outflows implicated by those decisions can substantially lower the free cash flows. The payments on those securities, dividend on shares and interest on debt, are monetary substitutes for lowering free cash flows. The only difference between the agents' decision to increase either debt or dividend is that an increase in dividend is easier to rewind for a firm in the next year. To rewind a debt issuance is nearly impossible as investors want a steady stream of interest payments instead of an early repayment of the principal. Not only the firm can decide to

commit to future cash outflows. Also principals can pressure the agents of the firm to pay out cash. The power of minority shareholders to get the firm to commit to cash outflows is dependent on the law system. As research by La Porta et all (2000) shows, minority shareholder rights are stronger in countries using a common law system. This system is used in Great Britain, the United States and most former British colonies. In this outcome model for countries using common law, dividends are paid because minority shareholders pressure corporate insiders to disgorge cash. In those countries, minority shareholders do have the power to influence the firm's agents. In countries using a different law system, called civil law, La Porta finds a substitute model where insiders pay dividends to get a reputation for the firm to threat minority shareholders decent. Civil law is used in Western Europe, Asia and South America. The power of shareholders in those countries is much less than in common law countries. The ability to lower cash flows therefore also depends on the country the company is incorporated. Jensen also finds cash flow control by debt or dividend especially helpful for firms that generate large cash flows but have low growth prospects. There is more serious pressure in those firms to waste cash flows on projects with negative net present value. Dividing companies by growth ratio is something we see in Johnson's research as well.

The theoretical framework of Jensen is supported empirically by Lang and Litzenberger (1989), as they find a negative relation between share price effects of dividend changes and investment opportunities. Their research uses Tobin's Q to find overinvestors. If Tobin's Q is less than unity, firms can be marked as overinvestors. Those overinvestors fit into Jensen's framework as companies with few investment opportunities and substantial free cash flows. Lang and Litzenberger find an average return for announcement of large dividend changes that is significantly larger for firms with a Tobin's Q that is less than unity. So firms that overinvest, because of few opportunities, benefit more from increasing their dividend. This is consistent with the cash flow theory, as it gives shareholders an extra mechanism for controlling the free cash flows. Also research based on debt instead of dividend shows consistency with the cash flow theory. Opler and Titman (1993) find firms that increase leverage by a leveraged buyout have unprofitable investment opportunities. The steady stream of interest payments they create by a leveraged buyout lowers the free cash flows. They find that especially firms with a low Tobin's Q and large free cash flows are more likely to undergo a leveraged buyout. The research of Opler and Titman (1993) is also consistent with the free cash flow theory. Conflicting with theory that dividend and debt provide free cash flow benefits can be found in Eckbo (1986) and Shyam-Sunder (1991). Eckbo (1986) does not find significant excess returns for common stocks on issuing straight debt. Although an

increase in leverage could provide free cash flow benefits, Eckbo only finds insignificant results for the total sample and even significant negative excess returns for increased leverage for utility firms. Shyam-Sunder (1991) also does not find a significant stock price reaction for the announcement of straight debt issues. Even selecting bond issues by risk factor (rating) does not give significant results on the stock price.

The second theory that is useful to built our research on is the cash flow signaling theory. The framework we use for this theory is research by Ravid and Savig (1991). They find debt and dividend information equivalents as they are both commitments for the firm in paying future cash outflows. Cash outflows must be seen as a "total commitment package" for the firm in the future. So the equivalents are not used to reduce cash flows, as in the first theory, but rather as a commitment and therefore a signal for the quality of the firm. In Proposition 4 of the paper by Ravid and Savig, they find an increase in both dividend and debt in the total commitment package is most useful to achieve signaling better quality of the firm. In other words, the higher leverage and dividend, the better signal it gives to the market in terms of quality of the firm. Announcements of more leverage, as we research in this paper, should lead to excess returns for the firm as their commitment package grows larger. This should be especially the case for firms that already have a large dividend payout ratio.

Empirical evidence on dividend signaling is found in Healy and Palepu (1988) and Kao and Wu (1994), as they find a positive relation between dividend changes and changes in future earnings. Healy and Palepu (1988) conclude that dividend increases implement earnings increases in both the year before and the two years after the dividend increase. By researching firms that either paid dividend for the first time or omit dividend after ten years of payment, they find that dividend initiations or omissions provide incremental information on the firm's future earnings. A raise of dividend therefore signals a better quality firm and is consistent with the cash flow signaling theory. Kao and Wu (1994) also find a positive relation between the abnormal (unexpected) dividend and the expected and unexpected permanent future earnings of the firm. They conclude that dividend changes reflect management's view of the future earnings prospects. In other words, the higher the abnormal dividend, the better the expectations of the management about the firms' future.

