Stock Offerings, Issue Costs, and Bank Debt Reductions

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Prior stock-for-debt research compares announcement period stock returns between bank debt reductions and nonbank debt reductions. The research finds that returns for bank debt reductions are significantly more negative than nonbank debt reductions. In this paper, we examine whether the more negative returns are caused by issue costs. We find that firms retiring bank debt have greater issue costs. We show that these greater issue costs help explain why returns for bank debt reductions are significantly more negative than returns for nonbank debt reductions.

Introduction

Hull and Moellenberndt (1994) find that stock issues retiring bank debt have a market response about twice as negative as those retiring nonbank debt.[1] In this paper, we extend this research by seeking to learn if issue expenses can explain the difference in the market response.[2] We do this by adjusting announcement period returns for the effects of issue costs. If issue costs are greater for firms that retire bank debt, then the differences found by Hull and Moellenberndt (1994) will be weakened.

The issue costs research (Hull and Fortin, 1994; Hull and Kerchner, 1996; and Hull and Kerchner, 2000) discovers that the impact of issue costs depends upon a variety of factors including the relative size of the offering, listing, and firm size. These findings suggest that we explore whether such factors might be more present in a sample of stock offerings that retire bank debt than in a sample of stock

[1] Our sources (described later) reveal whether the debt being retired is nonbank debt or bank debt. Nonbank debt is often described by the words "bond," "debenture," "long-term," or "public." Less frequently, nonbank debt is referred to as "mortgage bonds," "lease obligations," or "equipment trust certificates." Bank debt is typically denoted by the words "bank debt," "bank loans," or "bank borrowings." More expressive words used to describe bank debt are "term loan agreements" or "revolving credit agreements."

[2] Issue expenses used in this study are defined in more detail later when we discuss cash costs and underpricing. In brief, cash costs refer to all the cash expenses incurred and reported by the lead underwriter and its syndicate, while underpricing refers to costs that result when a new security is sold below its current market value.

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offerings that retire nonbank debt. If so, then issue costs can explain the difference in the announcement period response found when comparing the bank debt and nonbank debt reduction portfolios.

In this paper, we find that about half of the difference attributed to the type of debt being reduced can be explained by issue costs. Bank debt reductions tend to be undertaken by AMEX and OTC firms. These firms are smaller and are more likely to undergo greater changes in the relative size of the offering. As shown by issue costs researchers (Hull and Fortin, 1994; Hull and Kerchner, 1996; Hull and Kerchner, 2000), firms with these characteristics have greater issue costs and thus greater negative announcement period returns.

Competing Capital Structure Models

The stock-for-debt research (Peavy and Scott, 1985; Hull, 1994; Shah, 1994; Hull and Pinches, 1995; Hull and Mazachek, 2002) finds a significant negative stock valuation effect for stock-for-debt transaction announcements. The negative effect is consistent with capital structure models that predict negative tax, agency, signaling, and issue costs effects.

Tax models, rooted in Modigliani and Miller (1963), hypothesize negative stock price behavior when the debt reduction reduces a firm's debt tax shield. Agency models, based in Jensen and Meckling (1976), predict a negative stock market reaction when there is a net increase in agency costs. For stock-for-debt transactions, Galai and Masulis (1976) hypothesize a negative agency effect for shareholders if the cash flow payments to debt holders become less risky while payments to stockholders become more risky. Jensen (1986) also predicts a negative agency effect when reducing debt increases the monitoring costs associated with controlling managerial behavior.

Asymmetrical information signaling models predict that stock-for-debt transactions signal negative news. Leland and Pyle (1977) attribute negative signaling to decreases in the percentage of inside ownership caused when insiders do not participate in the new stock offering. Ross (1977) links the negative signaling to the reduction in debt. Decreases in debt convey negative information about a firm's ability to service current debt levels.

Models emphasizing the role of bankers as insiders (Kane and Malkiel, 1965; Bernanke, 1983; Fama 1985) argue that firms announcing bank debt agreements convey positive news. Bankers would not approve or extend a loan if inside information gotten in the lending process were negative. It follows that the market will suspect bank debt reductions are prompted by negative inside information. Thus, announcements of bank debt reduction should result in greater negative signaling than announcements of nonbank debt reduction.

