CREDIT RATINGS, ISSUER QUALITY, AND UNDERWRITER REPUTATION IN THE DEBT MARKET

AN ABSTRACT

SUBMITTED ON THE FOURTEENTH DAY OF APRIL 2010

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BY

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ABSTRACT

Firms raise capital to finance investment projects by issuing debt or equity securities. In most cases these securities are marketed by investment banks that underwrite the issues. This study analyzes the association between debt issuers and their underwriters and compares the results to a similar study from the equity market.

Positive assortative matching in which reputable underwriters market issues for high quality firms is present in both the equity and debt markets. In addition to positive assortative matching, there is also evidence of negative assortative matching within the debt market segments.

Investment grade credit ratings in the debt market provide information about the issuing firm and certify that the security is of high quality. Firms with less than investment grade ratings or no rating must either provide an expected return high enough to induce investors to purchase the offering or find another means of certifying the issue. Results from the current study are consistent with lower quality firms using underwriter reputation as a substitute for certification from rating agencies and paying higher gross spreads to do so.

Firms making subsequent issues may use the same underwriter as their previous issue or switch to another. Analysis of a firm's decision to use the same underwriter on a subsequent issue or switch to a different underwriter indicates that several of the factors

that influence this decision have the reverse effect in the equity and debt markets. In the equity market, as the difference in relative firm quality and underwriter reputation increases the probability of switching underwriter increases; the majority of the evidence from the debt market indicates a decrease in the probability. The time between issues also increases the probability of a switch in the equity market and a decrease in the debt market.

Previous research indicates greater benefits to lower quality issuers from using the same underwriter for multiple services. In a final analysis, a variable representing the scope of underwriter services used by each issuer-underwriter match is added to the firm quality regressions as a check of the model's robustness. Results are consistent with those from existing studies.

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A. Motivation

Corporations raise funds in the capital markets to finance their investment projects. Investment banks facilitate this process by underwriting and marketing the securities. The type of security issued is based on firm characteristics such as its profitability and leverage as well as the economic and current market conditions. New issues are sold in both the equity and debt markets every year indicating a continuum of firm types with one end benefitting most from issuing equity and the other from debt.

Although many studies of issuer and underwriter associations exist for the equity market, research in the debt market has been limited[1]. The research in this project sheds light on the relationship between issuers and underwriters in the debt market and provides a basis for comparison to the equity market.

B. Contributions

This study contributes to the literature in two ways, first by examining the roles played by underwriter reputation, credit ratings, and issuer quality for new straight debt

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[1] Exceptions include Fang (2005), Livingston and Miller (2000), and Saunders and Stover (2004).

issues. All firms issuing new securities, particularly smaller, younger, or less well known issuers, do so in an asymmetrically informed market. To overcome the resulting mispricing issuers 'certify' the issue, usually through the use of a reputable underwriter; however, an alternative to underwriter certification exists for debt issues in the form of credit ratings. The main objective of this study is to determine whether firms use underwriter reputation as a substitute for certification through credit ratings. The results indicate that this is the case and that the role played by underwriter reputation is more significant for low quality firms that lack certification through credit quality than for investment grade issuers.

The second contribution is a comparison of the results from this study to those from Fernando, Gatchev, and Spindt (2005), which is a similar study of the equity market. This comparison adds to the information on similar and contrasting features of the equity and debt markets that exists in the literature. Previous research has shown that investment and non-investment grade debt exhibit contrasting characteristics while high yield debt and equity have many similarities (Blume, Keim and Patel (1991), Cornell and Green (1991), Datta, Iskandar-Datta and Patel (1997), Fang (2005)). Results from the current study provide support for similarities between non-investment grade debt and equity but, surprisingly, also provide evidence of some similarities between investment grade debt and equity.

C. Summary of Results

The segments of the debt market create partitions for the full debt sample that facilitate investigation of the impact of credit quality on the relationships of issuing firms with underwriters' reputations and with their compensation. The significance of these relationships within the high yield and unrated segments is greater than for the investment grade segment. The evidence is consistent with lower quality firms using underwriter reputation as a substitute for certification by the credit rating agencies. This substitution is possible because underwriters in the debt market appear more willing to accept lower quality clients than in the equity market but do so in return for higher fees. The weight of the evidence from this study is consistent with previous research indicating a greater similarity between equity and lower quality debt than with investment grade debt.

A comparison of the results from this study with a previous analysis of the equity market indicates similar associations between issuers and underwriters in the equity market and the debt market overall. In general, reputable underwriters are associated with high quality firms in both the debt market and the equity market. However, within the segments of the debt market there is also evidence of negative assortative matching in which reputable underwriters match with lower quality firms. With only occasional exceptions, if a particular regression model indicates a positive assortative relationship between firm quality and either underwriter reputation or compensation in the investment

grade segment, then the relationship is negative assortative for the high-yield and unrated segments. The reverse is also true: if the investment grade relationship is negative assortative, then for the non-investment grade segments it is usually positive assortative.

The variation in gross spreads may influence the significance of pricing in the two markets. In contrast to the similarity in results from the regressions of underwriter reputation on firm quality, there are very different results overall for the regressions of underwriter compensation on firm quality in the debt and equity markets. Pricing is largely irrelevant in the equity market but is highly significant in the debt market. Previous research reports a wider interquartile range of gross spreads for new corporate debt issues than for seasoned equity issues and especially for equity IPOs that cluster around 7 percent (Lee *et al.* (1996)).

An analysis of the relationships between issues in the market and those marketed by top underwriters provides evidence of greater similarities between high yield debt and equity than between investment grade debt and equity. In the debt market the only significant relationship between top underwriter market share and issue activity is negative for the high yield segment, as it is in the equity market. Also, the average quality of issues marketed by top high yield underwriters is positively related to the average quality of issuers and the dispersion of issuer quality in the junk bond market, which is similar to the quality of issues marketed by top equity underwriters.

Evidence of a contrast exists between the equity and debt markets in the choice of underwriter for subsequent issues. The same factors that increase the probability of a

switch in the equity market are often associated with lower probability of a switch in the debt market.

The robustness of the firm quality regressions is checked using a variable that represents the scope of underwriter services associated with each issuer–underwriter match. The check showed that although scope is significant in several specifications, its effect on gross spread is negative only for the unrated segment. This result implies that the greatest benefit in pricing from using the same underwriter for more than one service is realized by the lowest quality issuers which is consistent with results from previous research indicating the benefit from using the same investment bank for concurrent deals is greatest for firms facing the greatest information asymmetry, which is the case for issues with no credit rating.

The rest of the dissertation is organized as follows. Chapter II reviews the literature related to theories of capital structure, underwriter reputation and certification, issuer-underwriter association, and the debt market and discusses relevant empirical studies. Chapter III compares characteristics of the debt and equity markets. Chapter IV describes the data used in this study; Chapter V describes the hypotheses and methodology and presents the results; Chapter VI reports the robustness analysis; Chapter VII concludes the study and summarizes the main findings.

II. Literature Review

A. Capital Structure

Before a firm finds an underwriter it must first decide to raise new capital and determine the source of that capital. Theories of capital structure choices or irrelevance (Modigliani and Merton H. Miller (1958)) have been developed and tested empirically such as the "pecking-order" theory (Myers (1984), Myers (1977)). Asymmetric information creates indirect costs of issuance from market reaction to a security issue making each type of security more or less preferable to another based on the level of associated risk.

Once the decision is made to raise new capital, other theories attempt to explain different aspects of security issuance including the capital structure choice (Myers (1984), Myers and Majluf (1984), Ross (1977), Harris and Raviv (1990)), pricing (Aggarwal, Krigman and Womack (2002), Habib and Ljungqvist (2001), Rock (1986), Benveniste and Spindt (1989), Hanley (1993)), underwriter selection (Fernando, Gatchev and Spindt (2005)), certification and reputation (Booth and Smith (1986), Carter and Manaster (1990), Chemmanur and Fulghieri (1994)) to name only a few.

B. Reputation and Certification

The current study examines the benefits firms realize from certification of their new security issues and the methods by which this can be achieved. Research in this area of the literature address the source of reputational capital and attempts to quantify its value to both underwriters and issuing firms. The most relevant theories and empirical studies are presented below.

Klein and Leffler (1981) create a general model of reputation building that relies on repeat purchases by satisfied customers willing to pay a premium for a quality product. In their 1986 paper, Booth and Smith extend the Klein and Leffler model to the market for underwriters. Their "certification hypothesis" is based on the idea that certain underwriters distinguish themselves as marketing only high quality (low risk) firms and that investors rely on an underwriter's past offerings to infer the quality of their present issue.

Carter and Manaster (1990) in their study of the characteristics of equity IPOs by prestigious underwriters, develop a measure of reputation based on the underwriter's position within the tombstone announcements of the issue. Based on their finding that less reputable underwriters market riskier IPOs, Carter (1992) addresses the likelihood of subsequent offerings by the lower risk IPO clients of reputable underwriters and finds a

positive relation between the likelihood of subsequent offerings and IPO underwriter reputation and a negative relation with IPO gross spread.

Megginson and Weiss (1991) extend the certification hypothesis to venture capitalists and base their measure of underwriter reputation on the market share of each. Aggarwal, Krigman, and Womack (2002) in turn, use underwriter market share to develop their 'Lead Underwriter Reputation' (LUR) measure.

The sample in the current study includes unrated as well as rated debt issues, which are addressed in Chemmanur and Fulghieri (1994). Their model implies reputable underwriters are effective in reducing the impact of information asymmetry; consequently firms generally prefer to issue underwritten securities. According to their model, only two types of firms will issue non-underwritten securities; those facing little information asymmetry or those unable to find an underwriter willing to market the issue.

Ljungqvist, Marston, and Wilhelm (2006) investigate allegations that investment banks used their analysts' recommendations to attract underwriting business and, as a result, were misleading investors. The authors point out a distinction between equity and debt markets based on the "pecking order" theories of security preference; therefore their insights are particularly useful in the present study. Managers' preference for debt creates demand for underwriter certification, which results in lower reputational concerns for debt underwriters compared to equity underwriters. It may be that some unexpected results in the current study are due to this distinction.

C. Issuer – Underwriter Association

The most relevant work for the current project is Fernando, Gatchev, and Spindt (2005, hereafter referred to as FGS). The mutual choice model presented in FGS implies a positive relation between issuer quality and underwriter reputation that was shown to exist in the equity market. The current study applies the same model to a sample of straight debt issues and compares the results to those from the original study with some unexpected results such as the presence of negative assortative matching within the debt market segments. Other research on choice of underwriter include Ellis, Michaely, and O'Hara (2006) that addresses reasons issuers switch to a different underwriter between IPO and SEO.

D. Debt Market

Research more specific to the debt market includes Blume and Keim (1987) and Blume, Keim, and Patel (1991) that examines low grade bond returns and their investment potential. Datta, Iskandar-Datta, and Patel (1997 and 2000) examine straight debt IPOs and their underpricing. They find a negative stock price reaction around the announcement and infer that debt IPOs send a negative signal.

Cornell and Green (1991) find that low grade bond returns are more sensitive to changes in stock prices than are investment grade returns, which are more sensitive to

fluctuating interest rates. Campbell and Taksler (2003) find that firm specific volatility in equity returns is directly related to a firm's cost of debt and explains as much of the variation in credit spreads as do credit ratings. A caveat to these results is the sample was made up of only investment grade bonds, which as the previously cited studies indicate, are not comparable to high yield bonds.

Livingston and Miller (2000) is a rare example of a debt underwriter reputation study and finds that prestigious underwriters provide lower offering yields and charge lower fees a finding that is contrary to the predictions from several theories. Klein and Leffler's (1981) model predicts a 'quality assuring price' that is above the competitive equilibrium price. Carter and Manaster (1990) also predict higher fees associated with reputable underwriters as does the Chemmanur and Fulghieri (1994) model.

Fang (2005) examines the relationships between reputation, compensation, and quality of service. She finds that reputable underwriters charge higher fees for an issue than would have been charged if a less reputable underwriter had taken the issue to market; however, the lower yields obtained by the reputable underwriter provide higher net proceeds to the issuer. Also, junk bond issuers realize a greater degree of price improvement using prestigious underwriters than do investment grade issuers.

Drucker and Puri (2005) examine the benefits from banks that underwrite equity issues while concurrently lending to the same firm. Their results indicate issuers with lower credit quality who are facing the greatest information asymmetries benefit the most through lower underwriting fees on the equity issues and lower yield spreads on the

loans. The greater benefits for lower quality debt may arise from the investment bank's ability to "reuse" information gathered from the first deal, thus, lowering the cost of due diligence on the second deal. However, this is not always possible because the same information is not necessarily relevant to both equity and debt, a point which Drucker and Puri do not address. It is only when a firm's financial condition begins to deteriorate that information relevant to both owners and lenders begins to converge. If there is greater overlap in the information from the markets for equity and non-investment grade debt than with higher quality debt, then there may also be more similarity in the relationships between firms and underwriters in the two markets. The current study extends this research by examining the degree of similarities between equity and debt based on credit quality.

III. Debt and Equity Market Comparison

The main objective of the current study is to examine the roles played by underwriter reputation and credit ratings in certifying new debt issues; however, an additional objective is a comparison with a similar study of the equity market. The following discussion provides a frame of reference for the empirical analyses.

