Investment Bank Reputation and the Underwriting of Nonconvertible Debt

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We examine the impact of investment banker prestige on underwriter spreads, offering yields, and other expenses for 2,449 nonconvertible industrial debt issues offered during the period 1990 to 1997. We find that higher prestige underwriters charge significantly lower underwriting fees. Offering yields are also lower and offering prices are higher for prestigious underwriters, which indicates that investment banker reputation acts to certify the value of a debt issue to investors. Other issuance expenses paid by the issuer are also lower for debt underwritten by the more prestigious investment banking firms. Lastly, we show that repeat business with the same investment banking firm leads to lower underwriting fees but does not significantly affect "other expenses" paid by the issuer.

This study examines the impact that investment banker reputation has on public offerings of nonconvertible corporate debt. We analyze the impact of investment banker reputation on underwriter fees, bond offering yields, and other expenses of issuance.

The bond rating agencies play a critical role in making the underwriting of bond issues competitive. Before a bond is issued to the public, underwriters approach the bond rating agencies and receive ratings. Most public debt issues are rated by both Moody's and Standard & Poor's and may also be rated by smaller agencies, such as Fitch IBCA and Duff and Phelps.[1] These ratings provide several independent evaluations of default risk and give bond buyers and underwriters a clear idea of the default risk of a bond. The existence of independent ratings thus reduces the uncertainty of bond issues, but does not necessarily eliminate the certification role of underwriters of bond issues.

We examine the effect of investment banker prestige on the underwriting of 2,449 issues of nonconvertible industrial debt offered during the 1990-1997 period. We find that larger, prestigious underwriters are associated with lower underwriter fees, after controlling for their greater repeat business, than less prestigious underwriters. Offering yields are also lower and offering prices are higher for prestigious underwriters, which suggests that investment banker reputation acts to certify the value of a bond issue to investors. Other issuance expenses paid by the issuer are also lower for debt issues underwritten by the larger investment banking firms.

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[1]Fitch IBCA acquired Duff and Phelps in April 2000. See Jewell and Livingston (2000) for a comparison of Fitch ratings with those of Moody's and Standard and Poor's.

We thank the participants of research seminars at the University of Florida, University of Kentucky, and University of North Carolina-Wilmington, John Affleck-Graves, Jeff Mercer, and two anonymous referees for their helpful comments.

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I. Previous Literature

Several theories have been developed to explain the role of financial intermediaries in the security issuance process (e.g., Leland and Pyle, 1977, Campbell and Kracaw, 1980, and Sherman, 1999). An important dimension of the intermediary's role is credibility. Shapiro (1983) models reputation and product quality identification in a perfectly competitive market and concludes that high-quality products sell at a premium, which can be viewed as compensation for the investment needed to build reputation. Reputation, however, can operate only imperfectly as a means of assuring quality because asymmetric information exists between firms and investors (Booth and Smith, 1986). Consequently, there is a need to certify that price reflects inside information, and the reputation of the investment banker can act as a "bond" to investors about the credibility of price certification.

Chemmanur and Fulghieri (1994) argue that investors use an investment bank's past performance in the equity market to determine credibility. As a result, investment bankers acquire a high reputation by choosing strict, but costly, valuation standards for firms they underwrite; or a lower reputation by using less strict, less costly, standards. Implications of their model include higher fees, reduced uncertainty about the value of the firm, and higher offering proceeds for firms underwritten by high reputation investment bankers.

The reputation of both the issuing firm and the financial intermediary can affect the offering price. Diamond (1991) models reputation effects of the issuing firm, showing that for high credit-rated firms, rates charged will increase less than the corresponding increase in the real risk-free rate. Puri (1999) develops a model of the impact of financial intermediary reputation. She shows that high reputation intermediaries have large incentives to maintain their reputation, which leads to high certification standards and higher prices. There are also empirical results supporting the effect of reputation on underlying equity prices. For example, Billett, Flannery, and Garfinkel (1995) find companies that borrow from lenders who enjoy higher credit ratings have more positive stock returns at the loan announcement than companies that borrow from lenders with lower credit ratings.