Issue costs models suggest that stock offerings will result in a negative cash outflow to the announcing firm. Hull and Fortin (1994) show the extent of the negative

cash outflow depends upon the costs per share issued and the relative size of the offering. Hull and Kerchner (1996) document the role of listing by showing that AMEX and OTC firms have greater issue costs than NYSE firms. Hull and Kerchner (2000) find that the impact of issue costs can depend upon a variety of factors, with firm size the most dominant factor.

Prior Empirical Findings

In this section, we review the empirical findings for stock offerings, bank debt reductions, and issue costs. In this paper, we build on these lines of research.

Stock Offering Findings

Stock offerings consist of two general categories. The first category involves issuing stock to raise cash for various corporate purposes. These other purposes include debt reduction, capital expenditures, working capital increases, and general corporate requirements. The cash offering studies (Asquith and Mullins, 1986; Hull, 1999; Hull and Mazachek, 2001) find negative announcement period stock returns around –3.0 percent. Masulis and Korwar (1986) indicate that the purpose of the proceeds itself has no apparent impact on the strength of the market response.

The second category involves issuing new stock not to raise cash, but to trade it for outstanding senior securities. This line of research finds that mean announcement period stock returns range from around –1 percent, as shown by Peavy and Scott (1985), to around –10 percent, as found by Masulis (1983).

Bank Debt Findings

Research shows that banks play a unique role as transmitters of information in the capital markets. Mikkelson and Partch (1986) find a statistically significant 0.89 percent mean announcement period stock return upon disclosure of bank loan agreements (n = 124). James (1987) reports a significant 1.92 percent return for bank loan agreements (n = 80). In contrast, James (1987) finds negative returns of –0.11 percent for public straight debt offerings (n = 90) and –0.91 percent for private placements (n = 37). When the announced purpose is to repay bank loans, however, the return is –1.63 percent for public debt offerings (n = 12) and –2.07 percent for private placements (n = 18). Lummer and McConnell (1989) show that the positive returns for bank loan agreements are explained by those receiving a favorable or mixed revision. They discover positive returns of 0.87 percent for bank loans receiving a favorable revision (n = 259) and 3.98 percent for those receiving a mixed revision (n = 76). Mixed revisions convey positive news because in many cases the market was expecting unfavorable revisions.

The results of the above studies suggest that stock issues that reduce bank debt obligations should experience more negative returns than stock issues that retire non-bank debt. Hull and Moellenberndt (1994) show this to be true. They examine 242

common stock offerings that reduce bank debt and 254 that retire nonbank debt. They find that bank debt reductions are associated with negative announcement period stock returns that are about twice that for nonbank debt reductions (–3.80 percent versus –1.86 percent). Their general results do not appear to depend on firm size or listing or the inclusion of combination offerings (e.g., primary offering combined with a secondary offering).

Issue Costs Findings

Hull and Kerchner (1996) extend the research of Mikkelson and Partch (1986) and Hull and Fortin (1994). They examine 323 common stock offerings that reduce debt. For their total sample, they find that mean flotation costs are over three-fifths of the mean two-day announcement period return. Flotation costs include the cash costs absorbed by the underwriters plus the costs stemming from underpricing. When only cash costs are considered, they find that issue costs are still nearly two-fifths of the two-day returns. This is almost twice the cash costs found by prior NYSE/AMEX research of stock offerings. The difference is explained by the sample used by Hull and Kerchner (1996), where their stock offerings have slightly greater issue costs and substantially less negative two-day returns.

Hull and Kerchner (1996) also investigate the situations for which issue costs can exercise a significant impact on stock value. For example, they find that issue costs for AMEX and OTC firms account for greater proportions of fall in stock value than NYSE firms. They also find that the inclusion of combination offerings dilutes the relative impact of issue costs on stock value (as these offerings have greater negative announcement period returns). The test conducted on a group, composed of those one-third sample firms undergoing the largest changes in outstanding common stock, gives a positive mean announcement period return when adjusted for both cash flotation costs and underpricing.

Most recently, Hull and Kerchner (2000) develop a model to consider the relationship between issue costs and characteristics such as firm size, underwriter reputation, risk of the offering, and listing. They find that the impact of issue costs depend upon a variety of factors, with firm size the most dominant factor.

Data, Methodology, and Tests

In this section, we describe the sample, the methodology for computing announcement period returns and flotation costs, and the statistical tests.