A. Securities

Capital markets provide a means for corporations to raise funds for investment opportunities. Although hybrid securities such as preferred stock trade in the capital markets, in the most general sense equity securities represent ownership of the issuing firm, and debt securities are loans to the issuing firm. The secondary markets of both types of securities may be on the floor of an exchange such as the NYSE or on a dealer network such as NASDAQ, but trading is much more active for equity than for debt. Other distinguishing features include the finite life and contractual return of debt securities compared to the infinite life and expected return of equities. Having the precise terms of an investment laid out in a contract as for bonds reduces the risk associated with the investment and attracts a different type of investor from those found in the equity market in general. Other than the institutional investors, including mutual funds and insurance companies, bond investors tend to be more risk averse individuals

who are often retired or approaching retirement age. In contrast, equity might be a more attractive investment for a younger, less risk averse investor.

A popular segment of the equity market is devoted to new issues by corporations making their initial public equity offerings (IPOs). These issues are associated with greater uncertainty than equity in general because the firms are relatively unknown. A large proportion of equity research is devoted to IPOs, their pricing, and subsequent equity issues. New issues of equity are also made by firms that are already publicly traded and are known as "Seasoned Equity Offerings" (SEOs).

The structure of equity markets has changed with developments in technology and communications. Trading in the past had to be carried out in a central location like on the floor of the NYSE. This is no longer required because advances in technology allow trades to be carried out through computer networks like NASDAQ, which was created by the National Association of Securities Dealers (NASD) in 1971.

In contrast to the equity market, in the debt market, most securities have a credit rating from one or more rating agencies like Standard & Poors or Moody's (now owned by Mergent) that create segments based on financial soundness of the issuing firms. Bonds with the highest credit quality have investment grade ratings whereas lower quality bonds receive high yield ratings and are often referred to as junk bonds. Bonds are traded on the NYSE but predominantly through dealer networks. In the past almost all bonds with high yield ratings were originally issued as investment grade but were downgraded at some point during their life to become "fallen angels". During the 1970s,

this began to change with the rise of the junk bond market in which bonds were actually issued with less than investment grade ratings and primarily used to finance mergers and acquisitions or leveraged buyouts.

B. Volume

Although there are certain similarities between debt and equity markets, their structures differ in size, activity level, and participants. Figures 1 and 2 present comparisons of the number of new debt and equity issues and the proceeds raised from these new issues respectively. A summary of the activity in each of these markets is presented in Table I. Over the sample period, from January 1, 1980 to December 31, 2007, there are approximately 23 percent more equity issues than debt per year yet the average of equity proceeds raised per year is less than half the amount of debt proceeds. In only 12 of the 28 years are there more debt issues than equity, and in only one year are there more equity proceeds raised than debt.

C. Participants

The equity market also has more underwriters than does the debt market over the sample period. There are 137 merger-related underwriters identified in the debt market, and of those, 105 are also active in the equity market. The total number of merger related underwriters in the equity market during the sample period is 749, of which 644 are

active only in the equity market. Many of the equity underwriters are small firms and 230 were active for only one year. Table II summarizes the number of affiliated underwriters active in the U.S. debt and equity markets over the sample period.

D. Implications for the Current Study

The differences in volume and participants in the debt and equity markets generate different results in this study compared to FGS, some more surprising than others. For example, pricing is a relatively important characteristic in the debt market while of little consequence in the equity market. In general, gross spreads are higher in the equity market than in the debt market. Within the equity market gross spreads are higher for IPOs than SEOs. Chen and Ritter (2000) document IPO gross spreads clustering at seven percent, while SEO gross spreads are lower than IPO spreads and do not cluster at any particular point. Previous research indicates gross spreads in the debt market are lower overall than in the equity market. Lee et al. (1996) using a sample of equity and debt issues between 1990 and 1994, reports the interquartile ranges for IPO gross spreads as 7.00 – 7.05, for SEO gross spreads as 4.51 – 6.08, and for straight debt issues as 0.60 – 2.75. The more significant role for pricing in the debt market than in the equity market may be due to the difference in gross spreads in the two markets along with the differences in volume and participants.

The nature of the association between issuer and underwriter is also affected by the aspects discussed above. Previous studies indicate similarities between lower grade

debt and equity that are not found with investment grade debt and equity (Blume, Keim and Patel (1991), Datta, Iskandar-Datta and Patel (1997)). The current study finds some evidence consistent with similarities between lower grade debt and equity; however evidence also indicates the opposite. In the equity market, issuer – underwriter association is shown to be positive assortative with a direct relationship between firm quality and underwriter reputation, and for the debt market overall this is also the case. The most unexpected result from this study is the existence of negative assortative matching, which is found in all three debt market segments but primarily in the non-rated segment. The high yield segment also exhibits characteristics of negative assortative matching but a greater proportion of significant relationships indicates positive assortative matching. For investment grade issues many relationships are insignificant; however, there is evidence of positive assortative matching and limited evidence of negative assortative.

IV. Data

A. Debt Issues

Data used in this study are from several sources. The debt sample is identified using the Securities Data Company (SDC) U.S. New Issues Database and consists of new issues of public non-convertible debt offered by non-financial firms (SIC 6000 – 6999 excluded) between January 1, 1980 and December 31, 2007. Issues with floating, variable, indexed, and reset coupon rates were excluded, thus, leaving the final sample of 13,492 straight coupon and zero coupon bonds. Sample statistics for the individual issues by credit rating are presented in Table III; all values are adjusted to year 2000 dollars using the GDP implicit price deflator.

Stock prices, common shares outstanding, daily returns, and delisting data are collected from the Center for Research in Security Prices (CRSP) and are used to calculate market capitalization and stock price volatility. Annual and quarterly accounting data from Compustat are used to calculate financial and interest coverage ratios. Information on issuer default history is from Mergent's Fixed Investment Securities Database (FISD).

A.1. Value-Weighted Observations

It is not uncommon for firms to issue debt with several maturities on the same day, each having a unique CUSIP issue identification code. Having multiple issues for a single issuer – underwriter match creates a distortion in the data. To correct for bias created by these issues, the data are consolidated so that one observation represents all issues by a firm occurring on a given date. Proceeds for each issuer-issue-date observation are the sum of the proceeds for the concurrent issues. Value weighted averages of maturity, coupon rate, gross spread, and yield to maturity are calculated using the individual issues' proceeds as the weights. The result is a second dataset made up of 10,711 issue date observations of the consolidated data that is used for analyses that would be adversely affected by the original sample. Sample statistics for the concurrent issues by credit rating are shown in Table IV; all values are adjusted to year 2000 dollars using the GDP implicit price deflator.

A.2. Credit Ratings

Although the consolidated dataset corrects for problems with issue timing, it creates additional concerns for some observations. Two of the measures of issue quality in this study are based on S&P credit ratings. The first variable has two possible values, either investment grade (IG) or non-investment grade (NIG) including both high yield

and unrated issues. The second variable is similar to the first but has three possible values, investment grade (IG), high yield (HY), and not rated (NR). The third variable is the relative rank of an issue within the distribution of credit ratings brought to market during a year. An alphabetic sort does not result in the proper order for ratings; therefore, a numeric variable is used instead. The S&P ratings are ordered from highest to lowest rating with AAA = 23 and D = 2; issues with no rating have an order equal to 1. This numeric variable is used to calculate percentile ranks for the actual ratings. A problem occurs when concurrent issues for a single issuer have different credit ratings. In the most extreme example a firm has an A- investment grade rating (order=17) on one issue and another unrated issue with order=1, but both issued concurrently. As a result, several issuers at the lower end of the investment grade range or the upper end of the non-investment grade range have both investment and non-investment grade issues on the same day. To deal with different same-day ratings, several strategies were considered including using Moody's rating or calculating a value weighted average of the ordered rating; however no one solution provided consistent results across all problem observations. Because this problem may be due in part to errors in the SDC data, one correction was to set the numeric order variable to missing for the 134 concurrent observations that were affected. If all issues are investment grade or all are non-investment grade for an issuer on a particular day, the character variable SP_GRADE retains its value of either 'IG' or 'NIG' for that issue date; otherwise, the character

variable is also set to missing. This is the case for only seven observations, which does not greatly affect the regression results reported later in this paper.

Credit rating agencies evaluate a firm's financial soundness and ability to meet its debt obligations without regard to other firms' ratings and ability. Issuer and underwriter association is based on quality and reputation relative to other market participants at the time an issue is made. To measure firm quality relative to all issues in the market, percentage ranks (RTNRANK) were calculated for each year.

B. Issuer Quality

Firm "quality" is not directly observable or quantifiable; therefore, proxies representing salient characteristics must be used instead; the following analyses use two sets of quality measures. The first set of quality proxies is based on the FGS study of the equity market and includes data related to firm age, viability after an offering, subsequent issues, earnings, and stock price volatility. The second set of proxies is based more on accounting information than the first set and includes variables related to asset value, interest coverage, and debt ratios.

B.1. Equity Related Firm Quality Variable.

Older firms are generally considered to be of higher quality than younger firms, but data on firm age is not readily available in many cases. The variable representing

firm age used in this study is the natural log of the number of years a firm has been followed by CRSP.

Higher quality firms should remain viable long after the debt issue while lower quality firms are more likely to be delisted because of financial distress. A dummy variable is used as a measure of viability and is set to one if the firm remains listed on the New York Stock Exchange (NYSE), the American Stock Exchange (AMEX), or NASDAQ, or has been delisted because of a merger or exchange offer; the variable is set to zero otherwise.

Research in the equity market indicates a connection between reputable underwriters and low-risk IPOs that are more likely to make subsequent equity offers (FERNANDO, GATCHEV and SPINDT (2005), Carter and Manaster (1990), Carter (1992)). Evidence that higher quality firms are more likely to issue public debt is presented in Denis and Mihov (2003) who find a firm's credit rating is the main indication of its choice between public, private bank, and private non-bank debt. Larger, profitable firms with higher credit ratings are more likely to issue public debt than either bank or non-bank borrowers. Krishnaswami et al. (1999) show that firms with more information asymmetry are associated with higher proportions of private debt. In the current study, a dummy variable is set to one if a subsequent debt issue occurs within five years and zero otherwise.

Higher quality firms are able to service their debt and provide shareholders with a return on their investment by generating positive earnings. Therefore, a third dummy variable is used to indicate positive earnings for the fiscal year ending after the issue.

The final equity related firm quality measure used in this study is the standard deviation of daily stock returns calculated from 360 days before the issue to 40 days before the issue. Return volatility is a measure of uncertainty or risk associated with a stock. If underwriters prefer to associate with low risk firms as shown in previous studies (Carter and Manaster (1990), Carter (1992)), then a negative relation is expected between underwriter reputation and standard deviation of returns. An alternative interpretation suggests that firms with volatile returns may actually be high quality if the insiders' private information relates mainly to investment opportunities and not to assets in place (Ambarish, John and Williams (1987)).

Control variables for issue and firm size are also included. The natural log of proceeds controls for issue size. The control variable for firm size in the equity related firm quality regressions is the natural log of market capitalization from the month prior to issue.

B.2. Debt Related Firm Quality Variables

The second set of variables used to proxy firm quality used accounting data from the Compustat quarterly files from the quarter prior to issue (*t-1*) and the quarter in which

the issue occurred (*t*). The debt related firm quality measures are pretax interest coverage, long-term debt to total assets, long-term debt to market equity, total debt to total assets, and total debt to market equity. The interest coverage ratio uses income from quarter t-1 and interest expense from quarter t. The leverage ratios are calculated for quarter t-1.

Leverage ratios for several observations were unrealistically large due to sudden drops in the number of shares or the share price used to calculate the value of equity. The most extreme case had common shares outstanding two quarters prior to issue of 51.9 million that dropped to 1,000 thousand shares for the quarter ending six weeks prior to issue. The drop in the number of shares was accompanied by an increase in share price from $66.13 to $68.75. To correct for these outliers, 1percent of the observations in the upper tail were Winsorized.

As in the equity related quality measure regressions, the natural log of proceeds controls for issue size in regressions using the debt related firm quality measures. The natural log of total assets from the quarter prior to issue is used to control for firm size in regressions with the debt related firm quality proxies.

C. Underwriters

C.1. Merger Affiliations

Changes in financial industry regulation motivated numerous mergers and acquisitions over the sample period (1980 – 2007) making issuer – underwriter associations difficult to analyze. There is a need for continuity across mergers and acquisitions to determine when a firm switched from one underwriter to another on a subsequent issue as well as to accurately calculate three-year average market share, the basis of the reputation measure in this study. Accomplishing this goal required some consolidation of the individual underwriters that were initially identified using data from the Security Data Company (SDC). Additional information was hand collected on company histories from numerous sources including databases (ABI/Inform, EBSCO, Hoover's, Lexis-Nexis, and ProQuest) from newspaper and magazine articles as well as company Websites. This information was used to construct merger affiliations between firms, which allowed the proceeds from the merger year and the two previous years to be combined and used to calculate the new firm's initial reputation as accurately as possible. Generally, these affiliations either take the name of the acquiring firms, or the names of merger partners are combined as in the case of Morgan Stanley (MS) and Dean Witter (DW) to become MSDW. Another drawback to using SDC data is that a single investment bank may be listed under several different names, e.g. AG Edwards & Sons Inc. and AG Edwards Inc. or several units or divisions of a single bank are identified separately, e.g. First Union Capital Markets and First Union Securities Inc. To correct

for these duplicate names, a single name was assigned to each underwriting firm as in the case of A-G-EDWARDS and FIRST-UNION.