Both the free cash flow theory and the cash flow signaling theory are useful to explain results of our research as well as the empirical study by Johnson (1995). His study we use to compare our empirical results with. In this paper we research the announcement effect of bond issues on market share prices. Study on this subject has been done before by Johnson (1995) on 129 straight debt issues for nonfinancial companies in the period between 1977 and

1983. Johnson argues that share price response could be significantly positive for straight debt issues. This contradicts with previous studies who did not found a significant relation. Only Johnson makes a distinction based on dividend payout ratio. He makes a selection between low and high dividend payout ratio firms. The argument behind the distinction is that both in free cash flow as well as signaling theory dividend and debt are substitutes. In Johnson's words, the marginal product of one is dependent on the input level of the other. As dividend is assumed fixed here, we take the marginal product of debt. Low dividend payout firms are more in need for a control mechanism than firms with a high payout ratio. High payout ratio firms already have better free cash flow control by the firms' payments of dividend.

A further distinction Johnson makes is a selection between low growth and high growth firms. Growth is defined as the growth in sales, averaged over a five year period. Consistent with Jensen (1986), the control function of debt is more important for low growth firms. As low growth firms have less profitable investment opportunities than high growth firms, control over free cash flows is valued higher for low growth firms. High growth firms need financing for investment opportunities and visit the capital market more often than low growth companies. Because capital market visits gives the opportunity to monitor, high growth firms do not have as much need for control mechanisms of free cash flow as low growth firms. This is described by both Rozeff (1982) and Easterbrook (1984). Johnson only finds excess returns for bond announcements in the group of low dividend- low growth firms. This is consistent with the free cash flow theory, in which an extra control mechanism by leverage would be extra valued for this group.

Our research is based on the framework of Johnson in his classification on growth and dividend. We try to find matching conclusions based on our sample. Although we also use straight debt issues and exclude convertible debt, there are differences between the study of Johnson and our research. Those differences could provide extra insights into the effects of bond announcements. First, Johnson's research is focused on nonfinancial companies. Our sample is based on financial companies to look for similarities and differences between the sorts of companies. Financial companies differ from nonfinancial companies in terms of leverage. Leverage ratios, especially for banks in the last period before the financial crisis could hit extreme heights (leverage ratios of 50:1 were not uncommon). Still, in our opinion comparing results for financial companies with nonfinancial companies based on Johnson's framework could be useful. The second difference is the sample period which differs from Johnson. Our research period is after 2000, while Johnson's research takes place in the 1990s. This could generate some additional differences in terms of market weather and the

development of the financial world. It is an interesting period because it is situated between two specific economic and financial events. The first event is the internet bubble and subsequent fall of dotcom and related shares in 2000 and 2001. The second is the subprime crisis which started at the end of 2007.

In general, we find no positive excess return significant from zero for our full sample. This is consistent with the articles of Eckbo (1986) and Shyam-Sunder (1991). It is also consistent with the article of Johnson, who did not found a significant excess return for the full sample. If we divide observations according to both dividend payout ratios and growth rates, we find values that contradict with regard to Johnson. Significant positive returns are found in the high growth group, the high dividend group and the combined high dividend-high growth observations. Explanations for those results must be found outside the paper of Johnson as those made by Johnson for nonfinancial companies are not valid for financial companies. Explanations for the results will not be found in free cash flow theory, as it contradicts with Johnson, but rather in signaling theory. As a large dividend (change) signals positive future earnings prospects and therefore a good quality firm (Healey and Palepu (1988)), investors are prepared to value an increase in leverage higher than a low quality firm. More leverage makes the total commitment package (Ravid and Savig) larger and the signal of a good quality firm is more eminent. Results pending on a classification of dividend only show significant positive results for high dividend payout observations. Also classification based on growth rates only show significant positive returns for high growth observations. Growth must be financed and extra leverage enlarges the commitment package. As the commitment package of high growth firms is already larger than low growth firms (by growth financing), extra leverage will be valued higher for high growth firms (see Proposition 4 of Ravig and Savig).

We make an event study to find excess returns for financial firms. We also make several regression analyses to find determinants to explain the excess returns. Both dividend and growth are important determinants to excess returns due to their significance found in the regression results. Economic explanations for their significance are found in the cash flow signaling theory by Ravid and Savig. Both determinants show a positive relation with excess return and are viewed as extra commitments of future outflows for the financial firms.