These theories suggest that reputation is positively related to the offer price of securities, both debt and equity, and that firms issuing securities should be willing to pay a premium to high reputation intermediaries. However, James (1992) argues that investment banking firms may invest in acquiring firm-specific information. If this information is durable, investment bankers will have economies of scale if they have repeat dealings with the same issuer. This durable information and the resulting economies of scale may encourage investment banks to set lower fees if they expect repeat business from the same issuer.

A long literature has examined the empirical relationship between underwriter reputation and the underwriter process for initial public offerings of stock,[2] and finds that higher reputation investment bankers are associated with higher issue prices (less underpricing). Reputation (also known as prestige) has been measured by either an ordinal value that relies on the location of an investment bank's name in "tombstone" ads for new issues (Carter and Manaster, 1990[3]) or by market share, defined at the percentage of the total dollar amount brought to market over the study period (Megginson and Weiss, 1991). While

[2]See Beatty and Ritter (1986), Carter and Manaster (1990), Carter, Dark, and Singh (1998), Johnson and Miller (1988), and Megginson and Weiss (1991).

[3]The Carter and Manaster (1990) metric is a refinement of Hayes (1971).

the most prestigious underwriters have been found to sell issues with lower underpricing (higher offer prices) than less prestigious underwriters, Johnson and Miller (1988) argue that the lower underpricing is the result of a clientele effect in which lower-risk issues are associated with the most prestigious issuers.

A limited empirical literature deals with the underwriting of corporate bond issues. This is surprising since proceeds from corporate bond issues are much larger than proceeds from IPOs.[4] Logue and Rogalski (1979) presented an early study of the effect of investment banker prestige on underwriter fees and interest rates. Using 285 bonds issued during 1975 and 1976, they found no evidence of differential fees or interest rates among prestigious underwriters. They identified an investment bank as prestigious if it had made at least five offerings in each of the two years of study and if at least three of the five offerings each year were rated A by Standard & Poor's.

Sorensen (1979) used a sample of 665 bonds issued between 1974 and 1978 and found that competitively issued corporate bonds had lower interest rates than negotiated issues. Using 307 industrial bonds issued between 1981 and 1983, Rogowski and Sorensen (1985) found that the underwriter spread was explained by ratings, maturity, call features, the level of yields, and shelf registration, and that Treasury spread was explained by ratings and issue size. However, neither study examined the impact of underwriter prestige.

For a sample of 1,092 bonds issued during 1990-1994, Lee, Lochhead, Ritter, and Zhao (1996) found that underwriter fees for bonds as a percentage decreased very modestly as the issue size increased. While this study divided issues into investment grade bonds and junk bonds, and utilities versus non-utilities, it did not examine the impact of individual ratings. Using a sample of more than 2,700 bonds issued during the period 1980-93 Livingston, Pratt, and Mann (1995) found Drexel, Burnham, Lambert's underwriting fees to be higher and interest rates to be lower than those of other underwriters of junk bonds.

Two studies recently have examined the certification role of subsidiaries of bank holding companies in underwriting debt. Puri (1996) found that investors were willing to pay a higher price (and thus lower ex ante yield) for bank-underwritten corporate securities than for those underwritten by investment houses. Gande, Puri, Saunders, and Walter (1997) identified the top twenty underwriters in terms of dollar value of underwritings over their study period. Among the twenty were four bank subsidiaries. The authors found lower offering yields associated with lower credit rated firms to whom the banks had made loans. A relatively larger proportion of smaller-size issues were brought to the market by bank underwriting subsidiaries.

Although the underwriting process for bonds and stocks are similar, there has not been a comprehensive study of the impact of underwriter prestige on the issuance of corporate debt securities. This study attempts to fill this obvious gap.

II. Data and Methodology

The data were obtained from the Securities Data Corporation New Issues Database. All public issues by US corporations of nonconvertible industrial debt from January 1990 through December 1997 were included, except those issues with put features,

[4]For the first quarter of 1998, IPO proceeds totaled $6.1 billion, compared to $434.2 billion for bonds (Source: *Wall Street Journal*, April 1, 1998, p. C16).

floating interest rates, and shelf registrations. For each bond, the following information was acquired: issuer, issue date, coupon, maturity, call feature, issue size, lead underwriter, gross underwriter fee, expenses paid by the issuer (excluding underwriter and management fees), Treasury spread (bond's yield to maturity minus the interest rate on a similar maturity Treasury security), and the Moody's and Standard & Poor's bond ratings.