Once relationships were identified, each lead underwriter that worked on an issue in the sample was associated with a merger-affiliated group and its underwritten proceeds added to its group's proceeds for each. The reputation measure (LUR) was then calculated for the whole group so that the underwriter's reputation measure is the reputation of the merger-affiliated group to which it belongs in that year.

Consolidating proceeds in this way creates a clearer picture of debt underwriting and the major players in the market, reducing by approximately 40 percent the number of lead underwriters from 226 firms to 137 groups. Even at the group level, merger activity is still evident, which means that an individual underwriter may belong to different groups during the sample period but to only one group in each sample year. For example, Alex. Brown was acquired by Bankers Trust in 1997 becoming BT Alex. Brown. When Bankers Trust was acquired by Deutsche Bank AG in 1999, it became Deutsche Banc Alex Brown. Therefore, the firm Alex. Brown was a member of three separate groups (ALEX-BROWN, BKRS-TRUST, and DEUTSCHE) over the sample period. For the remainder of this paper, merger-affiliated group and underwriter are used interchangeably.

Figure 3 presents graphical illustrations of the underwriter affiliations. For the remainder of the paper the word underwriter refers to the affiliations as well as those underwriters with no merger activity in their histories.

C.2. Reputation

The lead underwriter reputation (LUR) measure used in this study is based on (Megginson and Weiss (1991)) and (Aggarwal, Krigman and Womack (2002)) and is calculated as follows; for all non-convertible debt issues by non-financial firms, the three-year moving average of proceeds underwritten is calculated for a set of underwriters *I* in every year *t*. When an issue has more than one lead underwriter, the proceeds are divided equally among the leads. Because proceeds are in millions of dollars, less active underwriters may have three-year average proceeds of less than $1 million, causing LUR to be negative in some cases. To avoid this situation, the numerator in the equation below is the greater of the natural log of the average proceeds or zero, whichever is greater. For each underwriter *j*, the lead underwriter reputation measure is

$$LUR_{jt} = \frac{max[\ln x_{jt}, 0]}{max_{i \in I}[\ln x_{it}]} \times 100$$

A measure of overall reputation may not accurately reflect an underwriter's prestige if the group specializes in a particular segment, an example is Drexel Burnham Lambert's domination of the junk bond market in the 1980s. For this reason additional reputation measures were calculated for each market segment: investment grade (IGLUR), non-investment grade (NIGLUR), high yield (HYLUR), and non-rated (NRLUR). Each of these measures was calculated using only issues in that particular segment.

D. Additional variables

The contractual nature of debt is another difference between the debt and equity markets that may affect this analysis. To determine what effects may result from a firm's defaulting on a debt issue, a dummy variable was created using the default data from Mergent's Fixed Investment Security Database (FISD). For the SDC issuers listed in the FISD default data, the default dummy is set to 1 for all issues occurring after the default date. For issues prior to the default date and for those issuers with no history of default, the dummy variable is set to zero. This dummy variable was also used to create interaction terms with the credit grade (IG, HY, and NIG) dummies to identify variation in the effects default.

As a robustness check, a variable based on Fang (2005) was created to represent the scope of services provided by each underwriter to each issuer in the sample. Three services are used to calculate the scope variable: debt underwriting, equity underwriting, and advisor for mergers and acquisitions.

V. Hypotheses and Methodology

A. Reputable underwriters match with higher quality firms

The hypothesis that reputable underwriters match with higher quality firms is based on FGS Proposition 1 that describes positive assortative matching. To test this hypothesis, the lead underwriter reputation measure is regressed on each of the quality proxies along with control variables for issue and firm size. Regression results are presented in Tables V and VI.

When combined without regard to credit quality limited support exists for positive assortative matching using either the equity related (Table V) or the debt related (Table VI) quality measures; three of the five equity related measures and three of the five debt related measures are significant. The signs on all the significant coefficients are consistent with higher quality firms matching with reputable underwriters as in the equity market.

B. Non-investment grade issuers rely on underwriter certification to a greater degree than investment grade issuers

Debt issued with less than investment grade credit ratings must provide a higher return to induce investors to bear the additional risk of default. A firm issuing lower quality debt can reduce its cost of capital if a substitute for investment grade credit rating

is available such as underwriter certification. If underwriter certification is a substitute for investment grade credit quality then the relationship between underwriter reputation and firm quality should be more significant for issuers of debt with credit ratings below investment grade. This hypothesis is tested using two specifications. In the first, the subsamples for investment grade (IG), high yield (HY), and non-rated (NR) issues are regressed separately. Results from the partitioned regressions are reported in Tables VII and VIII. The second specification includes interaction terms for the firm quality proxies with credit quality dummy variables (IG, HY, and NR). This method holds coefficients on the intercept and control variables constant and provides a more direct comparison of the significance of the firm quality – underwriter reputation relationship for the three levels of credit quality. Results from the interaction regressions are presented in Tables IX and X.

Analysis of the credit quality subsamples with the five equity related quality proxies generates 15 regressions and very little evidence of significant relationships. In Table VII, the only significant equity measure is return volatility for investment grade and high yield issues, but the signs are opposite on the two coefficients. In this regression the negative sign on the high yield sample is consistent with positive assortative matching as in the equity market. The positive coefficient for the investment grade sample is puzzling; however, the significance is marginal and the adjusted R^2 for the investment grade sample is lower than for either the high yield or non-rated samples. One possible explanation for the positive standard deviation estimate is the significantly

higher mean return volatility for investment grade issuers marketed by reputable underwriters in Fang (2005). She argues that reputable underwriters are willing to bear this risk to maximize fee income when dealing with investment grade issues.

In the regressions of underwriter reputation on the debt related quality measures (see Table VIII) the interest coverage ratio is never significant; only the leverage ratios are significant and then primarily for the high yield and non-rated segments. In every case regardless of the credit quality, the sign is negative, consistent with positive assortative matching.

The results from underwriter reputation regressions on the firm quality – credit quality interaction terms are reported in Tables IX and X. When the equity related quality proxies are used, the results indicate a greater similarity between investment grade issues and equity than between either of the non-investment grade segments and equity. The coefficients on the investment grade equity related interaction terms are all positive and significant and are consistent with positive assortative matching with the exception of return volatility, which is insignificant. Curiously, in the partitioned regressions return volatility was the only significant equity related quality measure for investment grade issues. More surprising than the similarity between investment grade and equity issues is the evidence of negative assortative matching found in the non-investment grade segments. The only significant equity related interaction term that is not associated with negative assortative matching in the non-investment grade segments is return volatility; all other equity interaction terms for the unrated segment and two of

the terms for the high yield segment are significantly associated with negative assortative matching. Although unexpected, this result is consistent with the hypothesis in question. The only certification option available for unrated debt issues is the underwriter's reputation, which is used as a substitute for certification by the credit rating agencies and the lower the quality of the issuer the greater the value of certification. Regardless of which of the equity related quality proxies is used, the relationship with underwriter reputation is significant for the unrated issues. For the high yield issues, the sign on the significant coefficients is the same as for the unrated issues, but the significance depends on which of the equity related measures is used.

The results for the debt related quality interaction regressions are presented in Table X. The only significance for the investment grade interaction terms is for the long-term-debt-to-assets ratio. The sign on this term is positive, indicating that highly leveraged firms are associated with reputable underwriters, which is unexpected but consistent with negative assortative matching. All interaction terms are significant for both high yield and non-rated issues except interest coverage, and all have negative signs consistent with positive assortative matching.

The proportion of significant coefficients on the firm quality interaction terms provides a means of comparing the importance of underwriter reputation in each of the segments. For the investment grade segment 50% of the terms are significant while 70% of the high yield terms and 90% of the non-rated segment terms are significant. The greater proportion of significant firm quality and credit quality interactions for the lower

grade issuers indicates as expected that underwriter reputation is more important to non-investment grade issuers than to those with higher credit quality.

C. *There is an inverse relationship between underwriter compensation and issuer credit quality*

Gross spread is the underwriter's compensation expressed as a percentage of the offer price and is made up of the lead underwriter's management fee, which is the underwriting fee shared by all co-managing underwriters, the selling concession that is shared by all members of the underwriting syndicate, and the reallowance fee that is paid to secondary sellers. In terms of FGS Proposition 4, gross spread is the underwriter's allocation of the joint surplus created by the issuer – underwriter match and is determined by the marginal contribution of the parties involved. The debt market's credit quality segments provide an opportunity to test this proposition empirically.

As a firm's default risk increases, its credit quality decreases, this leads to an increase in the cost of debt. If a firm cannot certify its quality to the market, then it must provide investors with a higher expected return to compensate for the additional risk. Therefore, firms with less than investment grade credit ratings may rely on their underwriter's reputation to certify their quality. In the equity market, issuers must rely on underwriter reputation to certify their quality and the pricing component is irrelevant. In the debt market, credit ratings are an indication of issuer quality not available to equity issuers.

Relative to the issuer's marginal contribution, the underwriter's marginal contribution to the joint surplus is greater for lower quality firms. Therefore, the benefit from underwriter certification is greater when the issuer's credit quality is less than investment grade. If the joint surplus is allocated based on each party's marginal contribution, then a significant relationship between firm quality and gross spread is expected for less than investment grade issues. To test this hypothesis, gross spread is regressed on the same firm quality measures and control variables used in the underwriter reputation regressions. The initial regression results are reported in Tables XI – XII.

Unlike the equity market where no substitute for underwriter certification exists, pricing is highly significant for participants in the debt market. Of the ten proxies for firm quality only one, interest coverage is not significant for the full sample. When the equity related firm quality measures are used, the results are as expected, and all quality proxies are significant at the 1% level. There is a negative relationship between firm quality and gross spread for all coefficients except stock return volatility, which has a positive sign. Higher quality issuers pay lower gross spreads consistent with lower underwriter marginal contribution to the surplus when matched with higher quality firms. The positive volatility coefficient is consistent with higher underwriter compensation when matched with riskier issuers.

Results for the debt related quality measures are slightly less significant than with the equity measures. Of the five debt related quality measures only the leverage ratios are significant; the interest coverage ratio is not. All significant coefficients have the

expected positive sign consistent with positive assortative matching. Default risk increases with leverage, thus lowering the quality of a firm's debt. If underwriter certification acts as a substitute for investment grade credit ratings, then the underwriter's marginal contribution is greater when marketing issues for highly leveraged firms, which benefit more from the certification than issuers with higher credit quality. The lower quality firms pay higher gross spreads in order to lower their cost of debt through certification.

Tables XIII and XIV report results from regressions of the sample partitioned on credit quality. There is little significance between firm quality and gross spread for investment grade issues when the equity related measures are used. The only significant (5 percent) coefficient is negative for return volatility, which is unexpected. The results for both high yield and non-rated issues indicate greater significance than for the investment grade segment. Of the five equity related quality proxies, four are significant for high yield and three for non-rated. Other than return volatility, the signs on the coefficients for the non-rated sample are all negative and indicate positive assortative matching consistent with expectations. Unrated issues by older firms, firms that make subsequent debt issues within five years, and firms with positive earnings are associated with lower gross spreads as expected. The unexpected result for the high yield issues is the positive significant coefficient on five-year viability. Other significant high yield coefficients are subsequent issue and positive earnings, which are negative, and volatility, which is positive, all as expected.

Results for the investment grade sample using debt quality proxies are more consistent with expectations than when the equity related measures are used. The interest coverage ratio and total-debt-to-assets are not significant; however, coefficients on all other leverage ratios are positive, significant at the 1% level, and consistent with positive assortative matching. Even for firms with high credit quality, the probability of financial distress increases with leverage. As a firm's credit quality decreases, the marginal contribution from underwriter reputation increases and leads to higher underwriter compensation.

The non-investment grade regressions using the debt related quality proxies are consistent with expectations. Although interest coverage is not significant, all leverage ratios are positive and significant for the high yield segment. For the unrated issues, only interest coverage and total-debt-to-equity are insignificant. Long-term-debt-to-assets, total-debt-to-assets, and long-term-debt-to-equity are all significant at the 10% level. All significant coefficients for the unrated segment are consistent with positive assortative matching.

Table XV reports results from regressions of gross spread on the equity related firm quality – credit quality interaction terms, all of which are significant at the 1% level. For the investment grade issues, with the exception of return volatility, all coefficients are negative, which is consistent with higher quality firms paying lower gross spreads. All coefficients are positive for the unrated issues and all but the subsequent debt issue term are positive for the high yield issues. With the exception of return volatility, the positive

coefficients imply that the higher quality firms within each of these segments pay higher gross spreads than the lower quality firms in the segment, again consistent with negative assortative matching.

When the debt related quality measures are interacted with credit quality the results are significant but inconsistent with the results using the equity related measures; Table XVI presents these results. Of the five debt proxies, four are negative and significant for investment grade issues. The negative sign on interest coverage is consistent with positive assortative matching but not on the leverage ratios. Negative assortative matching is indicated by the negative coefficients on the leverage ratios, implying greater leverage is associated with lower gross spreads.