Additional to researching the valuation effects of bond announcements for financial firms we try to find a book runner effect. A book runner in financial terms is a financial firm that leads the underwriting process attached to a bond issuance. A financial firm can either do it themselves or approach another bank to be the lead manager. The book runner effect means

some underwriting firms could be viewed more positive by the market. Furthermore, giving the underwriting process away to another firm could be regarded as signaling device for loss of confidence in its own underwriting business. A lack of previous studies on the book runner effect makes it hard to compare. Still, it is an interesting variable as dummy to test and could be a driver for excess return. After the regression analysis, we do not find a significant book runner effect in the sample. Although regression analysis used to research the effect derived some interpretable outcome, none is significant at the used (significance) levels.

In section 2 we discuss data and methodology. Section 3 presents the event study and determinants (regression analysis) and we also make a side step to research the "book runner" effect. Section 4 concludes.

2. Data and methodology

Data

A list of bond announcements is generated through Bloomberg. First we look for bond issuances by banks in both Europe and the United States in the period between 2000 and 2008. We used this period because bond announcement effects on valuation of shares have not been done for this period before. The narrowing of the period left us with a list of thousands of bonds. To narrow the sample down to a more appropriate size, we only took issuances for which Bloomberg has relevant information available on dividend payout ratio, growth ratios and announcement dates. Banks also had to have a considerable market capitalization (at least 10 billion in local currency). We use only banks with a considerable market capitalization so we can assume using nationwide banks. Furthermore, in terms of liquidity, larger banks are better comparable to each other. After narrowing down, still 2542 bond issuances were left, divided between Europe (1397) and the United States (1145). The following distinction was to only use bonds issued in homeland currency, which meant issuances in dollars for US banks and Euros for European banks. We use only bonds in homeland currency, so we can compare the offering size of the bond relative to the market capitalization of the bank. This way we also exclude exchange rate risk by using comparable currencies. This left a sample of 272 bond issuances, divided between Europe (108) and US (164). In the sample were eleven different banks, of which six are American (Bank of America, Citigroup, Goldman Sachs, JP Morgan, Morgan Stanley and Wells Fargo) and five are European (Caylon/Credit Agricole, BNP Paribas, Deutsche Bank, Banco Santander and Societe Generale).

Descriptive statistics on the financial firms at announcement date used in the sample are provided in Panel A of Table 1. In Panel B, descriptive statistics of the sample are divided between low dividend payout firms and high dividend payout firms.

TABLE 1

Descriptive statistics for financial institutions announcing 272 bond issues in the period 2000-2008

Panel A. Full sample (N=272)

Variable	Mean	Median	Minimum	Maximum
Firm size (US banks in $MM) [a] (N=164)	107668.5	101393.6	12053.5	258901.2
Firm size (EU banks in €MM) (N=108)	48570.3	46969.8	22603.9	88998.6
Log firm size (US banks)	10.98	11.01	10.08	11.41
Log firm size (EU banks)	10.66	10.67	10.35	10.95
Offering size [b] / firm size	0.006233	0.000897	0.000004	0.063418
Maturity	6.23	5.00	1.00	44.05
Dividend payout ratio [c]	3.20	3.06	0.55	11.04
Average 5yr growth rate [d]	13.83	12.67	-3.95	76.00

Panel B. Mean values for sample classified by dividend payout [e]

Variable	Low dividend payout firms (N=136)	High dividend payout firms (N=136)
Offering size/ firm size	0.008493	0.003974
Maturity	7.33	5.13
Average 5yr growth rate	13.87	13.78

N is the sample size

a Firm size is defined as the market capitalization at the bond announcement date.

b Offering size is the total value of the bond issue.

c Dividend payout ratio is defined as dividends/ net income. The dividend payout ratio used is the three year average dividend payout ratio for the years preceding the bond announcement. Low dividend payout firms are below the median value of the ratio, high dividend payout firms are above the median value.

d Average 5yr growth rate is average rate of sales growth in the five years preceding the bond issue.

e Classification is based on the median value of dividend for the full sample.

A conclusions drawn from the statistics in Table 1 is the large market size of American banks compared to European banks. The market value of American banks is almost twice the value of European banks in absolute terms. Of course the dollar/euro rate is not equal to one, but

still there is a big gap between the firm's market values. Furthermore, the offering size relative to the market capitalization is small compared with values of Johnson, which had a mean value of 0.25. This could be explained by the relatively large market capitalization of financial firms relative to nonfinancial firms. Logarithms values of market capitalization are put in Table 1, because those values will be used in the regression study. The maturity of the bonds has a mean value of 6.23 and a median of 5.00. Maturity is a determinant that will be used in the regression analysis. The maturity value of 6.23 is relatively short as it is not uncommon for banks to issue debt for 20 years or longer.