In most cases, Moody's and Standard and Poor's agree on the bond rating for a particular issue. However, in about 15% of cases, these two raters disagree on the letter rating—a so-called split rating.[5] The empirical evidence in Jewell and Livingston (1998) suggests that cases of split ratings are distinct risk categories. Thus, a bond rated A by both raters is in a different risk category from one receiving a rating of A from one rater and triple-B from the other rater. Consequently, this study distinguishes between Moody's and Standard and Poor's agreements and disagreements.

Before bonds are issued, the issuer, with the help of the investment banker, seeks out a bond rating. The large majority of industrial bonds are rated by both Moody's and Standard & Poor's, and may also be rated by other raters such as Fitch IBCA or Duff and Phelps. These ratings provide several independent evaluations of a particular bond issue. Consequently, the default risk level of a particular bond issue is relatively well known. When an underwriter finds out the ratings from independent rating agencies, the risk of incorrectly setting the yield on the bond is reduced. Since bonds with different ratings are in different risk categories, analysis of investment banker performance must control for these differences.

James (1992) has argued that repeat business affects underwriter fees. We measure repeat business by the number of debt issues that a particular issuer sells through the same investment bank during the sample period.

We proxy reputation with two metrics: the investment bank market share of all nonconvertible debt for the study period 1990-1997 and the Carter-Manaster prestige ratings found in Carter et al. (1998). The use of market share is consistent with Megginson and Weiss (1991), who point out that it is a more appealing measure since it doesn't assume that investment banker reputation is constant. In addition, market share provides a cardinal value of reputation rather than an ordinal value. The Carter and Manaster (1990) measure is widely used in equity issues studies.

Table I shows the number of issues underwritten, total proceeds, and percentage market share over the period from 1990-97 for the ten underwriters with the largest market share. The total sample is 2,449 nonconvertible industrial bonds,[6] with proceeds of $437.6 billion. Approximately 70% of the issues were rated investment grade, and were proportionately underwritten more by underwriters with larger market share than those issues rated below investment grade. Note that prestigious underwriters were active at all rating levels. (See Appendix A for an *annual* market share listing of the top five underwriters for both investment grade and below investment grade debt over the study period.)

The performance of investment bankers can be compared in three ways—gross underwriter spread, Treasury spread, and other expenses paid by the issuer. The underwriter spread is the fee paid to the underwriter as a percentage of the proceeds. The Treasury spread is the difference between the yield to maturity earned by the bondholders and the yield on a similar maturity (default-free) Treasury security. The

[5]See Billingsley et al. (1985), Ederington (1986), Jewell and Livingston (1998), Liu and Moore (1987).

[6]The sample drops to 2,092 issues when using the Carter-Manaster (1990) measure since 357 issues were underwritten by investment banks that did not have a reputation value reported in Carter et al. (1998).

Table I. Market Share for Top Ten Investment Banks

This table shows the ten investment bankers with the largest market share of total gross proceeds (in $ Billions), and the number of issues (in parentheses) underwritten for nonconvertible industrial debt issues, exclusive of those with put features, floating interest rates, and shelf registrations, offered over the period 1990 through 1997.

Investment Bank	Investment Grade	Below Inv. Grade	Total Proceeds	Market Share (%)
Goldman Sachs	82.2 (402)	15.9 (84)	98.0 (486)	22.4
Merrill Lynch	43.9 (256)	22.7 (103)	66.6 (359)	15.2
Morgan Stanley	49.0 (280)	10.7 (54)	59.7 (334)	13.6
First Boston	38.1 (179)	7.6 (46)	45.7 (225)	10.4
Salomon Bros.	32.5 (213)	9.9 (53)	42.4 (266)	9.7
Lehman Bros.	23.9 (123)	4.8 (31)	28.7 (154)	6.6
DLJ[a]	1.7 (13)	20.1 (95)	21.8 (108)	5.0
J.P. Morgan	19.2 (130)	2.5 (16)	21.7 (146)	5.0
Bear Stearns	3.6 (12)	5.5 (31)	9.1 (43)	2.1
Dillon Reed	3.1 (17)	2.4 (19)	5.5 (36)	1.3
Top Ten Total	297.2 (1,625)	102.1 (532)	399.2 (2,157)	91.3
Total Market	312.1 (1,763)	125.4 (686)	437.6 (2,449)	100.0