The results for the high yield and non-rated issues are all positive with significance at 1 percent. The positive signs on both interest coverage and leverage ratios for the non-investment grade issues are inconsistent. The positive interest coverage indicates the better the firm is able to service its debt the higher will be the underwriter's compensation which implies negative assortative matching.

Every interaction term is significant in all three segments, which indicates the importance pricing has in the debt market compared to its irrelevance in the equity market. Despite the significance of the interaction terms, the implications from the two sets of proxies are very different. For the investment grade segment, 80 percent of the equity related proxies are consistent with positive assortative and only 20 percent with negative assortative matching. In the non-investment grade segments only 40 percent of

high yield and 20 percent of unrated coefficients are consistent with positive assortative matching, 60 percent and 80 percent respectively with negative assortative matching. Comparing the results for the debt related proxies shows that, only 40 percent of the investment grade coefficients are consistent with positive assortative matching while 80 percent of the high yield and the unrated measures are consistent with positive assortative matching. When combined, the results are less extreme with 60 percent of the investment grade and high yield and 50 percent of the unrated coefficients consistent with positive assortative matching.

D. The market share of reputable underwriters is negatively related to the level of activity in the market

Based on FGS Proposition 2, more able underwriters match with issuers before less able underwriters, which implies that as issue activity increases the number of active underwriters increases, and the market share of more able underwriters decreases. This hypothesis is tested using the average market share of the top 3, 5, 7, and 10 underwriters based on the Megginson-Weiss reputation measure as the dependent variable for regressions on the natural log of the number of issues in each sample year. The results in Table XVII indicate there is not a significant relationship between market activity and the market share of reputable underwriters overall. However, results from the previous analyses indicate considerable differences between characteristics of the market overall and its segments. Another factor that may affect the overall results is that some

underwriters are segment specialists, an example of this is Drexel Burnham Lambert and junk bonds. To test for relationships within market segments, data from each segment are regressed separately. The top underwriters in each segment are based on the reputation measure calculated using only issues in that particular segment. The results for these regressions are also reported in Table XVII and indicate that the only significant relationship between market activity and top underwriter market share is negative for the high yield segment regardless of whether the dependent variable is market share of the top 3, 5, 7, or 10 underwriters. As expected, this result is consistent with greater similarity between the equity market and the high yield segment of the debt market.

E. The average quality of issues by reputable underwriters is positively related to

- *The average quality of all issuing firms in the market*
- *The market-wide variation in issue quality*
- *The number of issues in the market*

The relationship between the quality of issues underwritten by the most reputable underwriters and the quality of issues in the market is described in FGS Proposition 3. Table XVIII reports results for tests of this hypothesis on the debt market overall and its segments using issue proceeds as the proxy for firm quality. The only significant relationship in the market overall and in the investment grade segment is positive for the average log of proceeds. This relationship is significant regardless of whether the dependent variable is the market share of the top 3, 5, 7, or 10 underwriters.

For the high yield segment, regardless of the dependent variable, there is a positive significant relationship between top underwriter market share and both the average issuer quality (average of log proceeds) and the dispersion of issue quality (standard deviation of log proceeds). Results for the non-rated sample are not as consistent as for the rated segments and vary based on whether the dependent variable is the average market share of the top 3 and 5 underwriters or the top 7 and 10 underwriters. When the top 3 and 5 underwriters are used, there are positive significant relationships with both average market quality and the level of market activity; however, for the top 7 and 10 underwriters, market activity is no longer significant whereas the dispersion of issuer quality is significant and negative.

In the equity market, all coefficients are positive and significant. Other than the log of the number of issues, which is rarely significant in the debt market, the greatest similarity to the equity market is with the high yield segment. Regardless of whether the dependent variable is the top 3, 5, 7, or 10, both the average and the dispersion of quality in the market are positive and significant for the high yield segment as in the equity market. The full sample and the investment grade segment have less similarity with equity having only the average log of proceeds positive and significant. The greatest contrast with the equity market is in the unrated segment in which there is a negative, significant relationship with the dispersion of issuer quality when the dependent variable is either the top 7 or 10 underwriters. This result implies that as the quality of unrated

issues in the market becomes more dispersed, the top underwriters' issues decrease in quality, which is surprising.

F. A change in firm quality between issues, which is not offset by a corresponding change in underwriter reputation, is positively related to the probability of a switch in underwriters

Tables XIX and XX present results from tests of this hypothesis on the concurrent sample restricted to no more than five years between issues. The sample is divided into four 7 year sub-periods to determine whether firms' switching patterns have changed over time. Table XIX includes dummy variables for the sub-periods: 1987 – 1993, 1994 – 2000, and 2001 – 2007. Panel A of Table XIX presents results for the overall sample; Panel B presents results for the segment regressions in which proceeds-rank is the firm quality measure, and Panel C presents the segment results with credit rating rank as the proxy for firm quality. Table XX presents results for the full sample and segments for each of the four sub-periods; Panels A and B present results from using proceeds rank as the firm quality; Panels C and D present results from using credit rating rank as the firm quality measure.

The results indicate incongruities between the debt and equity markets. The first of these is that increasing the time between IPO and SEO greatly increases the probability of switching underwriters for equity issuers, but no significant relationship is indicated for the days between issues in any of the specifications for the debt market. The reason

for this contrast may be related to the sample composition. The equity sample in FGS is based on changes in firm quality between two specific issues: the initial public offering and the first seasoned equity offering. At IPO most firms are relatively unknown[1] which leads to uncertainty in the market about the issuer's quality. Information about the firm becomes available over time once the issue begins trading, and market uncertainty about quality is reduced as more and more information is produced. Thus, a change in the perceived firm quality is likely to occur between these two specific issues, and the greater the interval between them, the greater the magnitude of the potential change. In the debt sample the issues are not restricted to IPO and first seasoned offering; therefore, it is less likely that issuer quality undergoes major changes regardless of the time between issues.

The second contrast between the debt and equity results is the sign on the absolute difference in relative ranks between issuer quality and underwriter reputation. In the equity market, the greater the difference in firm quality and IPO underwriter's relative reputation at the time of the SEO, the more likely a switch will occur as predicted by FGS Proposition 3 on relative matching. In the debt market over the whole sample period, this relationship is reversed overall and for the investment grade segment when issuer quality is proxied by either proceeds-rank or credit rating rank. The implication of this negative relationship is that the greater the difference in the relative issuer quality and underwriter reputation, the less likely the firm will be to use another underwriter. This result holds

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[1] A recent exception to this generalization is Google.

for all periods except the earliest when proceeds-rank represents firm quality. During that period the relationship is significant but positive for both the overall sample and the investment grade segment as it is in the equity market. When credit rating rank represents firm quality during the earliest period, the relationships for the sample overall and the investment grade segment are significant, but in these regressions the sign for the full sample is positive while it is negative for the investment grade segment.

For the high yield and unrated samples in Table XIX, the difference in issuer and underwriter relative ranks is positive when it is significant as in the equity market. However, significance exists only when credit rating rank proxies for relative firm quality and then only for the specification without the time period dummies. The greatest similarity between the debt and equity market results for this analysis is the negative coefficient on the current reputation rank of the previous underwriter, which is significant in all specifications except the unrated sample. Firms that use a reputable underwriter are less likely to switch underwriters on subsequent issues than are firms that use less reputable underwriters.

The only variable in the equity analysis associated with a lower probability of switching underwriters is the IPO underwriter's reputation rank at the time of the SEO. In the debt market as a whole, all significant variables are negative with the exceptions of the time dummies and the difference in quality-reputation from the earliest period. The omitted dummy variable is for the period from 1980 through 1986, and all significant coefficients on the time dummies are positive, indicating that the probability of a firm's

switching underwriters between subsequent issues is more likely later in the sample period. Also, the magnitude of these dummies increases monotonically for each subsequent period. This indicates that the probability of switching continues to increase throughout the sample period. This point is interesting given the changing conditions in the market for corporate securities. Early in the sample period, the Glass-Steagall regulations on banking were most stringent, greatly limiting the activities of both commercial and investment banks. These restrictions were gradually relaxed over the sample period thus permitting more banks to enter the market and to provide issuers with a greater choice of underwriters. The positive significant time dummy coefficients are consistent with this scenario: as the number of potential underwriters increased firms became more likely to switch underwriters.

VI. Robustness

The robustness of the firm quality regressions was checked by adding an additional variable representing the breadth of services provided by each underwriter to each issuer as in Fang (2005). These services are classified as debt underwriter, equity underwriter, and merger-acquisition advisor. Dummy variables for each of these categories equal zero until the firm uses an underwriter for that particular service. The scope variable is the sum of the three service dummies. For example, the first time a firm used an investment bank as debt underwriter, the debt dummy was set to 1 for the remainder of the sample period for that underwriter. If no other service had previously been used, the scope variable would equal one for that observation. Later, if the firm used the same underwriter for an equity issue, then the equity dummy would equal 1 and the scope would equal 2. If the investment bank were later used as a merger advisor the merger dummy would be set to one and scope would equal three.

Results from regressions of the Megginson-Weiss lead underwriter reputation measure on the quality proxies, and the underwriter scope variable are presented in Tables XXI through XXIV. Regressions of gross spread on the augmented models are presented in Tables XXV and XXVIII. The results from these regressions are similar to the original regressions with a few interesting differences.

The scope variable provides only minor improvements in the explanatory power of the augmented models, and in several regressions the adjusted R^2 is actually lower for the segments when the sample is partitioned by credit quality. The statistical significance of the scope of underwriter services varies depending on the quality proxy and the dependent variable. Scope is most often significant in the reputation regressions when the debt related quality proxies are used and in the gross spread regressions when the equity related proxies are used. In the reputation regressions, scope is significant with every quality proxy for the full sample regressions, the interaction term regressions, and the investment grade segment when partitioned by credit quality; however, scope is never significant for the non-rated segment in the reputation regressions. Scope significance for the high yield segment in the reputation regressions varies; in all debt related proxy regressions, scope is significant but only in the positive earnings regression for the equity related measures.

When gross spread is the dependent variable and the equity related measures are used, scope is insignificant in only four specifications: log of years on CRSP and subsequent debt issue for the unrated segment and in the interaction term regressions for the positive earnings and return volatility measures. In the gross spread regressions when the debt related measures are used, scope is significant in only seven of twenty-five specifications and never for the investment grade segment when the sample is regressed by credit quality.

Scope is almost always positive when significant; the only exceptions to this are in the gross spread regressions for the unrated segment. The greater the range of services provided by the underwriter to the issuer, the lower the gross spread. This fact is consistent with findings in Drucker and Puri (2005) in which highly leveraged firms facing the greatest information asymmetry realized the greatest benefits from concurrently borrowing from their equity underwriter. Potential economies of scope exist because the cost of gathering information is greatest for these firms.

The unrated sample from the switching regressions is not large enough to make statistically valid inferences, but an informal comparison may be consistent with the greatest benefits realized by the lowest quality firms if the same underwriter is used for a broader range of services. Of the 62 unrated observations from the switching sample, only 10 (16.1 percent) switched underwriters compared to the full switching sample of 7,118 of which 58.1 percent switched, the investment grade sample of 6,492 in which 59.3 percent switched, and the high yield with 49.7 percent of its 564 observations switching. It is interesting to note that the greatest improvements in adjusted R^2 from adding underwriter scope to the gross spread regressions occur in the unrated segment, which may also be an indication of its greater importance for lower quality issuers.

Overall, underwriter scope appears to play a role in the associations of issuers and underwriters, but the inconsistent results across model specifications make its impact ambiguous. Although the segment in which scope is most often significant is the investment grade segment, the increase in adjusted R^2 is higher for the high yield

segment in the reputation regressions and for the non-rated segment in the gross spread regressions. It may be that underwriter scope has a greater impact for lower quality firms and their underwriters than for the highest quality firms.

VII. Conclusions

The main objective of this project is investigating whether firms issuing public debt use certification by underwriter reputation as a substitute for credit quality and the results indicate that this is the case. The analyses presented in this study provide evidence of a more significant relationship with underwriter reputation for non-investment grade issuers that lack certification through credit quality than for investment grade issuers.

The second objective of this study is comparison of the significance of underwriter reputation in the debt market with its significance in the equity market. Positive assortative matching is found in both the equity market and the debt market; higher quality firms are associated with reputable underwriters. The most surprising result from this study is the existence of negative assortative matching within the debt market segments. There is no evidence of negative assortative matching in the equity market or the full debt sample in the regressions of either underwriter reputation or gross spread on the firm quality proxies. There is evidence of a mix of characteristics consistent with both positive and negative assortative matching in all three segments of the market: investment grade, high yield, and unrated. The unrated segment is most often associated with negative assortative matching, although it is also indicated in both the investment and high yield segments.

One explanation for negative assortative matching in the debt market but not the equity market is due to the difference in pricing structures. Firms certify their issues by "leasing" the underwriter's reputation (Booth and Smith (1986)). Credit ratings in the debt market provide information about the risk of the issue and, therefore, the value of the certification. There is no clear indication of a firm's risk or the value of certification in the equity market; therefore, underwriters are more stringent in their selection criteria to protect their reputational capital, and as a result, the pricing component is less relevant than in the debt market. Underwriters benefit from marketing lower quality debt issues by charging higher fees for firms with less than investment grade credit ratings, and issuers are willing to pay higher fees to substitute underwriter certification for credit quality.