Please note that we use the value of the offering size/ firm size in the regression study, but will multiply it in that study by 100 to make the value more readable.

Classification by dividend payout ratio is made because dividend is a central variable like growth, as mentioned in the introduction. Classification is made on a median value. All issuances and their ratio below the median value are classified as low dividend payout firms and above median value as high dividend payout firms. Dividend is defined as the average three year dividend payout ratio in the years preceding the bond announcement. Growth is defined as the average five year growth ratio in sales preceding the announcement.
In Panel B we use some of the variables to compare between low dividend and high dividend observations. Only significant difference is the ratio of offering size divided by firm size. An explanation for the low ratio of the high dividend observations can be that high dividend paying firms are better valued in the market and have therefore have a lower ratio compared to their market capitalization. Contradicting is the fact that firms that pay higher dividends need more and larger issuances (capital visits) to finance the dividend and should have a higher ratio.

Because we have multiple observations for each firm in different years, we have different values for dividend payout ratio and growth rate per observation. Still, as not every observation embodies a single company in our sample, we rename firms in the context of dividend and growth into observations. At every table we include values, p-values and significance on 0.10, 0.05 and 0.01 level.

Methodology

The event study used to calculate the excess return is based on the CAPM model following the formula

$$ARit = Rit - (\alpha i + \beta i Rmt)$$

for *Rit* is return of the firm *i* on day *t* and αi and βi are market model parameters. CAPM is used to adjust for basic CAPM beta risk. For the benchmark Rmt we use the S&P 500 Financial Index, as it closely resembles the overall financial sector in both up and downward movements. This index is a capitalization-weighted index . It includes companies involved in banking, consumer finance, investment banking and other financial services. In our opinion, this index is the best index to use as a benchmark to calculate excess returns for banks. We did not use separate benchmarks for US and European banks, as it makes results between banks less comparable. To calculate market model parameters I use a pre event estimation period from 170 days before the announcement date to 20 days before the announcement date, giving a 150-day period. Differences between pre event and post event estimation periods are small according to Johnson (1995).

Empirical results can be split in two steps. First we make an event study to calculate excess returns. For the calculation of firm return, I use the total two-day return and make it comparable by assuming an equal return divided over both trading days after the actual bond announcement. We do it based on equal returns because it gives a better comparison of the real return in two days than using the average of two single day returns. The second step is the regression analysis. We do several analyses to find different determinants to explain the excess returns. In the regression analyses, we make several distinctions based on growth, geographical region and even individual banks. To find p-values, we test values to be significant from zero. We include three significance levels, at 0.01, 0.05 and 0.10. In the cross-sectional regressions with excess returns as the dependent variable we adjust for heteroscedasticity by using a White-test.

3. Results

Event study results

In this section we will discuss results on the event studies. In Table 2 we show the calculated two-day excess return for both the full sample and different classifications. As seen with Johnson, the total sample is insignificantly different from zero. This result is also found in event studies by Eckbo (1986) and Shyam-Sunder (1991). Although it has a positive number, the p-value is too large to be significant. What matches Johnson's research is the significance found when dividing by dividend and growth. If we classify by dividend we see a significant positive return of 0.16% on a 0.05 level. This outcome does not correspond with previous nonfinancial firm research. Also, classification based on growth shows a positive and significant value for high growth observations. Again this does not correspond with Johnson and other bond announcement studies. So both classifications do deliver significance, but only opposite to Johnson. Instead of positive and significant results for low growth and low dividend observations, we find those results for high growth and high dividend observations. Logically, divided between dividend and growth, only the group with a high dividend ratio and high growth rate show a significant and positive two excess return of 0.33% with a p-value of almost zero.

TABLE 2

Daily equal two-day excess return (in percentages) for 272 straight bond announcements in the period 2000-2008

Panel A. Full sample

0.0550
(0.2054)
〔0.0109〕
{51.1; 272}

Panel B. Classified by dividend payout	Low dividend	High dividend
	-0.0573	0.1673 ++
	(0.7323)	(0.0405)
	〔-0.0390〕	〔0.1002〕
	{45.6; 136}	{56.6; 136}

Panel C. Classified by growth [a]	Low growth	High growth
	-0.0413	0.1513 +
	(0.6787)	(0.0641)
	〔-0.0858〕	〔0.1396〕
	{43.4; 136}	{58.8; 136}
Panel D. Classified by dividend and growth	Low dividend	High dividend
Low growth	-0.0797	-0.0029
	(0.8095)	(0.5076)
	〔-0.0694〕	〔-0.0902〕
	{39.7; 68}	{47.1; 68}
High growth	-0.0350	0.3375 +++
	(0.5856)	(0.0013)
	〔0.0257〕	〔0.2182〕
	{51.5; 68}	{66.2; 68}

First mentioned are calculated excess returns. P-values are in parentheses. Median two-day excess returns are in brackets. In braces is the percentage of positive returns and the sample size.