[a]Donaldson, Lufkin, and Jenrette.

issuer pays registration and legal expenses. Other things being equal, the performance of an investment banker is better for the issuer if each of these three costs is lower. However, as in Johnson and Miller (1988), there may be differences in issue characteristics that explain the performance differences in the three measures. Risk differences in the issues underwritten need to be examined for proper evaluation.

In the literature, several issue characteristics have been used as proxies for risk and have been shown to affect underwriter spread and treasury spread. These factors include bond rating, size of proceeds, maturity, and call protection.[7] Bond ratings are used to capture default risk. The natural log of years to maturity is a proxy for the interest rate risk of a bond. Interest rate risk tends to increase with maturity since Macaulay's duration typically increases with maturity at a decreasing rate. Liquidity risk of a bond issue is proxied by the size of the issue, where size is defined as the natural log of the dollar proceeds (see Fisher, 1959). Issue size can have two possible effects. On the one hand, larger issues tend to have greater liquidity because they are traded more frequently in the secondary market. On the other hand, when bonds are originally issued, a large issue size may put downward pressure on prices, leading to higher liquidity risk. The call feature adds risk for the bond buyer because of uncertainty of the yield. Table II presents descriptive statistics of the measures used in the study.

A. Gross Underwriter Spread

Gross underwriter spread (hereafter referred to as underwriter spread) includes a management fee, underwriting fee, selling concession, and reallowance fee. The

[7]See Allen, Lamy, and Thompson (1990), Altinkilic and Hansen (2000), Billingsley, Lamy, Marr, and Thompson (1985), Blackwell, Marr, and Spivey (1990), Chatfield and Moyer (1986), Ederington (1986), Jewell and Livingston (1998), Liu and Moore (1987), Livingston et al. (1995), Logue and Rogalski (1979), Sorensen (1979), and Rogowski and Sorensen (1985).

Table II. Sample Descriptive Statistics

This table presents the sample descriptive statistics for 2,449 nonconvertible debt issues offered from January 1, 1990 through December 31, 1997.

Characteristic	Mean Value
Proceeds	$178.6 Million
Maturity	12.7 Years
Call Protection	10.7 Years
Underwriter Spread	110.8 Basis Points
Treasury Spread	169.5 Basis Points
Count[a]	4.0
Expenses[b]	29.3 Basis Points

[a]The number of issues underwritten by the same investment banker per issuer.

[b]For the 2,449 issues examined, 1,974 had expenses recorded in the database.

underwriter spread is compensation to the underwriter for taking on the risk of selling the issue to investors. This risk is directly related to the investment risk that buyers face, and consists of default risk, liquidity risk, interest rate risk, and call risk. To control for differences in risk that investors, and therefore underwriters face, with different issues, we run a regression model that includes proxies for the various risk factors. In addition, we include a variable that measures the number of debt issues for a particular issuer underwritten by the same investment bank.[8] The regression model for underwriter spread has the following form:

$$US = \alpha_0 + \Sigma\alpha_i R_i + \Sigma\beta_j T_j + \gamma_1 \text{Maturity} + \gamma_2 \text{Proceeds} + \gamma_3 \text{Call} + \gamma_4 \text{Count} + \gamma_5 \text{Rep} \quad (1)$$

where US is the underwriter spread (in basis points). The R_i, i = 1,...,10, are dummy variables representing specific bond ratings (R_1 = 1 if rating is AAA/AA and zero otherwise; R_2 = 1 if rating is AA and zero otherwise, etc.). T_j, j = 1,...,7, are dummy variables representing each year of the study period to control for changing market conditions (T_1 = 1 if year of issuance is 1991 and zero otherwise; T_2 = 1 if year of issuance is 1992 and zero otherwise, etc.). Maturity is the log of the security's years to maturity. Proceeds is the log of the offer size of the issue. Call is a dummy variable equal to 1 if the bond is callable, and zero otherwise. Count is the log of the number of issues of a particular issuer that were underwritten by the same investment bank during the sample period. Rep is either the proportion of market share of the investment banker underwriting the issue over the 1990-1997 period or the Carter-Manaster reputation value for the investment banker underwriting the issue.