The use of two sets of quality proxies in this study provides an interesting contrast between the investment and non-investment grade segments. For the investment grade segment, return volatility is one of the equity related proxies that indicates negative assortative matching. This is in contrast to the non-investment grade segments in which both debt and equity proxies for firm quality are associated with negative assortative matching but never by return volatility as in the investment grade segment. A similar comparison can be made for the interest coverage ratio, which is the only debt related measure associated with negative assortative is matching in the non-investment grade segments but never for the investment grade segment.

The greatest evidence of negative assortative matching is found when firm quality – credit quality interaction terms replace the individual proxies. In these regressions, there is a clear distinction between the investment grade and non-investment grade segments. In the investment grade segment the majority of the evidence of negative assortative matching is associated with the debt related interaction terms while the equity related terms more often indicate negative assortative matching for the non-investment grade segments.

Characteristics associated with negative assortative matching are also indicated in the analysis of firms' decisions to switch underwriters on subsequent issues. FGS Proposition 3 predicts an increase in the probability of a switch as a firm's relative quality and an underwriter's reputation rank diverge. The main evidence of this in the debt market overall and in the investment grade segment is a negative relationship between the previous underwriter's reputation at the time of the subsequent issue. The only other evidence of this occurs in the earliest sub-period (1980 – 1986) when there is an increase in the probability of a switch for greater divergence in firm quality and underwriter reputation when issue proceeds represent firm quality rather than credit ratings. There is much more evidence consistent with a lower probability of switching underwriters as the difference in firm quality and underwriter reputation increases for the full sample and the investment grade segment. Analyzing switching behavior in the debt market over time indicates that the probability of using a different underwriter for subsequent issues has increased over the sample period.

Overall, positive assortative matching exists in both the equity and debt markets as expected. Also, there is no evidence of negative assortative matching in either the equity market or the full debt sample, only within the segments of the debt market. Considering all the firm quality regression results, evidence of a relationship between firm quality and underwriter reputation or gross spread is less often significant for the investment grade segment than for either of the non-investment grade segments. Evidence of negative assortative matching is greatest for the unrated segment. Positive assortative matching is most often associated with the full debt sample, but within the debt market it is the high yield segment that is most often associated with positive assortative matching.

Table I
Debt and Equity Market Activity and Volume

A comparison of market activity and volume in the U.S. debt and equity markets is presented in the table below. All dollar amounts are expressed in year 2000 dollars using the annual implicit GDP price deflator. Panel A presents the data by year. Panel B summarizes the data over the sample period. Panel C presents annual averages. Data are from the SDC's U.S. New Issues Database for the period January 1, 1980 through December 31, 2007 and include all new issues of debt and equity by non-financial firms.

Panel A

	Number of Issues			Proceeds ($ Millions)		
Year	Debt	Equity	Equity / Debt	Debt	Equity	Equity / Debt
1980	341	497	1.457	57,884.979	24,816.060	0.429
1981	315	711	2.257	52,102.557	26,374.172	0.506
1982	337	523	1.552	46,916.428	26,102.951	0.556
1983	289	1328	4.595	37,896.703	53,253.828	1.405
1984	260	501	1.927	49,131.864	11,885.464	0.242
1985	432	563	1.303	69,931.955	22,226.912	0.318
1986	761	848	1.114	145,805.821	35,680.647	0.245
1987	508	668	1.315	93,863.141	35,220.155	0.375
1988	424	286	0.675	91,175.641	13,163.350	0.144
1989	412	376	0.913	96,944.066	15,967.658	0.165
1990	370	311	0.841	70,166.024	14,306.868	0.204
1991	749	731	0.976	126,445.964	51,655.694	0.409
1992	979	857	0.875	195,760.886	52,862.818	0.270
1993	1250	1136	0.909	250,798.893	70,847.237	0.282
1994	668	883	1.322	125,998.717	52,213.881	0.414
1995	771	1018	1.320	131,693.106	75,864.626	0.576
1996	966	1406	1.455	151,755.576	103,802.987	0.684
1997	1218	1060	0.870	150,760.672	84,297.480	0.559
1998	1366	641	0.469	251,735.075	78,302.162	0.311
1999	859	859	1.000	212,658.901	131,919.579	0.620
2000	728	746	1.025	245,746.398	143,255.218	0.583
2001	930	387	0.416	329,029.909	85,033.669	0.258
2002	903	393	0.435	253,031.582	66,595.415	0.263
2003	643	422	0.656	252,122.885	57,194.012	0.227
2004	448	610	1.362	174,975.586	93,845.780	0.536
2005	383	501	1.308	189,889.603	78,378.549	0.413
2006	457	514	1.125	267,096.378	84,534.167	0.316
2007	544	523	0.961	306,834.116	84,722.194	0.276

Table I - *Continued*

Panel B

MARKET TOTALS (1980 – 2007)

Number of Issues			Proceeds		
Debt	Equity	Equity / Debt	Debt	Equity	Equity / Debt
18,311	19,299	1.054	1,674,323.53	4,428,153.43	0.378

Panel C

MARKET AVERAGES (1980 – 2007)

Number of Issues			Proceeds		
Debt	Equity	Equity / Debt	Debt	Equity	Equity / Debt
653.96	689.25	1.230	158,148.34	59,797.27	0.414

Table II
Debt and Equity Underwriters

The number of affiliated underwriters active in the U.S. debt and equity markets is presented in the table below. Data from the SDC U.S. New Issues Database for the period January 1, 1980 through December 31, 2007 are used to identify the affiliated underwriters.

Number of Affiliated Underwriters					
All Debt Underwriters	Debt Market Only	All Equity Underwriters	Equity Market Only	Equity Market 1 Year Only	Active in Both Markets
137	32	749	644	230	105

Table III
Statistics for Individual Issue Sample
New issues of straight public debt by non-financial firms are identified using the SDC U.S. New Issues Database.

Credit Quality	Number of Issues	Statistics	Numeric Rating	Rating Rank	Market Capitalization (Yr 2000 $mil)	Proceeds (Yr 2000 $mil)	Gross Spread	Offering Yield	Treasury Spread(%)	Underwriter Reputation	Reptuation Rank
AAA	391	Mean	23.0	98.1	57,259.292	283.269	0.932	8.306	0.127	89.5	85.3
		Median	23.0	99.0	32,902.262	194.323	0.653	7.307	0.099	96.0	92.0
		Std Dev	0.0	1.8	67,532.464	392.834	0.836	3.098	0.196	15.5	14.9
AA	1,762	Mean	20.7	89.6	32,784.893	227.821	0.655	8.215	0.110	91.3	86.5
		Median	21.0	91.0	15,477.087	142.404	0.650	7.670	0.095	95.7	91.0
		Std Dev	0.7	5.8	46,656.968	315.044	0.325	2.634	0.142	12.2	12.2
A	4,818	Mean	18.0	66.4	15,971.617	201.975	0.682	7.771	0.157	91.1	86.7
		Median	18.0	66.0	6,957.032	141.698	0.651	7.143	0.135	94.7	90.0
		Std Dev	0.8	11.8	27,481.013	256.136	0.447	2.428	0.125	12.0	12.0
BBB	4,169	Mean	15.1	33.3	6,587.627	228.318	0.713	7.803	0.241	92.3	88.1
		Median	15.0	34.0	3,029.796	165.972	0.653	7.250	0.204	96.7	92.0
		Std Dev	0.8	11.1	9,367.703	263.118	0.355	2.321	0.162	11.4	11.7
BB	784	Mean	12.0	15.0	2,908.409	234.683	1.700	9.324	0.510	86.9	82.8
		Median	12.0	13.0	1,404.129	183.163	1.634	8.940	0.444	94.6	91.0
		Std Dev	0.8	7.9	4,107.170	205.676	0.797	2.237	0.309	21.2	21.4
B	1,159	Mean	8.9	10.8	1,137.672	209.594	2.912	11.696	0.676	87.4	83.2
		Median	9.0	10.0	406.876	151.693	3.000	11.625	0.630	93.1	86.0
		Std Dev	0.8	6.6	2,329.077	201.320	0.775	2.342	0.298	14.3	14.5
CCC	119	Mean	6.6	5.9	518.016	191.406	3.500	13.250	0.765	89.8	85.1
		Median	7.0	5.0	353.644	139.460	3.500	13.496	0.724	95.8	89.0
		Std Dev	0.5	3.5	625.552	209.584	0.750	1.923	0.390	12.9	13.4
NR	290	Mean	1.0	3.6	1,824.827	90.660	3.250	12.075	0.365	70.3	62.1
		Median	1.0	5.0	107.688	31.333	3.500	12.320	0.239	73.4	67.0
		Std Dev	0.0	2.0	4,609.958	208.069	1.923	3.200	0.369	26.9	29.5

Table IV
Statistics for Concurrent Issue Sample

New issues of straight public debt by non-financial firms are identified using the SDC U.S. New Issues Database. For each issuer, concurrent issues are combined into issue date observations using the individual issue proceeds to value weight rating, gross spread, yield to maturity, years to maturity, and treasury spread for each issue date.

Credit Quality	Number of Issues	Statistics	Numeric Rating	Rating Rank	Proceeds (Yr 2000 $mil)	Gross Spread	Offering Yield	Treasury Spread(%)	Underwriter Reputation (LUR)	Reptuation Rank
AAA	340	Mean	23.0	98.1	302.489	0.967	8.467	0.119	89.1	84.7
		Median	23.0	99.0	171.837	0.677	7.370	0.091	95.8	91.0
		Std Dev	0.0	1.8	484.965	0.877	3.171	0.199	15.6	15.3
AA	1,444	Mean	20.7	89.3	271.576	0.653	8.449	0.109	91.8	86.7
		Median	21.0	91.0	163.566	0.651	8.000	0.094	95.7	90.0
		Std Dev	0.6	6.0	580.977	0.309	2.714	0.140	11.4	11.5
A	3,708	Mean	18.0	66.1	260.031	0.694	7.929	0.152	91.6	87.1
		Median	18.0	66.0	165.305	0.652	7.350	0.132	95.1	90.0
		Std Dev	0.7	11.8	416.931	0.452	2.576	0.126	11.2	11.3
BBB	3,100	Mean	15.1	33.2	303.047	0.727	7.933	0.239	92.3	88.0
		Median	15.0	34.0	192.313	0.655	7.312	0.202	96.1	92.0
		Std Dev	0.8	11.2	490.580	0.387	2.508	0.165	11.0	11.3
BB	618	Mean	12.0	15.4	290.229	1.749	9.500	0.527	89.4	85.3
		Median	12.0	14.5	203.829	1.750	9.125	0.468	94.7	91.0
		Std Dev	0.8	7.9	307.405	0.797	2.309	0.331	16.1	16.5
B	1,009	Mean	8.9	10.6	218.989	2.902	11.667	0.679	86.5	82.3
		Median	9.0	9.0	148.349	3.000	11.500	0.635	92.4	86.0
		Std Dev	0.8	6.5	264.477	0.754	2.354	0.305	14.7	14.9
CCC	101	Mean	6.6	5.6	206.388	3.445	12.910	0.752	88.7	84.1
		Median	7.0	5.0	136.762	3.500	13.250	0.724	94.6	88.0
		Std Dev	0.5	3.4	229.966	0.747	2.192	0.374	13.6	14.1
NR	257	Mean	1.0	3.6	101.476	3.419	12.285	0.367	68.7	60.1
		Median	1.0	5.0	32.534	3.500	12.750	0.250	68.1	62.0
		Std Dev	0.0	2.0	238.741	1.861	3.145	0.366	26.8	29.6
	134	Mean	.	.	501.812	1.484	7.703	0.313	94.2	90.4
		Median	.	.	378.576	0.850	7.312	0.270	98.4	95.0
		Std Dev	.	.	541.113	1.196	2.785	0.241	9.9	9.3

Table V

Lead Underwriter Reputation and Equity Related Firm Quality Regressions

New issues of straight public debt by non-financial firms are consolidated into a single observation for each issuer and each issue date. The table reports multivariate OLS regressions of the Megginson-Weiss lead underwriter reputation measure (LUR) on each of the equity related firm quality measures, the natural log of proceeds controls for issue size and the natural log of market capitalization of the issuer controls for firm size. The quality measure used in each regression is identified in the column heading. The natural log of the years the firm was followed by CRSP at the time of the issue proxies for firm age. The five year viability dummy is set to one if the firm is still listed on NYSE, AMEX, or NASDAQ or if it was delisted due to a merger or exchange offer and zero otherwise. The subsequent debt issue dummy is set to one if the firm issues debt within 60 months of the current issue and zero otherwise. The positive earnings dummy is set to one if the firm has positive earnings in the fiscal year of the offer. The standard deviation of daily stock returns is calculated for the period beginning 360 days before the issue and ending 40 days before the issue. The number of years on CRSP, five-year viability, and return data are from CRSP. Subsequent debt issue data are from SDC and earnings data are from Compustat. All dollar values are in year 2000 dollars using the annual implicit GDP price deflator. P-values are reported in parentheses beneath the coefficients.