+	Significantly different from zero at 0.10 level
++	Significantly different from zero at 0.05 level
+++	Significantly different from zero at 0.01 level

[a] Low growth firms have a growth ratio beneath the median value, high growth firms have a growth ratio above the median value.

We can assume financial companies differ from nonfinancial companies with the perspective of excess returns on bond announcements. We find positive daily excess return for high growth observations (0.17%), high dividend observations (0.15%) and for the combined high growth-high dividend group (0.34%). All these results are contradicting the results of Johnson. Overall we see a difference between financial and nonfinancial companies. To check results on our sample, we take the low dividend- low growth firms found significant on Johnson research and correct for (extreme) negative outliers. By that act, the sample size is reduced from 68 to 65.

TABLE 3

Average two-day excess returns (in percentage terms) for the subgroup with low dividend and low growth corrected for extreme negative outliers

0.0182
(0.3994)
〔-0.0530〕
{41.5; 65}

First mentioned are calculated excess returns. P-values are in parentheses. Median two-day excess returns are in brackets. In braces is the percentage of positive returns and the sample size.

+	Significantly different from zero at 0.10 level
++	Significantly different from zero at 0.05 level
+++	Significantly different from zero at 0.01 level

Although the average excess return is positive now, still significance is not found. We can conclude that even correcting for (extreme negative) outliers does not provide similar results as Johnson on nonfinancial companies. After the results, we can say that dividing by growth and dividend based on the free cash flow theory is not relevant in the case of financial companies.

We also examined correlation in between the main indicators dividend and growth. Both indicators are used by Johnson to distinct between the different nonfinancial firms. A high correlation between both indicators could be misleading for results. As the above mentioned article of Rozeff (1982), he argues there should be a negative correlation between dividend and growth. Investment opportunities imply firms need cash to finance these opportunities and lower dividend to avoid external financing. In Table 4, we used both the full sample as well as subgroups.

TABLE 4

Correlation between indicators growth and dividend

Panel A. Full sample		
(N=272)	-0.02113	
Panel B. Classified by dividend payout	Low dividend	High dividend
	-0.03921 (N=136)	-0.01969 (N=136)
Panel C. Classified by growth	Low growth	High growth

	0.20174 (N=136)	-0.11702 (N=136)
Panel D. Classified by dividend and growth	Low dividend	High dividend
Low growth	0.42872 (N=68)	-0.02656 (N=68)
High growth	-0.12704 (N=68)	0.04482 (N=68)

The full sample shows a low and negative correlation. Also divided into the different groups correlation shows small, either positive or negative values. As values are not on a level to conclude significant correlation between the two variables, we do not debate these correlations any further.

Determinants

In this section, we make several cross-sectional regressions with excess return as the dependent variable and several different variables as independent variable to calculate the influence of those variables on the excess return. We try to find the different determinants that influence the excess returns of bond announcements. The first regression is based on the independent variable dividend payout ratio. The dividend payout ratio is used as a value as seen in Table 1 and also a logarithm of the value is taken as an independent variable in the regression. The regression on those two values is made on the full sample, as well as separated for low and high growth examples. We use the logarithm for the same reason as Johnson, to attenuate the effect of large values of dividend payout and to allow for nonlinear relationship.

TABLE 5

Results of cross-sectional weighted least squares regressions of two-day excess returns on dividend payout variables for 272 bond announcements in the period 2000-2008

Panel A. Independent variable is LOGDIV

	(1)	(2)	(3)
	All firms (N=272)	Low growth observations (N=136)	High growth observations (N=136)

Intercept	-0.165489 (0.3080)	-0.200055 (0.3815)	-0.130767 (0.5705)
LOGDIV	0.478749 (0.1365)	0.340144 (0.4503)	0.620736 (0.1763)
F-statistics	2.23	0.57	1.84
Adjusted R^2	0.0045	-0.0031	0.0062

Panel B. Independent variable is DIV

	(1)	(2)	(3)
	All firms (N=272)	Low growth observations (N=136)	High growth observations (N=136)
Intercept	-0.304801 + (0.0531)	-0.320652 (0.1395)	-0.285339 (0.2110)
DIV	0.112329 ++ (0.0120)	0.086709 (0.1577)	0.137115 ++ (0.0348)
F-statistics	6.39 ++	2.02	4.55 ++
Adjusted R^2	0.0195	0.0074	0.0256

P-values are in parentheses. Independent value in Panel A is the natural log of the dividend payout ratio.
Independent variable in Panel B is the dividend payout ratio.