As default risk increases, selling issues is more difficult and the underwriter spread should increase, making the expected signs on α_i, i=1,...,10, positive. We expect underwriter spread to increase with maturity because of greater interest rate risk for investors, and the expected sign on γ_1 is positive. The liquidity effect on underwriter spread is an empirical question since large offerings provide opportunities for increased trading but may create downward

[8]For example, of the 486 issues underwritten by Goldman Sachs included in our sample, 376 were issued by 107 companies that had two or more offerings in the period. Some issuers with a large number of issues underwritten by Goldman Sachs were Wal-Mart Stores (22), Dayton Hudson (19), Delta Airlines (13), Ford Motor (12), and American Airlines (10).

price pressure. Therefore, the sign on γ_2 is indeterminant.

Because call features increase risk to bond buyers, callable issues should be harder to sell; we expect a positive sign on γ_3. We expect the sign on γ_4 to be negative, indicating lower underwriter fees for repeat issues. Lastly, the sign on γ_5, the coefficient of reputation indicates the influence of prestige upon underwriter spread, after controlling for the other variables found in the regression model. A positive sign shows higher underwriter spreads for prestigious underwriters, while a negative sign shows lower spreads for prestigious underwriters.

B. Treasury Spread

Underwriters price bonds (and thus determine yield) according to the riskiness of the issue. We capture these risks with the following regression model:

$$TS = \alpha_0 + \Sigma\alpha_i R_i + \Sigma\beta_j T_j + \gamma_1 \text{Maturity} + \gamma_2 \text{Proceeds} + \gamma_3 \text{Call} + \gamma_4 \text{Rep} \quad (2)$$

where TS is the Treasury spread (the difference in the offering yield and the yield on a government security with like maturity, in basis points). The R_i, i=1,...,10, are dummy variables representing specific bond ratings as defined previously. T_j, j=1,...,7, are dummy variables representing each year of the study period to control for changing market conditions, as defined previously. Maturity is the log of the security's years to maturity. Proceeds is the log of the offer size of the issue. Call is a dummy variable equal to 1 if the bond is callable and zero otherwise. Rep is either the proportion of market share the investment banker underwriting the issue has during 1990-1997 or the Carter-Manaster reputation value for the investment banker underwriting the issue.

Treasury spread is positively related to risk, so we expect all the α_i's, i=1,...,10, γ_1, and γ_3 to be positive. As mentioned above, the sign on γ_2 is an empirical issue. A negative sign on γ_4 would be consistent with the argument that the reputation of the investment banker acts to certify the price of the issue.

C. Other Expenses

Issuing firms incur other expenses, such as registration and legal fees, that may be influenced by the underwriter. Investment banks may require the use of one of a small number of possible legal firms that they identify as having the greatest expertise and knowledge of securities law.[9] An issuer having multiple debt issues with the same underwriter provides the law firm involved in the offerings with the opportunity for economies of scale. The tacit association of a given law firm with a prestigious underwriter that has greater repeat business leads to the law firm's being able to reduce its fees. Thus, the analysis controls for repeat business. Lee et al. (1996) find significant differences in costs for investment grade and noninvestment grade bonds. Since most of these expenses have a large fixed-cost component, the analysis also controls for the size of the issue. Therefore, we estimate the following regression model for expenses paid by the issuer:

$$EXP = \alpha_0 + \Sigma\alpha_i R_i + \Sigma\beta_j T_j + \gamma_1 \text{Proceeds} + \gamma_2 \text{Count} + \gamma_3 \text{Rep} \quad (3)$$

where EXP is expenses paid by the issuer exclusive of underwriting and management fees, in basis points. The R_i, i=1,...,10, are dummy variables for bond ratings as defined

[9]This view arose in discussions about "other expenses" with an investment banker.