Sample: Concurrent Issues Dependent Variable: Lead Underwriter Reputation (LUR)					
	Log of Years on CRSP	5 Year Viability	Subsequent Debt Issue	Positive Earnings	Std. Dev. of Daily Returns
Intercept	53.4338* (<0.0001)	52.6308* (<0.0001)	53.6507* (<0.0001)	54.4599* (<0.0001)	56.7512* (<0.0001)
Log of Proceeds	3.1644* (<0.0001)	3.1070* (<0.0001)	3.1700* (<0.0001)	3.0833* (<0.0001)	3.1941* (<0.0001)
Log of Market Capitalization	1.3334* (<0.0001)	1.4852* (<0.0001)	1.3774* (<0.0001)	1.4247* (<0.0001)	1.3279* (<0.0001)
Firm Quality Measure	0.4964* (0.0061)	0.4405 (0.3866)	0.9575** (0.0140)	-0.5019 (0.3680)	-0.8930* (<0.0001)
Number of Observations	5,134	5,171	5,171	4,723	5,171
Adjusted R^2	16.26%	16.16%	16.24%	16.22%	16.43%

*, **, *** *denote significance at the 1%, 5%, and 10% levels, respectively*

Table VI

Lead Underwriter Reputation and Debt Related Firm Quality Regressions

New issues of straight public debt by non-financial firms are consolidated into a single observation for each issuer and each issue date. The table presents multivariate OLS regressions of the Megginson-Weiss lead underwriter reputation measure (LUR) on each of the debt related firm quality measures, the natural log of proceeds controls for issue size, and firm size is controlled for using the natural log of assets for the issuer at the end of the quarter prior to the offering. The quality measure used in each regression is identified in the column heading. Interest coverage is calculated as the sum of pretax income at the end of the quarter prior to the issue (*Qtr t-1*) and interest and related expenses from the end of the quarter in which the issue occurs (*Qtr t*), divided by interest and related expenses from the end of the issue quarter. All other data are from the end of the fiscal quarter prior to the issue (*Qtr t-1*). Assets are total assets in millions of dollars. Long-term debt is the total of debt obligations due in more than one year. Total debt is the sum of long-term debt and debt in current liabilities. Issue data are from SDC and accounting data are from Compustat. All dollar values are in year 2000 dollars using the annual implicit GDP price deflator. P-values are reported in parentheses beneath the coefficients.

Sample: Concurrent Issues

Dependent Variable: Lead Underwriter Reputation (LUR)

	Interest Coverage	Long-Term Debt to Assets	Total Debt to Assets	Long-Term Debt to Equity	Total Debt to Equity
Intercept	61.7939* (<0.0001)	62.6096* (<0.0001)	62.7346* (<0.0001)	63.1125* (<0.0001)	62.8315* (<0.0001)
Log of Proceeds	3.2833* (<0.0001)	3.2735* (<0.0001)	3.2784* (<0.0001)	3.2400* (<0.0001)	3.2356* (<0.0001)
Log of Assets	1.4770* (<0.0001)	1.4362* (<0.0001)	1.4819* (<0.0001)	1.4428* (<0.0001)	1.5215* (<0.0001)
Quality Measure	-0.0019 (0.8187)	-1.3931 (0.1364)	-2.7579* (0.0071)	-1.1973* (<0.0001)	-1.6710* (<0.0001)
Number of Observations	6,366	6,578	6,171	5,135	4,722
Adjusted R^2	15.14%	15.22%	15.50%	16.64%	17.39%

*, **, *** *denote significance at the 1%, 5%, and 10% levels, respectively*

Table VII

Lead Underwriter Reputation and Equity Related Firm Quality Regressions by Credit Quality

New issues of straight public debt by non-financial firms are consolidated into a single observation for each issuer and each issue date. The table reports multivariate OLS regressions of the Megginson-Weiss lead underwriter reputation measure (LUR) on each of the equity related firm quality measures; the natural log of proceeds controls for issue size, and the natural log of market capitalization of the issuer controls for firm size. The column heading indicates the credit quality for each regression: investment grade (IG), high yield (HY), and non-rated (NR). The firm quality measure used in each regression is identified above the credit quality. Panel A presents results for the log of years on CRSP, five year viability dummy, and the subsequent debt issue dummy regressions. Panel B presents results from the positive earnings and standard deviation of daily return regressions. The natural log of the years the firm was followed by CRSP at the time of the issue proxies for firm age. The five year viability dummy is set to one if the firm is still listed on NYSE, AMEX, or NASDAQ or if it was delisted due to a merger or exchange offer and zero otherwise. The subsequent debt issue dummy is set to one if the firm issues debt within 60 months of the current issue and zero otherwise. The positive earnings dummy is set to one if the firm has positive earnings in the fiscal year of the offer. The standard deviation of daily stock returns is calculated for the period beginning 360 days before the issue and ending 40 days before the issue. The number of years on CRSP, five-year viability and return data are from CRSP. Subsequent debt issue data are from SDC and earnings data are from Compustat. All dollar values are in year 2000 dollars using the annual implicit GDP price deflator. P-values are reported in parentheses beneath the coefficients.

Panel A

Sample: Concurrent Issues

Dependent Variable: Lead Underwriter Reputation (LUR)

	Log of Years on CRSP			5 Year Viability Dummy			Subsequent Debt Issue		
	IG	HY	NR	IG	HY	NR	IG	HY	NR
Intercept	70.0231* (<0.0001)	35.3247* (<0.0001)	-34.7148** (0.0436)	71.2711* (<0.0001)	34.4179* (<0.0001)	-33.0367*** (0.0514)	70.2963* (<0.0001)	36.9363* (<0.0001)	-30.9427*** (0.0580)
Log of Proceeds	2.2966* (<0.0001)	8.0848* (<0.0001)	12.3017* (<0.0001)	2.2327* (<0.0001)	8.1400* (<0.0001)	12.6282* (<0.0001)	2.2687* (<0.0001)	8.2052* (<0.0001)	12.7696* (<0.0001)
Log of Market Capitalization	0.6412* (<0.0001)	0.8861** (0.0123)	4.5306** (0.0103)	0.6721* (<0.0001)	0.8279** (0.0119)	4.4475* (0.0043)	0.6832* (<0.0001)	0.6262*** (0.0753)	4.0149** (0.0120)
Firm Quality Measure	0.2226 (0.2439)	-0.3088 (0.4644)	0.5447 (0.7890)	-0.7184 (0.1664)	0.8048 (0.5165)	-0.6186 (0.9124)	-0.0256 (0.9481)	1.2430 (0.2039)	5.2541 (0.2985)
Number of Observations	4,161	883	82	4,179	899	85	4,179	899	85
Adjusted R^2	9.20%	29.39%	46.89%	9.24%	28.74%	47.11%	9.20%	28.84%	47.81%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table VII – *Continued*

Panel B

Sample: Concurrent Issues

Dependent Variable: Lead Underwriter Reputation (LUR)

	Positive Earnings Dummy			Std Deviation of Daily Returns		
	IG	HY	NR	IG	HY	NR
Intercept	72.0119* (<0.0001)	39.3142* (<0.0001)	-40.7280** (0.0238)	69.3380* (<0.0001)	42.7235* (<0.0001)	-18.2370 (0.3567)
Log of Proceeds	2.2016* (<0.0001)	8.3867* (<0.0001)	11.5407* (<0.0001)	2.2392* (<0.0001)	8.3613* (<0.0001)	13.0083* (<0.0001)
Log of Market Capitalization	0.6392* (<0.0001)	0.3658 (0.2748)	5.0469* (0.0027)	0.6980* (<0.0001)	0.4869 (0.1480)	3.7947** (0.0186)
Firm Quality Measure	-0.6997 (0.2415)	1.1818 (0.2427)	4.7895 (0.4890)	0.4680*** (0.0654)	-1.4928* (0.0008)	-3.2487 (0.1930)
Number of Observations	3,809	795	74	4,179	899	85
Adjusted R^2	8.82%	29.97%	46.72%	9.27%	29.58%	48.21%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table VIII

Lead Underwriter Reputation and Debt Related Firm Quality Regressions by Credit Quality

New issues of straight public debt by non-financial firms are consolidated into a single observation for each issuer and each issue date. The table presents multivariate OLS regressions of the Megginson-Weiss lead underwriter reputation measure (LUR) on each of the debt related firm quality measures, the natural log of proceeds controls for issue size, and firm size is controlled for using the natural log of assets for the issuer at the end of the quarter prior to the offering. Panel A presents results for the interest coverage ratio, long-term-debt-to-assets, and long-term-debt-to-equity regressions. Panel B presents results for regressions using the leverage ratios total-debt-to-assets and total-debt-to-equity. The column heading indicates the credit quality for each regression: investment grade (IG), high yield (HY), and non-rated (NR). The firm quality measure used in each regression is identified above the credit quality. Interest coverage is calculated as the sum of pretax income at the end of the quarter prior to the issue (*Qtr t-1*) and interest and related expenses from the end of the quarter in which the issue occurs (*Qtr t*), divided by interest and related expenses from the end of the issue quarter. All other data are from the end of the fiscal quarter prior to the issue (*Qtr t-1*). Assets are total assets in millions of dollars. Long-term debt is the total of debt obligations due in more than one year. Total debt is the sum of long-term debt and debt in current liabilities. Data are from the end of the fiscal quarter prior to the issue (*Qtr t-1*). Issue data are from SDC and accounting data are from Compustat. All dollar values are in year 2000 dollars using the annual implicit GDP price deflator. P-values are reported in parentheses beneath the coefficients.

Panel A

Sample: Concurrent Issues

Dependent Variable: Lead Underwriter Reputation (LUR)

	Interest Coverage			Long-Term-Debt-to-Assets			Total-Debt-to-Assets		
	IG	HY	NR	IG	HY	NR	IG	HY	NR
Intercept	70.6220* (<0.0001)	43.5167* (<0.0001)	0.3680 (0.9648)	70.6809* (<0.0001)	44.8026* (<0.0001)	-1.7755 (0.8492)	70.5649* (<0.0001)	44.4299* (<0.0001)	-9.7024 (0.3780)
Log of Proceeds	**2.4755*** **(<0.0001)**	**8.0235*** **(<0.0001)**	**11.6135*** **(<0.0001)**	**2.4687*** **(<0.0001)**	**8.0215*** **(<0.0001)**	**11.9812*** **(<0.0001)**	**2.4511*** **(<0.0001)**	**8.1087*** **(<0.0001)**	**10.4837*** **(<0.0001)**
Log of Assets	**0.9905*** **(<0.0001)**	**0.5079***** **(0.0833)**	**4.1665**** **(0.0109)**	**0.9742*** **(<0.0001)**	0.4379 (0.1213)	**3.9163**** **(0.0156)**	**1.0748*** **(<0.0001)**	0.4391 (0.1373)	**5.6180*** **(0.0016)**
Quality Measure	-0.0173 (0.1081)	0.0054 (0.6660)	-0.1216 (0.7838)	0.4294 (0.7382)	-1.6245 (0.3189)	4.1352 (0.7593)	-1.8201 (0.1842)	-1.8282 (0.3135)	10.3175 (0.4787)
Number of Observations	5,270	1,004	83	5,447	1,034	88	5,157	926	79
Adjusted R^2	9.93%	29.51%	46.96%	9.90%	29.45%	47.52%	10.17%	30.32%	49.73%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table VIII – *Continued*

Panel B

Dependent Variable: Lead Underwriter Reputation (LUR)

	Long-Term-Debt-to-Equity			Total-Debt-to-Equity		
	IG	HY	NR	IG	HY	NR
Intercept	74.3999* (<0.0001)	42.7764* (<0.0001)	-2.7419 (0.7543)	73.7775* (<0.0001)	41.9850* (<0.0001)	-6.5261 (0.4796)
Log of Proceeds	2.3325* (<0.0001)	8.3979* (<0.0001)	12.2337* (<0.0001)	2.3189* (<0.0001)	8.5455* (<0.0001)	11.3800* (<0.0001)
Log of Assets	0.7045* (<0.0001)	0.4976 (0.1191)	5.0037* (0.0035)	0.8076* (<0.0001)	0.4980 (0.1475)	6.0940* (0.0009)
Quality Measure	-0.2668 (0.3088)	-1.1742* (0.0042)	-6.2682** (0.0300)	-0.6097*** (0.0621)	-1.2764* (0.0097)	-5.3472*** (0.0512)
Number of Observations	4,209	851	75	3,908	746	68
Adjusted R^2	9.33%	33.66%	48.33%	9.76%	34.97%	51.01%

*, **, *** *denote significance at the 1%, 5%, and 10% levels, respectively*

Table IX
Lead Underwriter Reputation, Equity Related Firm Quality and Credit Quality Interaction Regressions

New issues of straight public debt by non-financial firms are consolidated into a single observation for each issuer and each issue date. The table reports multivariate OLS regressions of the Megginson-Weiss lead underwriter reputation measure (LUR) on each of the equity related firm quality measures, the natural log of proceeds controls for issue size and the natural log of market capitalization of the issuer controls for firm size. The column heading indicates the firm quality measure interacted with three credit quality dummy variables: 'IG' for investment grade, 'HY' for high yield, and 'NR' for not rated. The natural log of the years the firm was followed by CRSP at the time of the issue proxies for firm age. The five-year viability dummy is set to one if the firm is still listed on NYSE, AMEX, or NASDAQ or if it was delisted because of a merger or exchange offer and zero otherwise. The subsequent debt issue dummy is set to one if the firm issues debt within 60 months of the current issue and zero otherwise. The positive earnings dummy is set to one if the firm has positive earnings in the fiscal year of the offer. The standard deviation of daily stock returns is calculated for the period beginning 360 days before the issue and ending 40 days before the issue. The number of years on CRSP, five-year viability, and return data are from CRSP. Subsequent debt issue data are from SDC, and earnings data are from Compustat. All dollar values are in year 2000 dollars using the annual implicit GDP price deflator. P-values are reported in parentheses beneath the coefficients.