+ Significantly different from zero at 0.10 level
++ Significantly different from zero at 0.05 level
+++ Significantly different from zero at 0.01 level

In Table 5 we use a regression analysis for two different variables. In Panel A with LOGDIV as independent variable, neither the intercept nor coefficients in all three regressions show any significance. Also the regression itself is not significant.

Panel B with DIV as the dependent variable shows significance. It shows positive and significant coefficients for dividend in both the full sample as well as for high growth observations. The standard deviation of the DIV in the full sample regression is 0.04. These

regression results also contradict with Johnson results as he found significance in the logarithm regression. Concentrating on Panel B, the coefficients of DIV show a positive and significant value (except for the low growth regression). The positive values show a positive influence of dividend on the excess return. This consistent with the signaling theory. There is a positive relation between excess return and dividend payout ratio. In the free cash flow theory, there is a negative relation. A low dividend gives a new issue of debt new and valuable control mechanism over free cash flow. In the signaling theory, a high dividend payout ratio signals future earnings prospects to investors. A new issue of debt makes the total commitment package grow and signals a good quality firm. Therefore an additional debt issue gets a better reward and a higher excess return.

In Table 6 we make a comparison between two geographical regions, US and Europe. Banks in both regions are used in a regression analysis with both variables dividend and growth. We make the geographical separation to check for differences in market reward.

TABLE 6

Results of cross-sectional weighted least squares regressions of two-day excess returns on dividend and growth for US and European banks separated

	US banks (N=164)	European banks (N=108)
Intercept	-0536713 +++ (0.0044)	-0.295287 (0.4457)
DIV	0.085678 + (0.0980)	0.150656 + (0.0766)
GROWTH	0.020759 +++ (0.0014)	-0.016511 (0.3699)
F-statistic	6.97 +++	1.90
Adjusted R^2	0.0683	0.0165

P-values are in parentheses.

+	Significantly different from zero at 0.10 level
++	Significantly different from zero at 0.05 level
+++	Significantly different from zero at 0.01 level

We make the distinction geographically because of law differences, as found in La Porta et al (2000) between civil and common law. As described in the introduction, differences in law system lead to differences in dividend payout ratio and could be an influence on the results. Let us assume that the level of dividend payout ratio and growth rates between Europe and the United States are roughly equal. As investors have less free cash flows controls in civil law countries (Europe) than in common law countries, the values of the coefficients for DIV and GROWTH should be higher for Europe than for the US. Returns should be higher for Europe because of the law differences and can only be higher by higher coefficients, as we assumed input to be roughly equal. This is true for DIV, but for the coefficient GROWTH Europe shows a negative and insignificant value. The US regression shows that all coefficients are significant. Both independent variables have a positive sign an show the positive relation between dividend and growth and the dependent variable excess return. This again supports the cash flow signaling theory instead of the free cash flow theory, because of this positive relation. For European banks, the relation is slightly different. It is correct for the dependent variable DIV, but for GROWTH there is not a positive nor a significant relation. So for European banks, we cannot reject the free cash flow theory in favor of the signaling theory.

TABLE 7

Cross-sectional weighted least squares regressions of two-day excess return on different firm and offering characteristics for 272 bond announcements in the period 2000-2008

	(1)	(2)	(3)
	Full sample (N=272)	Low growth observations (N=136)	High growth observations (N=136)
Intercept	-0.469982 (0.8880)	-0.202556 (0.9631)	2.316766 (0.6648)
DIV	0.099000 ++ (0.0371)	0.070659 (0.3021)	0.113584 + (0.0955)

REL_SIZE	-0.077433 (0.1867)	-0.139227 + (0.0721)	-0.047646 (0.6297)
LOG_MARKETVAL	0.030208 (0.9207)	-0.007807 (0.9843)	-0.212734 (0.6622)
MATURITY	-0.004577 (0.7606)	0.024464 (0.2838)	-0.024776 (0.2319)
DUMLEAD	-0.280305 (0.1565)	-0.308830 (0.2672)	-0.139301 (0.6327)

+ Significantly different from zero at 0.10 level
++ Significantly different from zero at 0.05 level
+++ Significantly different from zero at 0.01 level