Table III. Underwriter Spread and Risk

This table shows the regression of underwriter spread (the dependent variable in basis points) on risk proxies that affect the marketability for 2,449 (or 2,092) nonconvertible debt securities issued from January 1990 through December 1997. Default risk is represented by dummy variables for the ratings from Moody's and Standard & Poor's. Interest rate risk is proxied by the log of maturity, liquidity risk by the log of proceeds from the issue, and call risk by a dummy variable equaling 1 if the issue is callable, zero otherwise. Dummy variables for each year of the study are used to control for variability in market conditions. Count is the log of the number of issues from the same company that the investment banker underwrote during the study period. Reputation is either the proportion of market share that the investment banker had over the study period, or the Carter-Manaster prestige scores reported in Carter et al. (1998).

Independent Variable	Market Share Metric (N = 2,449)		Carter-Manaster Metric (N = 2,092)	
	Coefficient Estimate	t-Statistic	Coefficient Estimate	t-Statistic
Intercept	16.0**	2.46	45.9**	3.53
AAA/AA	7.8	0.76	10.6	0.97
AA	12.6**	2.43	11.8**	2.31
AA/A	11.5**	2.02	10.7	1.90
A	12.9**	2.66	12.1**	2.54
A/BBB	17.4**	3.28	15.5**	2.98
BBB	17.4**	3.59	16.6**	3.46
BBB/BB	33.6**	6.07	32.4**	5.92
BB	141.7**	26.76	143.2**	27.30
BB/B	188.7**	33.71	188.4**	33.57
B	215.1**	42.14	215.2**	42.58
1991	-3.2	-1.09	-3.4	-1.22
1992	-8.8**	-3.18	-8.3**	-3.11
1993	-3.8	-1.40	-2.7	-1.00
1994	-2.1	-0.69	-1.5	-0.51
1995	-5.1	-1.78	-4.5	-1.59
1996	-5.8	-1.95	-1.7	-0.58
1997	-1.6	-0.55	-0.5	-0.18
Maturity	18.8**	20.15	18.1**	18.83
Proceeds	0.2	0.29	-0.6	-0.80
Callable	8.4**	5.05	6.7**	3.93
Count	-4.5**	-6.10	-5.0**	-6.74
Reputation	-20.9**	-2.39	-2.9**	-2.29
Adjusted R^2	0.90		0.90	

**Significant at the 0.05 level.

previously. T_j, j=1,...,7, are dummy variables for each year of the study, as defined previously. Proceeds is the log of the issue size. Count is the log of the number of issues from the same company that the investment banker underwrote during the study period, and Rep is either the proportion of market share the underwriter has during

Table IV. Treasury Spread and Risk

This table shows the regression of treasury spread (the dependent variable in basis points) on risk proxies that affect the yields of 2,449 (or 2,092) nonconvertible debt securities issued from January 1990 through December 1997. Default risk is represented by dummy variables for the ratings from Moody's and Standard & Poor's. Interest rate risk is proxied by the log of maturity, liquidity risk by the log of proceeds from the issue, and call risk by a dummy variable equaling 1 if the issue is callable, zero otherwise. Dummy variables for each year of the study are used to control for variability in market conditions. Reputation is either the proportion of market share that the investment banker underwriting the issue had over the study period, or the Carter-Manaster prestige scores reported in Carter et al. (1998).

Independent Variable	Market Share Metric (N = 2,449)		Carter-Manaster Metric (N = 2,092)	
	Coefficient Estimate	t-Statistic	Coefficient Estimate	t-Statistic
Intercept	55.0**	3.88	169.7**	5.80
AAA/AA	26.7	1.18	32.2	1.30
AA	23.3**	2.06	21.1	1.85
AA/A	29.6**	2.37	28.2**	2.23
A	51.3**	4.86	48.1**	4.52
A/BBB	69.0**	5.95	66.0**	5.62
BBB	92.3**	8.67	92.8**	8.63
BBB/BB	160.7**	13.24	160.1**	13.05
BB	270.0**	23.23	266.6**	22.60
BB/B	331.8**	27.02	327.8**	25.99
B	422.1**	37.74	418.2**	36.89
Maturity	15.1**	7.37	15.1**	6.96
Proceeds	-3.7**	-2.34	-5.8**	-3.29
Callable	17.9**	4.91	17.6**	4.66
Reputation	-45.6**	-2.43	-12.3**	-4.31
Adjusted R^2	0.85		0.84	

**Significant at the 0.05 level.

1990-97 or the Carter-Manaster reputation value for the investment banker underwriting the issue. We expect the high yield coefficients, α_7, α_8, α_9, and α_{10}, to be larger than the investment grade coefficients, α_1 through α_6, and the signs on γ_1 and γ_2 to be negative.