Data

The primary sources of common stock offering announcements for the study are the *Investment Dealers' Digest* (*IDD*) and *The Wall Street Journal* (*WSJ*). Sources for the descriptive data are *IDD, WSJ, Compustat Annual Files, Moody's Industrial*

Manual, and the CRSP NYSE/AMEX and CRSP OTC daily prices and returns files. The data cover the years between 1970 and 1989.

The sample consists of 466 observations that meet the following criteria. First, each must be a common stock offering that retires either bank debt or nonbank debt. Second, the debt being retired must not be convertible into stock. Third, each must not be identified as a utility. Fourth, each must be listed on the CRSP NYSE/AMEX return file or the CRSP OTC return file and have sufficient trading data to calculate an announcement period cumulative abnormal return. Fifth, there must be sufficient information to determine issue costs. Last, the percentage change in outstanding common stock must lie between 0.5 percent and 100 percent.[3]

The sample includes 177 stock offerings retiring bank debt and 289 stock offerings reducing nonbank debt. In terms of listing, there are 216 NYSE and 129 AMEX firms found on the CRSP NYSE/AMEX return file and 121 firms listed on the CRSP OTC return file. The sample contains 368 offerings that raise cash to retire outstanding debt and 98 offerings that issue stock to exchange or swap for debt. None of the latter 98 offerings is associated with reducing bank debt or with a combination offering.

Of the 466 observations, there are 100 combination offerings and 366 primary offerings that are not accompanied by a secondary offering. An observation is classified as a combination offering if the primary portion of the offering is accompanied by a secondary offering that is at least 10 percent of the total offering.[4]

Table 1 reports descriptive data for the total sample and two portfolios. The first portfolio includes stock offerings that retire bank debt (n = 177). The second portfolio consists of stock offerings that reduce nonbank debt (n = 289). Panel A reveals

[3] Like prior research (Hull and Moellenberndt 1994, Hull and Kerchner 1996, and Hull and Michelson 1999), utilities are omitted from our tests because their stock offerings announcements are often known in advance of their public announcement date. Our sample keeps seven financial services firms. Inclusion of these seven observations has no impact on our results. The phrase "sufficient trading data" refers to the availability of data during the estimation and announcement periods (these two periods are discussed later). The phrase "sufficient issue costs data" refers to data needed to compute cash costs and underpricing (cash costs and underpricing are described later). The last criterion (concerning the 0.5 percent and 100 percent parameters) is used by prior research (Hull and Fortin, 1994; Hull and Moellenberndt, 1994; and Hull, Mazachek, and Ockree, 1998). Setting the lower limit of 0.5 percent tends to omit observations by firms undergoing token transactions (as occurred in the early 1980s by firms who were taking advantage of a quirk in the tax law for this period). The upper limit of 100 percent tends to delete observations undergoing large recapitalizations and restructurings often motivated by financial distress considerations.

[4] There are 64 observations where other firm-specific announcements occur during event days -3 through +3. Of these 64 observations, we find eight observations where cash from the current asset account is used to help reduce debt. Inclusion of these 64 observations does not alter our reported findings.

Table 1—Summary Statistics for Common Offerings that Reduce Bank Debt or Nonbank Debt

In Panel A, the percentage of the column total is given in parenthesis. In Panel B, means followed by medians are given in millions of dollars for the first three rows and in percentages for the last two rows. In Panel C, means followed by medians are reported in percentages. Common Value is the shares outstanding at the time of the initial announcement times the closing stock price the day before the announcement. Firm Value consists of Common Value, the liquidation value of preferred stock, the book value of all long-term debt obligations (including capitalized leases), and current liabilities. Proceeds are the planned new primary common shares times the expected offering price (as proxied by closing stock price the day before the announcement day). Proceeds/Common Value is (given our definitions for proceeds and common value) identical to the planned percentage change in outstanding common shares. Retired Debt/Firm Value is expressed as a negative number to represent the reduction in debt. Retired debt is the planned reduction in the book value of debt. Total Costs include the negative cash outflows incurred by residual shareholders. These costs consist of cash costs and underpricing. Cash Costs include the underwriting spread and additional expenses incurred by the lead underwriter and its syndicate (e.g., fees associated with administration, registration, and legal services). Underpricing is the cost stemming from selling new primary shares below their current market value.