We made the regression in Table 7 to regress for different firm characteristics. The firm characteristics we used are DIV (dividend payout ratio), REL_SIZE (offering size divided by market capitalization), LOG_MARKETVALUE (logarithm of the market capitalization), MATURITY (maturity of the bond) and DUMLEAD (a dummy for underwriting a bank's own bonds (1 if underwriter and issuer are not the same)). We made three regressions, one for the whole sample and two split between growth. DIV shows a positive significant value for the full sample and for high growth observations, consistent with the values found in Table 5 and 6. The standard deviation for DIV in the full sample regression is 0.05 and in the high growth regression it is 0.07. Again, this positive value contradicts with Johnson. For low growth observation we did not found a significant coefficient, which is consistent with values found for low growth observations in Table 2. Also, for high growth firms we find this positive significant value. Interesting is the significant, negative value for REL_SIZE in the regression for low growth observations. REL_SIZE is defined as the value of the issuance divided by the market capitalization at the day of the bond announcement. An explanation for the negative value can be found in the riskier state of the low growth firm by increased leverage. As the firm does not show high growth rates it could be signaling decreasing investment opportunities and therefore is rewarded less by financial markets. For the other regressions the value of REL_SIZE is insignificant and in line with research by Mikkelson and Partch (1986), who found changes in stock prices unrelated to the relative offering size. We do not discuss further coefficients, as none is significant for the appropriate levels.

Concluding from both event studies and regression analysis we find opposite values with regard to Johnson. Explanations must be found in the signaling theory instead of the free cash flow theory. As explained before in the introduction, the total commitment package grows if companies issue new or additional debt. An already large commitment package for companies with high dividend and high growth signals a good quality firm according to Ravid and Savig and should earn excess return over low growth and low dividend companies. Both high dividend and high growth observations show significant and positive results and could be seen as signaling devices for good quality firms rewarded more by financial markets. Free cash flow theory does not hold for our results, because free cash flow control should already be better for high dividend- high growth observations and not cause a significant reward over low dividend- low growth observations. Even correcting for outliers in Table 3 does not give similar results as Johnson found in his paper.

We also use the effect of separate banks in the sample. For this table we used eleven separate regression with both variables dividend payout ratio (DIV) and growth.

TABLE 8

Results of cross-sectional regression separating eleven different banks with excess return as dependent variable and dividend and growth as independent variables

	Intercept	DIV	GROWTH	R^2
Credit Agricole	-5.030981 +++	0.935508 +++	0.103511	0.711
(N=13)	(0.0063)	(0.0008)	(0.1268)	
Bank of America	-0.480237	0.106385	0.003400	0.246
(N=15)	(0.2356)	(0.1079)	(0.8451)	
BNP Paribas	0.405920	-0.167277	0.022013	0.011
(N=22)	(0.7169)	(0.6986)	(0.6570)	
Citigroup	0.228233	-0.054481	0.013107	0.073
(N=11)	(0.4643)	(0.5915)	(0.4830)	
Deutsche Bank	0.854877	-0.158616	0.006639	0.039

(N=36)	(0.1615)	(0.2828)	(0.8894)	
Goldman Sachs	0.195509	-0.283324	0.013491	0.011
(N=20)	(0.8330)	(0.7330)	(0.7248)	
JP Morgan	-4.018651 ++	0.931655 ++	0.049570 +++	0.184
(N=39)	(0.0289)	(0.0499)	(0.0073)	
Morgan Stanley	-1.542374 +++	0.435211 +++	0.043885 +++	0.470
(N=39)	(0.0001)	(0.0005)	(0.0001)	
Banco Santander	7.239612	-2.356815	-0.013184	0.135
(N=9)	(0.3702)	(0.3711)	(0.6991)	
Societe Generale	-1.289887	0.334048	-0.000317	0.098
(N=28)	(0.1562)	(0.1331)	(0.9952)	
Wells Fargo	-1.559212 +	0.422694 +	0.009920	0.083
(N=40)	(0.0632)	(0.0759)	(0.4523)	

P-values are parentheses.

+	Significantly different from zero at 0.10 level
++	Significantly different from zero at 0.05 level
+++	Significantly different from zero at 0.01 level

As we did in other regression analyses, we only discuss significant coefficients. It is certainly remarkable that only four out of eleven banks show significant values on one or more coefficient. Especially two large American banks, JP Morgan and Morgan Stanley show significant values for all three coefficients. The path on all four banks is similar, a negative intercept, a large positive value for the variable DIV and a small positive value for the variable GROWTH. This means that for individual banks there is again a positive relation between both independent variables dividend payout and growth and the dependent variable excess return that supports the cash flow signaling theory. The higher the dividend or the growth rate, the higher the excess return. An already high commitment package by a high dividend payout ratio gets rewarded higher by additional leverage than firms with a lower commitment package. Please note that the R^2 is low for almost every regression except Credit Agricole. A low R^2 shows the model is not likely predict outcomes well for financial firms. Also the N can be low for individual banks and therefore influence results found due to a

small sample size. For significance found by JP Morgan, Morgan Stanley and Wells Fargo the sample size is large enough. Only the sample size of Credit Agricole (N=13) is small and usefulness of the results of the regression analysis could be debated.