III. Results

The performance of investment bankers with regard to underwriter spread for each reputation metric is reported in Table III. Bond rating coefficients show an almost monotonically increasing and statistically significant pattern as ratings decline, which suggests that fees are directly proportional to default risk. Most of the coefficients representing individual years of the study are insignificant. Coefficients on maturity and call feature are positive and significant. Taken together, these results support the notion that underwriter fees compensate underwriters for difficulties in selling riskier issues.

The coefficient for repeat business is negative and significant, indicating economies of

Table V. Other Expenses of Issuing Debt

This table shows the regression of expenses paid (the dependent variable in basis points) by the issuer, excluding underwriting and management fees, on bond ratings for 1,974 (or 1,736) nonconvertible debt securities issued from January 1, 1990 through December 31, 1997. Dummy variables for each year of the study are used to control for variability in market conditions. Count is the log of the number of issues from the same company that the investment banker underwrote during the study period. Reputation is either the proportion of market share that the investment banker underwriting the issue had over the study period, or the Carter-Manaster prestige scores reported in Carter et al. (1998).

	Market Share Metric (N = 1,974)		Carter-Manaster Metric (N = 1,736)	
Independent Variable	Coefficient Estimate	t-Statistic	Coefficient Estimate	t-Statistic
Intercept	129.7**	13.95	165.6**	10.44
AAA/AA	24.1	1.62	27.9**	1.98
AA	2.5	0.37	3.2	0.53
AA/A	-1.3	-0.18	-1.2	-0.18
A	-4.3	-0.68	-4.7	-0.83
A/BBB	3.3	0.48	4.2	0.67
BBB	0.8	0.12	0.6	0.10
BBB/BB	6.8	0.96	7.4	1.15
BB	25.5**	3.76	20.4**	3.31
BB/B	31.1**	4.39	29.8**	4.57
B	43.3**	6.72	40.4**	6.93
Proceeds	-20.7**	-17.26	-20.6**	-18.94
Count	-0.5	-0.50	-0.4	-0.45
Reputation	-23.1**	-2.00	-4.5**	-2.93
Adjusted R^2	0.34		0.37	

**Significant at the 0.05 level.

scale for underwriters selling multiple issues of the same issuer. This finding is consistent with James's (1992) argument that lower fees may be the result of underwriters' acquiring durable company-specific information that is used in subsequent offerings.

After controlling for risk and repeat business, we find that higher reputation investment bankers charge lower underwriting fees. Such behavior is consistent with attempting to increase market share, possibly because the more prestigious underwriters have bargaining power in getting members of the underwriting syndicate to accept lower fees. Another possible explanation is the omission of some risk measure for individual issues that is correlated with reputation. Since we have included ratings of both Moody's and Standard & Poor's and a wide variety of other risk measures, and have high explanatory power for the regression ($R^2 = 0.90$), omission of some major risk factor seems unlikely.

Table IV reports the regression results for Treasury spread. Reputation has an impact on Treasury spreads. The more prestigious underwriters sell bond issues at lower interest rates and, therefore, higher prices. This is consistent with theory that says reputation acts as a bond to investors for certification of issue price. The rating variables for A and below are significant. Maturity has the expected impact on Treasury spread.

Proceeds has a negative sign, implying that larger-sized bond issues are more liquid and thus have lower yields, other things being equal. The existence of a call feature increases the yield.

The results for other expenses are shown in Table V. Bond ratings that are below investment grade are the only ratings that have a significant impact on other expenses paid by the issuer. Repeat business does not significantly reduce other expenses paid. Underwriter prestige does have a significant negative impact upon other expenses paid by the issuer. Firms that use the more prestigious investment banks have lower "other issuance expenses" than firms using lower reputation investment banks.