Descriptive Data	Total Sample (n = 466)	Bank Debt Portfolio (n = 177)	Nonbank Debt Portfolio (n = 289)
Panel A: Time Profile			
1970–1974	66 (14%)	23 (13%)	43 (15%)
1975–1979	74 (16%)	34 (19%)	40 (14%)
1980–1984	280 (60%)	106 (60%)	174 (60%)
1985–1989	46 (10%)	14 (8%)	32 (11%)
Panel B: Size Variables			
Common Value	561; 172	285; 109	731; 318
Firm Value	1099; 295	451; 176	1495; 528
Proceeds	34.5; 17.5	31.0; 18.1	36.6; 16.4
Proceeds/Common Value	14.43%; 11.72%	18.41%; 15.56%	12.00%; 9.17%
Retired Debt/Firm Value	–8.56%; –6.62%	–10.57%; –8.52%	–7.32%; –5.11%
Panel C: Issue Costs Variables			
Total Costs/Proceeds	–7.82%; –6.89%	–8.40%; –7.47%	–7.48%; –6.51%
Cash Costs/Proceeds	–5.13%; –4.85%	–5.53%; –5.06%	–4.89%; –4.54%
Underpricing/Proceeds	–2.69%; –1.81%	–2.87%; –1.83%	–2.58%; –1.79%
Total Costs/Common Value	–1.26%; –0.76%	–1.64%; –1.21%	–1.03%; –0.55%
Cash Costs/Common Value	–0.82%; –0.58%	–1.08%; –0.84%	–0.66%; –0.37%
Underpricing/Common Value	–0.44%; –1.78%	–0.56%; –0.31%	–0.37%; –0.13%

that there are more stock-for-debt transactions for our sample for the 1980–1984 time period.[5] There is similarity, however, in terms of the distribution of the observations in time when comparing the bank debt and nonbank debt portfolios.

Panel B in Table 1 shows that means are greater than medians. This is especially true for the common value and firm value variables. This is explained by the fact that our sample has a number of larger companies. Panel B also reveals that the typical company retiring nonbank debt is about three times larger than the one

[5] The greater number of stock-for-debt transactions for this period can be attributed to a belief that stocks are undervalued relative to debt for the years from 1980 to 1984.

retiring bank debt. The panel shows that proceeds are similar for the bank and nonbank debt portfolios. As judged by the last two variables in Panel B, firms reducing bank debt undergo about one and a half times greater capital structure changes. *Ceteris paribus*, this alone indicates the cost of issuance per outstanding share will be greater for the bank debt portfolio compared to the nonbank debt portfolio.

Panel C in Table 1 shows that firms retiring bank debt have greater issue costs. This is especially true if issue costs are considered as a percentage of the value of outstanding common stocks. Here the costs are about one and a half times greater. The results in Panel C are not surprising because firms retiring bank debt are smaller firms that have greater issue costs. Not only do small firms have greater fixed flotation expenses per share issued, but also investment bankers charge greater fees because issues by small firms are more risky. Small firms have more volatile price behavior leading to more uncertainty as to the actual selling price.

Methodology and Statistical Tests

We use the ordinary least squares (OLS) market model procedure described by Brown and Warner (1985) to test the hypothesis that a sample's event period cumulative abnormal return (CAR) is equal to zero. When using this methodology, the abnormal return for each i^{th} firm for each t^{th} day ($AR_{i,t}$) equals the actual rate of return for each i^{th} firm for each t^{th} day ($R_{i,t}$) minus its expected rate of return ($A_i + B_i * Rm_t$). We have:

$$AR_{i,t} = R_{i,t} - (A_i + B_i * Rm_t)$$

where:

A_i and B_i = The alpha and beta parameters computed using the equally weighted CRSP NYSE/AMEX and CRSP OTC indices for respective NYSE/AMEX and OTC firms (for the estimation period from +41 to +220); and

Rm_t = The rate of return on the market on day t (estimated by the CRSP equally weighted index).

The abnormal returns, $AR_{i,t}$, are then averaged across the N firms for each t^{th} day to form an average per day abnormal return: $AR_t = (AR_{i,t} + \ldots + AR_{N,t}) /N$. Finally, the cumulative abnormal returns (CARs) over the announcement period (which is day –1 to +1 for our tests) are computed by adding AR_t for days t = –1, t = 0, and t = +1.