Sample: Concurrent Issues

Dependent Variable: Lead Underwriter Reputation (LUR)

	Log of Years on CRSP	5 Year Viability	Subsequent Debt Issue	Positive Earnings	Std Dev of Daily Returns
Intercept	58.8927* (<0.0001)	60.5540* (<0.0001)	56.9017* (<0.0001)	61.2892* (<0.0001)	63.1225* (<0.0001)
Log of Proceeds	3.2470* (<0.0001)	3.1827* (<0.0001)	3.2398* (<0.0001)	3.0454* (<0.0001)	3.1462* (<0.0001)
Log of Market Capitalization	0.9495* (<0.0001)	0.9454* (<0.0001)	0.9976* (<0.0001)	0.9208* (<0.0001)	0.8191* (<0.0001)
IG Interaction	0.6401* (0.0003)	1.0401** (0.0412)	3.5837* (<0.0001)	1.3325** (0.0133)	0.3125 (0.2231)
HY Interaction	-0.3674 (0.1317)	-2.2484* (0.0008)	0.8217 (0.2745)	-1.4661** (0.0350)	-0.9238* (<0.0001)
NR Interaction	-3.8200* (<0.0001)	-16.5756* (<0.0001)	-7.1165* (0.0004)	-16.9093* (<0.0001)	-6.1107* (<0.0001)
Number of Observations	5,126	5,163	5,163	4,678	5,163
Adjusted R^2	17.70%	18.63%	17.28%	18.27%	19.48%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table X

Lead Underwriter Reputation-Debt Related Firm Quality-Credit Quality Interaction Regressions

New issues of straight public debt by non-financial firms are consolidated into a single observation for each issuer and each issue date. The table presents multivariate OLS regressions of the Megginson-Weiss lead underwriter reputation measure (LUR) on each of the debt related firm quality measures; the natural log of proceeds controls for issue size, and firm size is controlled for using the natural log of assets for the issuer at the end of the quarter prior to the offering. The column heading indicates the firm quality measure interacted with three credit quality dummy variables, 'IG' for investment grade, 'HY' for high yield, and 'NR' for not rated. Interest coverage is calculated as the sum of pretax income at the end of the quarter prior to the issue (*Qtr t-1*) and interest and related expenses from the end of the quarter in which the issue occurs (*Qtr t*), divided by interest and related expenses from the end of the issue quarter; all other data are from the end of the fiscal quarter prior to the issue (*Qtr t-1*). Assets are total assets in millions of dollars. Long-term debt is the total of debt obligations due in more than one year. Total debt is the sum of long-term debt and debt in current liabilities. Data are from the end of the fiscal quarter prior to the issue (*Qtr t-1*). Issue data are from SDC and accounting data are from Compustat. All dollar values are in year 2000 dollars using the annual implicit GDP price deflator. P-values are reported in parentheses beneath the coefficients.

Sample: Concurrent Issues

Dependent Variable: Lead Underwriter Reputation (LUR)

	Interest Coverage	Long-Term-Debt-to-Assets	Total-Debt--to-Assets	Long-Term-Debt-to-Equity	Total-Debt-to-Equity
Intercept	61.7700* (<0.0001)	64.5638* (<0.0001)	64.7884* (<0.0001)	64.8973* (<0.0001)	64.7359* (<0.0001)
Log of Proceeds	**3.2785*** (<0.0001)	**3.3539*** (<0.0001)	**3.3520*** (<0.0001)	**3.3132*** (<0.0001)	**3.3321*** (<0.0001)
Log of Assets	**1.4839*** (<0.0001)	**1.0563*** (<0.0001)	**1.0786*** (<0.0001)	**1.1585*** (<0.0001)	**1.1780*** (<0.0001)
IG Interaction	-0.0100 (0.3951)	**3.5251*** (0.0049)	1.6509 (0.2072)	0.0271 (0.9254)	-0.0063 (0.9857)
HY Interaction	0.0064 (0.5746)	**-2.2651**** (0.0195)	**-3.2332*** (0.0020)	**-1.8541*** (<0.0001)	**-2.2355*** (<0.0001)
NR Interaction	-0.2693 (0.2485)	**-33.5477*** (<0.0001)	**-32.6446*** (<0.0001)	**-8.5372*** (<0.0001)	**-9.3163*** (<0.0001)
Number of Observations	6,354	6,566	6,159	5,135	4,722
Adjusted R^2	15.14%	16.81%	17.21%	17.86%	18.95%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XI
Gross Spread and Equity Related Firm Quality Regressions

New issues of straight public debt by non-financial firms are consolidated into a single observation for each issuer and each issue date. The table reports multivariate OLS regressions of the average gross spread of concurrent issues weighted by each issue's proceeds, on each of the equity related firm quality measures; the natural log of proceeds controls for issue size and the natural log of market capitalization of the issuer controls for firm size. The quality measure used in each regression is identified in the column heading. The natural log of the years the firm was followed by CRSP at the time of the issue proxies for firm age. The five year viability dummy is set to one if the firm is still listed on NYSE, AMEX, or NASDAQ or if it was delisted because of a merger or exchange offer and zero otherwise. The subsequent debt issue dummy is set to one if the firm issues debt within 60 months of the current issue and zero otherwise. The positive earnings dummy is set to one if the firm has positive earnings in the fiscal year of the offer. The standard deviation of daily stock returns is calculated for the period beginning 360 days before the issue and ending 40 days before the issue. The number of years on CRSP, five-year viability, and return data are from CRSP. Subsequent debt issue data are from SDC, and earnings data are from Compustat. All dollar values are in year 2000 dollars using the annual implicit GDP price deflator. P-values are reported in parentheses beneath the coefficients.

Sample: Concurrent Issues					
Dependent Variable: Gross Spread					
	Log of Years on CRSP	5 Year Viability Dummy	Subsequent Debt Issue	Positive Earnings Dummy	Std Dev of Returns
Intercept	5.8071* (<0.0001)	6.0642* (<0.0001)	5.7809* (<0.0001)	5.9325* (<0.0001)	4.7820* (<0.0001)
Log of Proceeds	0.0735* (<0.0001)	0.0898* (<0.0001)	0.0763* (<0.0001)	0.0704* (<0.0001)	0.0548* (<0.0001)
Log of Market Capitalization	-0.3175* (<0.0001)	-0.3586* (<0.0001)	-0.3333* (<0.0001)	-0.3304* (<0.0001)	-0.3051* (<0.0001)
Firm Quality Measure	-0.1248* (<0.0001)	-0.1332* (<0.0001)	-0.2084* (<0.0001)	-0.3416* (<0.0001)	0.2688* (<0.0001)
Number of Observations	4,387	4,424	4,424	4,036	4,424
Adjusted R^2	38.42%	37.21%	37.92%	37.88%	42.05%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XII
Gross Spread and Debt Related Firm Quality Regressions

New issues of straight public debt by non-financial firms are consolidated into a single observation for each issuer and each issue date. The table presents multivariate OLS regressions of the average gross spread of concurrent issues weighted by each issue's proceeds, on each of the debt related firm quality measures; the natural log of proceeds controls for issue size, and firm size is controlled for using the natural log of assets for the issuer at the end of the quarter prior to the offering. The quality measure used in each regression is identified in the column heading. Interest coverage is calculated as the sum of pretax income at the end of the quarter prior to the issue (*Qtr t-1*) and interest and related expenses from the end of the quarter in which the issue occurs (*Qtr t*), divided by interest and related expenses from the end of the issue quarter. Assets are total assets in millions of dollars. Long-term debt is the total of debt obligations due in more than one year. Total debt is the sum of long-term debt and debt in current liabilities. Data are from the quarter prior to the issue (*Qtr t-1*). Issue data are from SDC, and accounting data are from Compustat. All dollar values are in year 2000 dollars using the annual implicit GDP price deflator. P-values are reported in parentheses beneath the coefficients.

Sample: Concurrent Issues Dependent Variable: Gross Spread					
	Interest Coverage	Long-Term-Debt-to-Assets	Total-Debt-to-Assets	Long-Term-Debt-to-Equity	Total-Debt-to-Equity
Intercept	3.4730* (<0.0001)	2.9090* (<0.0001)	2.8584* (<0.0001)	3.3763* (<0.0001)	3.3832* (<0.0001)
Log of Proceeds	0.1312* (<0.0001)	0.1223* (<0.0001)	0.1288* (<0.0001)	0.1186* (<0.0001)	0.1248* (<0.0001)
Log of Assets	-0.3698* (<0.0001)	-0.3429* (<0.0001)	-0.3496* (<0.0001)	-0.3728* (<0.0001)	-0.3805* (<0.0001)
Quality Measure	0.0006 (0.3097)	1.2941* (<0.0001)	1.2557* (<0.0001)	0.3460* (<0.0001)	0.3333* (<0.0001)
Number of Observations	5,528	5,694	5,360	4,390	4,051
Adjusted R^2	27.73%	33.39%	34.27%	39.42%	39.16%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XIII

Gross Spread and Equity Related Firm Quality Regressions by Credit Quality

New issues of straight public debt by non-financial firms are consolidated into a single observation for each issuer and each issue date. The table reports multivariate OLS regressions of the average gross spread of concurrent issues weighted by each issue's proceeds on each of the equity related firm quality measures; the natural log of proceeds controls for issue size, and the natural log of market capitalization of the issuer controls for firm size. The column heading indicates the credit quality for each regression. The firm quality measure used in each regression is identified above the credit quality. The natural log of the years the firm was followed by CRSP at the time of the issue proxies for firm age. The five-year viability dummy is set to one if the firm is still listed on NYSE, AMEX, or NASDAQ or if it was delisted because of a merger or exchange offer and zero otherwise. The subsequent debt issue dummy is set to one if the firm issues debt within 60 months of the current issue and zero otherwise. The positive earnings dummy is set to one if the firm has positive earnings in the fiscal year of the offer. The standard deviation of daily stock returns is calculated for the period beginning 360 days before the issue and ending 40 days before the issue. The number of years on CRSP, five year viability, and return data are from CRSP. Subsequent debt issue data are from SDC, and earnings data are from Compustat. All dollar values are in year 2000 dollars using the annual implicit GDP price deflator. P-values are reported in parentheses beneath the coefficients.

Panel A

Sample: Concurrent Issues

Dependent Variable: Gross Spread

	Log of Years on CRSP			5 Year Viability Dummy			Subsequent Debt Issue		
	IG	HY	NR	IG	HY	NR	IG	HY	NR
Intercept	1.4301* (<0.0001)	8.3807* (<0.0001)	11.8165* (<0.0001)	1.3923* (<0.0001)	8.1252* (<0.0001)	11.9721* (<0.0001)	1.4320* (<0.0001)	8.0906* (<0.0001)	11.4503* (<0.0001)
Log of Proceeds	0.0216* (0.0018)	0.1392* (<0.0001)	-0.5534* (0.0029)	0.0208* (0.0023)	0.1480* (<0.0001)	-0.5963* (0.0005)	0.0212* (0.0020)	0.1186* (0.0001)	-0.5816* (0.0006)
Log of Market Capitalization	-0.0571* (<0.0001)	-0.5052* (<0.0001)	-0.4827* (0.0038)	-0.0541* (<0.0001)	-0.5013* (<0.0001)	-0.4798* (0.0019)	-0.0563* (<0.0001)	-0.4708* (<0.0001)	-0.4570* (0.0030)
Firm Quality Measure	0.0081 (0.2697)	-0.0191 (0.4376)	-0.2031*** (0.0926)	0.0262 (0.1808)	0.1358*** (0.0639)	-0.5440 (0.1168)	0.0209 (0.1548)	-0.2615* (<0.0001)	-0.5803*** (0.0542)
Number of Observations	3,504	802	73	3,522	818	76	3,522	818	76
Adjusted R^2	3.48%	46.61%	53.77%	3.49%	46.19%	52.89%	3.49%	47.31%	53.70%

*, **, *** *denote significance at the 1%, 5%, and 10% levels, respectively*

Table XIII - *Continued*

Panel B

Sample: Concurrent Issues

Dependent Variable: Gross Spread

	Positive Earnings Dummy			Standard Deviation of Returns		
	IG	HY	NR	IG	HY	NR
Intercept	1.5393* (<0.0001)	8.4122* (<0.0001)	12.4923* (<0.0001)	1.4770* (<0.0001)	7.7393* (<0.0001)	11.5399* (<0.0001)
Log of Proceeds	0.0146** (0.0391)	0.1128* (0.0005)	-0.6587* (0.0012)	0.0214* (0.0016)	0.1189* (<0.0001)	-0.5926* (0.0007)
Log of Market Capitalization	-0.0584* (<0.0001)	-0.4956* (<0.0001)	-0.4726* (0.0079)	-0.0555* (<0.0001)	-0.4800* (<0.0001)	-0.4858* (0.0024)
Firm Quality Measure	-0.0201 (0.4226)	-0.1451** (0.0235)	-1.0377** (0.0104)	-0.0231** (0.0166)	0.1295* (<0.0001)	0.0234 (0.8738)
Number of Observations	3,236	726	66	3,522	818	76
Adjusted R^2	4.07%	47.13%	54.55%	3.59%	47.58%	51.25%

*, **, *** *denote significance at the 1%, 5%, and 10% levels, respectively*

Table XIV
Gross Spread and Debt Related Firm Quality Regressions by Credit Quality

New issues of straight public debt by non-financial firms are consolidated into a single observation for each issuer and each issue date. The table presents multivariate OLS regressions of the average gross spread of concurrent issues weighted by each issue's proceeds on each of the debt related firm quality measures; the natural log of proceeds controls for issue size, and firm size is controlled for using the natural log of assets for the issuer at the end of the quarter prior to the offering. The column heading indicates the credit quality for each regression. The firm quality measure used in each regression is identified above the credit quality. Interest coverage is calculated as the sum of pretax income at the end of the quarter prior to the issue (*Qtr t-1*) and interest and related expenses from the end of the quarter in which the issue occurs (*Qtr t*), divided by interest and related expenses from the end of the issue quarter. All other data are from the end of the fiscal quarter prior to the issue (*Qtr t-1*). Assets are total assets in millions of dollars. Long-term debt is the total of debt obligations due in more than one year. Total debt is the sum of long-term debt and debt in current liabilities. Issue data are from SDC, and accounting data are from Compustat. All dollar values are in year 2000 dollars using the annual implicit GDP price deflator. P-values are reported in parentheses beneath the coefficients.