Underwriting is a special service mostly done by investment bank departments of banks. All banks in our sample have investment bank divisions so they can underwrite their own bonds. When checking for those underwriters (book runners), we found a reasonable amount of banks not doing the underwriting of their own bonds. Of the 272 bond announcements, 42 observations give a value of 1 for the used dummy LEADDUM. As mentioned in the introduction, outsourcing underwriting services could signal distrust in the own investment bank department or higher regard for other investment bank departments. Both effects could be seen as looking for a higher market reward for switching to other banks. We use a regression analysis with the dummy LEADDUM, which has a value of 1 if underwriter and issuer is not the same bank.

TABLE 9

Results of cross-sectional weighted least squares regressions of two-day excess returns on lead manager effect for 272 announcements in the period 2000-2008

Panel A. Full sample and classified by growth

	(1) All firms (N=272)	(2) Low growth firms (N=136)	(3) High growth firms (N=136)
Intercept	0.098904 (0.1737)	0.009593 (0.9198)	0.192999 + (0.0806)
LEADDUM (LEADDUM= 1 for different Banks, 0 otherwise)	-0.284381 (0.1245)	-0.384466 (0.1439)	0.236421 (0.3666)
F-statistics	2.37	2.16	0.82
Adjusted R^2	0.0050	0.0085	-0.00133

LEADDUM is a dummy for banks either issue their own bonds (value = 0) or other banks lead the underwriting of the bond (value = 1).
P-values are in parentheses.

+	Significantly different from zero at 0.10 level
++	Significantly different from zero at 0.05 level
+++	Significantly different from zero at 0.01 level

Although the coefficients on the LEADDUM do not show significant values, we can derive some conclusion pending on the first regression containing all firms. It shows a negative value, meaning that firms switching the underwriting side of issuing bonds from their own to another investment bank department are having a negative influence on the excess return. Apparently market participant do not like the idea of going to other banks for underwriting and do not reward such a move. Results that are split up in low and high growth observations show different values (negative vs. positive sign), but are not further discussed due to a lack of significance. Results are not comparable, as relevant studies of book runner effects on bond announcements have not been done so far. We can conclude that there is no significant book runner effect. We cannot state if it is either profitable to outsource the underwriting services or to do your own issuances.

4. Conclusions

The paper examines the relation between bond announcements and stock prices for financial firms. We can conclude that the excess return for the full sample is not significant from zero and this result is in line with Johnson (1995), Eckbo (1986) and Shyam-Sunder (1991). Comparing results split up in four different dividend payout and growth groups, we see different results for our paper compared with Johnson. For financial companies, we see only significant excess returns for the high growth and high dividend sample, and for the combined high growth- high dividend sample. We can conclude that financial companies do not generate excess return for extra control mechanisms over the free cash flows. In line with the signaling theory, high dividend and high leverage signals a good quality firm and therefore earns excess return by a further increase in leverage. We can also conclude that in the different regression analyses both independent variables growth and dividend play a significant role in explaining excess returns. As Johnson used both variables to explain excess return, this also holds for financial companies. Only the influence of both variables on the excess return of stocks is different compared to Johnson, as in our paper there is a positive relation between both variables and the excess return. For US banks we saw a significant variable in growth explaining excess returns, compared to an insignificant value for European banks. It is safe to say growth is a more important driver for value in the United States and therefore generates a significant and positive excess return.

Our last sidestep towards a potential book runner effect lead to some useful although insignificant results. Based on the close to significant results we can see that investors do not like to have banks outsource their underwriting to other banks, especially for low growth observations.

Our end conclusion will be the rejection of the free cash flow theory used by Johnson (1995) in favor of the cash flow signaling theory by Ravid and Savig (1991), when explaining valuation effects of bond announcements by financial firms. Possible explanations for cash flow signaling theory in favor of the free cash flow theory for financial firms could be that control mechanisms are already in place through the large amount of debt issues. Also the difference in monitoring is smaller for financial companies compared to nonfinancial companies. Finding more exact explanations could be subject to further research.

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