When adjusting $R_{i,t}$ for common stock issuance expenses on the day of the announcement (t = 0), we follow the methodology of Hull and Fortin (1994). This procedure involves calculating the expected negative cash outflow of the issue costs being considered (e.g., cash costs or cash costs plus underpricing) per outstanding share and adding the absolute magnitude of this value to the closing stock price on the announcement day. We have:

$$R_{i,0} = (P_{i,0} + \text{flotation adjustment} - P_{i,-1})/P_{i,-1}$$

where flotation adjustment is the absolute magnitude of issuance expense (in dollars) per outstanding share prior to the announcement. This adjustment serves to make the closing price higher than reported. We then proceed in the usual fashion when figuring the daily abnormal return for the announcement day (e.g., day 0). Adding this adjusted abnormal return for day 0 to the daily abnormal returns for days –1 and +1 gives the adjusted three-day CAR.

We consider two flotation costs adjustments. First, we adjust CARs for cash costs. Second, we adjust CARs for both cash costs and underpricing. Cash costs are costs for which actual expenses can be documented as fees rendered for services. These fees include the underwriting spread (or selling concession) and other expenses incurred by the lead underwriter and its syndicate. These latter expenses include the fees associated with administration, registration, and legal services. Underpricing occurs just before the actual offering when the price of the new shares is set below the market price.

When computing underpricing, we follow the procedure of Hull and Kerchner (1996). Underpricing is the negative impact on stockholders when the firm sells new shares at a price below their current market value. It is defined as

$$(P_{off} - P_{bef})$$

where:

P_{off} = The offer price; and

P_{bef} = The current market price at the time the offer price is set.

In percentage form, the cost of underpricing is

$$(P_{off} - P_{bef})/P_{bef} .$$

For OTC firms, the current market price is the average of the bid and ask prices. Because $P_{bef} > P_{off}$ is expected to hold for the offering to be completed, underpricing is simply the percentage below the current market price at which the offering price is expected to be set.

To test the null hypothesis that CARs for bank debt reductions are less negative than or equal to those for nonbank debt reductions, we compute standard parametric one-tailed t statistics for comparing the equality of the means of two non-paired samples. The research hypothesis is that the bank debt reduction portfolio will have a greater negative CAR. Rejection of the null hypothesis (at an acceptable significant level) offers support for bank debt signaling models. Variances are assumed unequal if F values support rejection of the hypothesis that portfolio variances are equal. Nonparametric Wilcoxon rank-sum z statistics also are computed and reported.

We perform several tests of the above null hypothesis. First, we test the hypothesis when using CARs not adjusted for issue costs. We refer to these CARs as traditional CARs. We next test when these traditional CARs are adjusted for cash costs. Finally, we test when traditional CARs are adjusted for cash costs plus underpricing costs.

Event Study Results

In this section, we present our event study results. We show that stock offerings that reduce bank debt have greater negative announcement period returns than stock offerings that retire nonbank debt. When the returns are adjusted for flotation costs, we find a drop in both the difference in returns and the level of statistical significance.

Cumulative Abnormal Return Results

Table 2 reports three-day CAR results for event days –1, 0, and +1. Results are provided for the total sample of common stock offerings and the two portfolios described in Table 2. The first column reports traditional CAR results. Moving down this column, we can see that the negative traditional CAR of –2.89 percent for the total sample is due largely to the bank debt portfolio. This portfolio has a traditional CAR of –3.65 percent compared to –2.42 percent for the nonbank debt reduction portfolio.[6] The difference in traditional CARs between portfolios is consistent with bank debt signaling models that predict greater negative returns for bank debt reductions. We need to examine the next two columns to see if this difference holds once we adjust for issue costs.

The second column reports results when CARs are adjusted for cash costs. Comparing results in the first and second columns, we find that the CAR for the total sample changes from –2.89 percent to –2.07 percent. We also see that the percent of positive CARs increases from 24 percent to 29 percent. The increase from 24 percent to 29 percent reflects the change in the sign of the CAR (from negative to positive) for 25 observations. Moving down the second column, we find that adjusting for cash costs causes the CAR for the bank debt portfolio to change from –3.65 percent to –2.57 percent. The percent positive increases from 19 percent to 24 percent. For the nonbank debt portfolio, the CAR changes from –2.42 percent to –1.76 percent when adjusted for cash costs. The percent of positive CARs increases from 27 percent to 31 percent.