These findings strongly suggest that there are significant benefits for issuers of nonconvertible industrial debt to use more prestigious investment banking firms for underwriting. In addition, these underwriters get higher prices for issues after adjusting for default rating and other risk factors. This is consistent with reputation acting as a bond for certifying the issue price. Finally, the prestigious underwriters are associated with issuing firms having lower expenses for registration and legal fees. Thus, investment banker reputation plays a certification role in the underwriting of nonconvertible debt.[10]

IV. Conclusions

This study has examined the impact of underwriter reputation on the underwriting process for nonconvertible industrial debt. Our sample includes 2,449 industrial bonds issued January 1990 through December 1997 that were reported in the SDC New Issues Database. We find that larger, prestigious underwriters charge significantly lower underwriting fees, even after taking into account their greater repeat business, which affords economies of scale. This finding is consistent with prestigious investment bankers' having bargaining power in persuading the underwriting syndicate to accept lower fees in order to increase market share. Offering yields are also lower, thus offering prices higher, for prestigious underwriters, suggesting that investment banker reputation acts to certify the value of a bond issue to investors. Other issuance expenses paid by the issuer are also lower for debt underwritten by the larger investment banking firms, but are not affected by repeat business. ■

[10]We also ran each regression using *annual* market share of the underwriter as a measure of the underwriter's reputation in that period. The results were identical to those reported for underwriter spread and Treasury spread. Reputation in the "other expenses" regression drops in significance (p-value is 0.15) but maintains a negative sign.

Appendix. Investment Banker Market Share Rankings By Year[a]

I. Investment Grade Debt Market Share Rank

1990	1991	1992	1993
1. Merrill Lynch	1. Goldman, Sachs	1. Goldman, Sachs	1. Merrill Lynch
2. Morgan Stanley	2. Merrill Lynch	2. Merrill Lynch	2. Goldman, Sachs
3. Goldman, Sachs	3. Morgan Stanley	3. Lehman Bros	3. Lehman Bros
4. Salomon Bros	4. Salomon Bros	4. First Boston	4. Salomon Bros
5. First Boston	5. Lehman Bros	5. Salomon Bros.	5. Morgan Stanley

1994	1995	1996	1997
1. Merrill Lynch	1. Merrill Lynch	1. Merrill Lynch	1. Merrill Lynch
2. Lehman Bros.	2. Salomon Bros	2. Smith Barney	2. Salomon Bros[b]
3. First Boston	3. Morgan Stanley	3. Goldman, Sachs	3. Morgan Stanley[c]
4. Morgan Stanley	4. Lehman Bros	4. J.P. Morgan	4. J.P. Morgan
5. Goldman, Sachs	5. Goldman, Sachs	5. Lehman Bros	5. Goldman, Sachs

II. Below Investment Grade Debt Market Share Rank

1990	1991	1992	1993
1. Bear, Stearns	1. Merrill Lynch	1. Merrill Lynch	1. Merrill Lynch
2. Goldman, Sachs	2. Goldman, Sachs	2. DLJ[d]	2. DLJ
3. Merrill Lynch	3. Morgan Stanley	3. Goldman, Sachs	3. Morgan Stanley
4. Salomon Bros.	4. First Boston	4. Morgan Stanley	4. Salomon Bros.
5. Piper, Jaffray & Hopwood	5. DLJ[a]	5. First Boston	5. Goldman, Sachs

1994	1995	1996	1997
1. Merrill Lynch	1. Goldman, Sachs	1. DLJ	1. Merrill Lynch
2. DLJ	2. DLJ	2. Merrill Lynch	2. DLJ
3. Salomon Bros	3. Merrill Lynch	3. Goldman, Sachs	3. Morgan Stanley[c]
4. Goldman Sachs	4. Morgan Stanley	4. Bear, Stearns	4. Salomon Bros[b]
5. Morgan Stanley	5. Salomon Bros	5. Salomon Bros	5. Chase Manhattan

[a] Source: *Investment Dealers' Digest*, 1990-1997.

[b] Salomon-Smith Barney

[c] Morgan Stanley-Dean Witter

[d] Donaldson, Lufkin, and Jenrette.

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