The third column provides results when CARs are adjusted for both cash costs and underpricing. Comparing results in the second and third columns, we find that the adjusted CAR changes from –2.07 percent to –1.63 percent for the total portfolio with the percent of positive CARs increasing from 29 percent to 31 percent (reflecting the fact that 10 more observations now have positive CARs). Moving down the third column, we find that the adjusted CAR for the bank debt portfolio is now –2.01 percent. Thus, including underpricing causes the adjusted CAR to change from –2.57 percent to –2.01 percent, with the percent of positive CARs increasing from 24 percent to 27 percent. For the nonbank debt portfolio, the adjusted CAR changes from

[6] Our CAR difference between the bank and nonbank debt portfolios is less than found by Hull and Moellenberndt (1994). This can be explained by our sample criteria including the requirement to have available data for issue costs.

Table 2—Three-Day Cumulative Abnormal Returns Results for Common Offerings that Reduce Bank Debt or Nonbank Debt

The first row for each panel reports the mean three-day CAR followed by the two-tailed *t* statistic (when testing if the mean three-day CAR is equal to zero). The second row for each panel gives the percent of the sample CARs that are positive followed by the two-tailed binomial *z* statistic (when testing if the percent positive is equal to 50 percent). We follow the methodology described by Hull and Fortin (1994) when adjusting the traditional three-day CAR. This procedure involves computing the expected negative cash outflow of the issue costs being considered (e.g., cash costs or cash costs plus underpricing) per outstanding share and adding the absolute magnitude of this value to the closing stock price on the announcement day. This adjustment serves to make the closing price higher than reported. We then proceed in the usual fashion when figuring the daily abnormal return for the announcement day (e.g., day 0). Adding this adjusted abnormal return for day 0 to the daily abnormal returns for days –1 and +1 gives the adjusted three-day CAR. The *t* and *z* statistics are then calculated to detect if the adjusted CAR is statistically significant from zero. All statistics are significant at the 1 percent level.

Traditional Three-Day CAR	Three-Day CAR Adjusted for Cash Costs	Three-Day CAR Adjusted for Cash Costs Plus Underpricing
Panel A. Total Sample (n = 466)		
–2.89%; –13.44	–2.07%; –9.74	–1.63%; –7.59
24%; –11.30	29%; –9.26	31%; –8.06
Panel B. Bank Debt Portfolio (n = 177)		
–3.65%; –9.97	–2.57%; –7.08	–2.01%; –5.46
19%; –8.34	24%; –6.84	27%; –6.09
Panel C. Nonbank Debt Portfolio (n = 289)		
–2.42; –9.29	–1.76%; –6.79	–1.39%; –5.32
27%; –7.82	31%; –6.41	34%; –5.47

–1.76 percent to –1.39 percent when underpricing is considered. The percent of positive CARs increases from 31 percent to 34 percent.

As stated in Table 2, all adjusted CARs are statistically significant from zero at the 1 percent level for both parametric and nonparametric tests. Even though adjusting for issue costs makes the mean CARs less negative, we still find evidence of a significant negative market response. We discover that the greatest change in CARs occurs for the bank debt portfolio. This portfolio experiences greater issue costs causing the three-day traditional CAR of –3.65 percent to change to –2.01 percent when adjusted for both cash costs and underpricing.

Bank Debt Versus Nonbank Debt Statistical Results

Table 3 records parametric and nonparametric statistical results when we compare CARs between the bank debt portfolio and the nonbank debt reduction portfolio. The first row of results reports traditional CAR findings. The –1.23 percent mean difference between traditional CARs is significant at the 1 percent level for both the parametric and nonparametric test ($t = -2.73$ and $z = -2.45$). These results reaffirm the significant findings of Hull and Moellenberndt (1994).

The next row provides results when CARs are adjusted for both cash costs. The –0.81 percent mean difference in CARs adjusted for cash costs is significant at the 5

Table 3—Three-Day Cumulative Abnormal Return Results when Comparing 177 Common Stock Offerings that Reduce Bank Debt with 289 Common Stock Offerings that Reduce Nonbank Debt

The first column reports the three-day cumulative abnormal returns (CARs) being compared. The second column provides (for each comparison) the difference in CAR means between the bank debt and nonbank debt reduction portfolios, the one-tailed parametric t statistic (when testing the null hypothesis that CARs for bank debt reductions are less negative than or equal to those for nonbank debt reductions), and the z statistic for the one-tailed nonparametric Wilcoxon test. Three asterisks (***), two asterisks (**), and one asterisk (*) indicate significance at the 1, 5, and 10 percent levels, respectively.

CARs Being Compared	Bank Debt Versus Nonbank Debt Portfolio Results
Traditional Three-Day CARs	Mean Difference: –1.23% t = –2.73 *** z = –2.45 ***
Three-Day CARs Adjusted for Cash Costs	Mean Difference: –0.81% t = –1.83 ** z = –1.62 **
Three-Day CARs Adjusted for Cash Costs and Underpricing	Mean Difference: –0.62% t = –1.36 * z = –1.13

percent level ($t = -1.83$ and $z = -1.62$). The last row gives results when CARs are adjusted for both cash costs and underpricing. The mean difference in CARs when adjusted for cash costs and underpricing is –0.62 percent. This difference is only marginally significant at the 10 percent level for the parametric test ($t = -1.36$) and insignificant for the nonparametric test ($z = -1.13$). The drop in significance level (as we move down the last column of Table 3) is consistent with the notion that CAR differences between firms retiring bank debt and nonbank debt can be at least partially explained by cash costs.

Perhaps most revealing, Table 3 reports that the difference in traditional CARs of –1.23 percent between the bank debt and nonbank debt portfolios changes to -0.62 percent when adjusting for both cash costs and underpricing. At least for our sample, cash costs and underpricing explain about half of the CAR differences between firms retiring bank debt and those retiring nonbank debt. This finding reflects the fact that firms retiring bank debt have greater issue costs.

Finally, the results in Table 3 do not rule out banker actions influencing the market's response to bank debt reduction. They do show, however, that the intensity of the market's response to banker actions is weakened when issue costs are considered. This is especially true when both cash costs and underpricing are considered.

Summary and Conclusions

Our study examines 177 stock offerings that reduce bank debt and 289 stock offerings that reduce nonbank debt. Consistent with prior research, we show that

bank debt reductions are associated with announcement period stock returns significantly more negative than returns for nonbank debt reductions. This finding is weakened, however, when we consider the role of issue costs. For example, when returns are adjusted for cash costs, the significance level drops from 1 percent to 5 percent. When returns are adjusted for both cash costs and underpricing, the difference is marginally significant for the parametric test and insignificant for the nonparametric test.

Our results extend the prior bank debt research by showing that the greater negative returns associated with bank debt reductions appear to be caused by more than simply the transmission of negative information associated with bankers' actions. Besides the unique role played by bankers as transmitters of information in the capital markets, the role of issue costs also should be considered when explaining the market response to stock-for-debt transactions. This knowledge is useful to managers making decisions about debt reductions. Whereas the market can be a harsh judge of the bank debt reduction decision, managers can note that the judgment is not as harsh as previously believed. Still, it appears that if executives are indifferent on reducing bank debt or nonbank debt, they should choose nonbank debt. Regardless, the role of issue costs will exercise its impact on firm valuation.

Future research needs to continue to explore the nature of the market response to stock-for-debt transactions. Besides valuation effects from banker actions and issue costs, do significant roles for other capital structure effects remain? For example, to what extent do tax effects that are posited by Modigliani and Miller (1963) exist? Or signaling effects postulated by Leland and Pyle (1977) or Ross (1977)? Or agency effects posited by Jensen and Meckling (1976), Galai and Masulis (1976), and Jensen (1986)?

References

1. Asquith, P., and D. Mullins, "Equity Issues and Offering Dilution," *Journal of Financial Economics*, 15 (January/February 1986), pp. 61–89.

2. Bernanke, B., "Non-Monetary Effects of the Financial Crisis in the Propagation of the Great Depression," *American Economic Review*, 73 (June 1983), pp. 257–276.

3. Brown, S., and J. Warner, "Using Daily Stock Returns: The Case of Event Studies," *Journal of Financial Economics*, 14 (March 1985), pp. 3–31.

4. Fama, E., "What's Different about Banks?" *Journal of Monetary Economics*, 15 (January 1985), pp. 29–39.

5. Galai, D., and R. Masulis, "The Option Pricing Model and the Risk Factor of Stock," *Journal of Financial Economics*, 3 (January/March 1976), pp. 53–81.

6. Hull, R., "Stock Price Behavior of Pure Capital Structure Issuance and Cancellation Announcements," *Journal of Financial Research*, 17 (Fall 1994), pp. 439–448.

7. Hull, R., "Leverage Ratios, Industry Norm, and Stock Price Reaction: An Empirical Investigation," *Financial Management*, 28 (Summer 1999), pp. 32–45.

8. Hull, R., and R. Fortin, "Issuance Expenses and Common Stock Offerings for Over-the-Counter Firms," *Journal of Small Business Finance*, 3 (Winter 1994), pp. 1–17.

9. Hull, R., and R. Kerchner, "Issue Costs and Common Stock Offerings," *Financial Management*, 25 (Winter 1996), pp. 54–66.

10. Hull, R., and R. Kerchner, "Pure Leverage Decreases: A Study of Two Junior-for-Senior Groups, " *Quarterly Journal of Business and Economics*, 36 (Winter 1997), pp. 51–68.

11. Hull, R., and R. Kerchner, "An *Ex Ante* Model to Estimate Issue Costs," *Journal of Research in Finance*, 2 (Winter 2000), pp. 131–168.

12. Hull, R., and J. Mazachek, "Junior-for-Senior Announcements: A Study of the Role of Inside Ownership," *Review of Financial Economics*, 10 (Winter 2002), pp. 213–225.

13. Hull, R., J. Mazachek, and K. Ockree, "Firm Size, Common Stock Offerings, and Announcement Period Returns," *Quarterly Journal of Business and Economics*, 37 (Summer 1998), pp. 3–24.

14. Hull, R., and S. Michelson, "The Information Contents of Senior Offerings that Reduce Junior Securities," *Quarterly Review of Economics and Finance*, 39 (Fall 1999), pp. 419–438.

15. Hull, R., and R. Moellenberndt, "Bank Debt Reduction Announcements and Negative Signaling," *Financial Management*, 23 (Summer 1994), pp. 21–30.

16. Hull, R., and G. Pinches, "Firm Size and the Information Contents of Over-the-Counter Common Stock Offerings," *Journal of Small Business Finance*, 4 (Winter 1995), pp. 31–56.

17. James, C., "Some Evidence on the Uniqueness of Bank Loans," *Journal of Financial Economics*, 19 (December 1987), pp. 217–235.

18. Jensen, M., and W. Meckling, "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," *Journal of Financial Economics*, 3 (October 1976), pp. 305–360.

19. Jensen, M., "Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers," *American Economic Review*, 76 (May 1986), pp. 323–329.

20. Kane, E., and B. Malkiel, "Deposit Variability, Bank-Portfolio Allocation and the Availability Doctrine," *Quarterly Journal of Economics*, 79 (February 1965), pp. 113–134.

21. Leland, H, and D. Pyle, "Informational Asymmetries, Financial Structure, and Financial Intermediation," *Journal of Finance*, 32 (May 1977), pp. 371–388.

22. Lummer, S., and J. McConnell, "Further Evidence on the Bank Lending Process and the Capital Market Response to Bank Loan Agreements," *Journal of Financial Economics*, 32 (November 1989), pp. 99–122.

23. Masulis, R., "The Impact of Capital Structure Change on Firm Value: Some Estimates," *Journal of Finance*, 38 (March 1983), pp. 107–126.

24. Masulis, R., and A. Korwar, "Seasoned Equity Offerings: An Empirical Investigation," *Journal of Financial Economics*, 15 (January/February 1986), pp. 91–118.

25. Mikkelson, W., and M. Partch, "Valuation Effects of Security Offerings and the Issuance Process," *Journal of Financial Economics*, 15 (January/February 1986), pp. 31–60.

26. Modigliani, F., and M. Miller, "Corporate Income Taxes and the Cost of Capital: A Correction," *American Economic Review*, 53 (June 1963), pp. 433–443.

27. Myers, S., and N. Majluf, "Corporate Financing and Investment Decisions when Firms Have Information that Investors Do Not Have," *Journal of Financial Economics*, 13 (June 1984), pp. 187–221.

28. Peavy, J., and J. Scott, "The Effect of Stock-for-Debt Swaps on Security Returns," *The Financial Review*, 20 (November 1985), pp. 303–327.

29. Ross, S., "The Determination of Financial Structure: The Incentive-Signaling Approach," *Bell Journal of Economics*, 8 (Spring 1977), pp. 23–40.

30. Shah, K., "The Nature of Information Conveyed by Pure Capital St ructure Changes," *Journal of Financial Economics*, 36 (August 1994), pp. 89–127.