Panel A

Sample: Concurrent Issues

Dependent Variable: Gross Spread

	Interest Coverage			Long-Term-Debt-to-Assets			Total-Debt-to-Assets		
	IG	HY	NR	IG	HY	NR	IG	HY	NR
Intercept	0.9689* (<0.0001)	5.3637* (<0.0001)	8.5934* (<0.0001)	0.9198* (<0.0001)	5.2391* (<0.0001)	7.8343* (<0.0001)	1.0414* (<0.0001)	5.1526* (<0.0001)	7.5453* (<0.0001)
Log of Proceeds	-0.0035 (0.6593)	0.1066* (<0.0001)	-0.8612* (0.0016)	-0.0005 (0.9522)	0.1013* (<0.0001)	-0.7662* (0.0026)	0.0006 (0.9412)	0.0951* (0.0002)	-0.3854*** (0.0704)
Log of Assets	-0.0266* (<0.0001)	-0.5030* (<0.0001)	-0.2767 (0.1543)	-0.0296* (<0.0001)	-0.4968* (<0.0001)	-0.3378*** (0.0670)	-0.0401* (<0.0001)	-0.4864* (<0.0001)	-0.5438* (0.0017)
Quality Measure	-0.0002 (0.7264)	-0.0003 (0.7165)	0.0024 (0.9455)	0.2169* (0.0001)	0.2310** (0.0167)	2.1899*** (0.0514)	0.0606 (0.3008)	0.3225* (0.0019)	1.6356*** (0.0759)
Number of Observations	4,540	913	75	4,672	943	79	4,437	853	70
Adjusted R^2	0.56%	48.26%	42.30%	0.97%	48.59%	44.78%	1.22%	49.34%	53.49%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XIV - *Continued*

Panel B

Dependent Variable: Gross Spread

	Long-Term-Debt-to-Equity			Total-Debt-to-Equity		
	IG	HY	NR	IG	HY	NR
Intercept	0.9285* (<0.0001)	5.3122* (<0.0001)	8.3057* (<0.0001)	0.9903* (<0.0001)	5.3090* (<0.0001)	8.5479* (<0.0001)
Log of Proceeds	0.0157** (0.0344)	0.1164* (<0.0001)	-0.5427* (0.0086)	0.0164** (0.0268)	0.1137* (<0.0001)	-0.4796** (0.0397)
Log of Assets	-0.0410* (<0.0001)	-0.5363* (<0.0001)	-0.5201* (0.0021)	-0.0474* (<0.0001)	-0.5375* (<0.0001)	-0.5994* (0.0023)
Quality Measure	0.1079* (<0.0001)	0.2036* (<0.0001)	0.3235*** (0.0886)	0.0716* (<0.0001)	0.2372* (<0.0001)	0.2359 (0.1869)
Number of Observations	3,556	768	66	3,310	682	59
Adjusted R^2	3.02%	53.24%	53.84%	2.46%	55.38%	53.15%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XV

Gross Spread, Equity Related Firm Quality and Credit Quality Interaction Regressions

New issues of straight public debt by non-financial firms are consolidated into a single observation for each issuer and each issue date. The table reports multivariate OLS regressions of the average gross spread of concurrent issues weighted by each issue's proceeds, on each of the equity related firm quality measures; the natural log of proceeds controls for issue size, and the natural log of market capitalization of the issuer controls for firm size. The column heading indicates the firm quality measure interacted with three credit quality dummy variables, 'IG' for investment grade, 'HY' for high yield, and 'NR' for not rated. The natural log of the years the firm was followed by CRSP at the time of the issue proxies for firm age. The five-year viability dummy is set to one if the firm is still listed on NYSE, AMEX, or NASDAQ or if it was delisted because of a merger or exchange offer and zero otherwise. The subsequent debt issue dummy is set to one if the firm issues debt within 60 months of the current issue and zero otherwise. The positive earnings dummy is set to one if the firm has positive earnings in the fiscal year of the offer. The standard deviation of daily stock returns is calculated for the period beginning 360 days before the issue and ending 40 days before the issue. The number of years on CRSP, five-year viability, and return data are from CRSP. Subsequent debt issue data are from SDC, and earnings data are from Compustat. All dollar values are in year 2000 dollars using the annual implicit GDP price deflator. P-values are reported in parentheses beneath the coefficients.

Sample: Concurrent Issues

Dependent Variable: Gross Spread

	Log of Years on CRSP	5 Year Viability	Subsequent Debt Issue	Positive Earnings	Std Dev of Daily Returns
Intercept	4.1878* (<0.0001)	3.7366* (<0.0001)	4.6696* (<0.0001)	4.2086* (<0.0001)	3.1593* (<0.0001)
Log of Proceeds	0.0259** (0.0163)	0.0257* (0.0098)	0.0365* (0.0004)	0.0368* (0.0006)	0.0323* (0.0005)
Log of Market Capitalization	-0.1944* (<0.0001)	-0.1837* (<0.0001)	-0.1968* (<0.0001)	-0.2012* (<0.0001)	-0.1563* (<0.0001)
IG Interaction	-0.1711* (<0.0001)	-0.3506* (<0.0001)	-1.1274* (<0.0001)	-0.5863* (<0.0001)	-0.1122* (<0.0001)
HY Interaction	0.1794* (<0.0001)	0.9666* (<0.0001)	-0.2093* (<0.0001)	0.5078* (<0.0001)	0.3651* (<0.0001)
NR Interaction	0.5030* (<0.0001)	1.8888* (<0.0001)	0.6346* (<0.0001)	1.5973* (<0.0001)	0.7241* (<0.0001)
Number of Observations	4,379	4,416	4,416	3,993	4,416
Adjusted R^2	53.26%	59.61%	54.62%	54.10%	63.86%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XVI

Gross Spread, Debt Related Firm Quality and Credit Quality Interaction Regressions

The table presents multivariate OLS regressions of the average gross spread of concurrent issues weighted by each issue's proceeds, on each of the debt related firm quality measures; the natural log of proceeds controls for issue size, and firm size is controlled for using the natural log of assets for the issuer at the end of the quarter in which the issue occurs. The column heading indicates the firm quality measure, interacted with three credit quality dummy variables: 'IG' for investment grade, 'HY' for high yield, and 'NR' for not rated. Interest coverage is calculated as the sum of pretax income at the end of the quarter prior to the issue (*Qtr t-1*) and interest and related expenses from the end of the quarter in which the issue occurs (*Qtr t*), divided by interest and related expenses from the end of the issue quarter. All other data are from the end of the fiscal quarter prior to the issue (*Qtr t-1*). Assets are total assets in millions of dollars. Long-term debt is the total of debt obligations due in more than one year. Total debt is the sum of long-term debt and debt in current liabilities. Issue data are from SDC, and accounting data are from Compustat. All dollar values are in year 2000 dollars using the annual implicit GDP price deflator. P-values are reported in parentheses beneath the coefficients.

Sample: Concurrent Issues Dependent Variable: Gross Spread					
	Interest Coverage	Long-Term-Debt-to-Assets	Total-Debt-to-Assets	Long-Term-Debt- to-Equity	Total-Debt-to-Equity
Intercept	3.4665* (<0.0001)	2.5298* (<0.0001)	2.4777* (<0.0001)	3.0628* (<0.0001)	3.0573* (<0.0001)
Log of Proceeds	0.1288* (<0.0001)	0.0513* (<0.0001)	0.0528* (<0.0001)	0.0882* (<0.0001)	0.0843* (<0.0001)
Log of Assets	-0.3674* (<0.0001)	-0.2069* (<0.0001)	-0.1974* (<0.0001)	-0.3081* (<0.0001)	-0.3018* (<0.0001)
IG Interaction	-0.0017*** (0.0756)	-0.8003* (<0.0001)	-0.8479* (<0.0001)	0.0543* (0.0055)	-0.0564* (0.0072)
HY Interaction	0.0021* (0.0068)	1.7621* (<0.0001)	1.7115* (<0.0001)	0.5088* (<0.0001)	0.5423* (<0.0001)
NR Interaction	0.0396* (0.0096)	5.3531* (<0.0001)	4.5666* (<0.0001)	0.8995* (<0.0001)	0.8822* (<0.0001)
Number of Observations	5,525	5,691	5,357	4,390	4,051
Adjusted R^2	27.90%	51.41%	55.93%	45.23%	48.41%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XVII

Issue Activity and the Market Share of High Reputation Underwriters

Data are from the SDC's U.S. New Issues Database. Market share of merger affiliated underwriters are calculated for each year using all public debt issues by non-financial firms over the sample period from January 1, 1980 through December 31, 2007. OLS results are presented below using the average market share in each sample year for the top underwriters as the dependent variable. The explanatory variable is the natural log of the number of issues in each sample year. P-values are reported in parentheses beneath the coefficients.

Dependent Variable: Average Market Share of Top Underwriters								
	Top 3 Underwriters				Top 5 Underwriters			
	Full	IG	HY	NR	Full	IG	HY	NR
Intercept	0.1721* (0.0098)	0.2525* (0.0003)	1.2312* (<0.0001)	0.3534 (0.2060)	0.1239* (0.0088)	0.1937* (0.0002)	1.1239* (<0.0001)	0.4198*** (0.0631)
Log Number of Issues	-0.0027 (0.7852)	-0.0164 (0.1030)	**-0.1576*** **(0.0005)**	-0.0181 (0.6808)	0.0016 (0.8265)	-0.0097 (0.1961)	**-0.1451*** **(0.0004)**	-0.0351 (0.3179)
Number of Observations	28	28	28	27	28	28	28	27
Adjusted R^2	(3.54%)	6.43%	35.49%	(3.28%)	(3.65%)	2.74%	37.06%	0.15%
	Top 7 Underwriters				Top 10 Underwriters			
	Full	IG	HY	NR	Full	IG	HY	NR
Intercept	0.1248* (0.0012)	0.1878* (0.0002)	1.0662* (<0.0001)	0.4195*** (0.0536)	0.0859* (<0.0001)	0.1797* (0.0004)	1.0291* (<0.0001)	0.3781*** (0.0847)
Log Number of Issues	-0.0016 (0.7759)	-0.0105 (0.1375)	**-0.1384*** **(0.0005)**	-0.0377 (0.2649)	0.0007 (0.7253)	-0.0107 (0.1385)	**-0.1351*** **(0.0006)**	-0.0324 (0.3434)
Number of Observations	28	28	28	27	28	28	28	27
Adjusted R^2	(3.52%)	4.75%	35.46%	1.14%	(3.34%)	4.71%	34.54%	(0.26%)

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XVIII

Debt Market Segments and the Quality of Firms Underwritten by Reputable Underwriters

Data are from the SDC's U.S. New Issues Database. Market share of merger affiliated underwriters are calculated for each year using all public debt issues by non-financial firms over the sample period from January 1, 1980 through December 31, 2007. OLS results are presented below using the average market share for the top underwriters in the market overall and each segment in each sample year. Panel A presents results for the top 3 and 5 underwriters, and Panel B presents results for the top 7 and 10 underwriters. The explanatory variables are the average and the standard deviation of the natural log of proceeds raised in the debt market or segment of the market that year and the natural log of the number of issues in the market or segment for each sample year. P-values are reported in parentheses beneath the coefficients.

Panel: A

Dependent Variable: Average Log Proceeds Underwritten by Top Underwriters

	Top 3 Underwriters				Top 5 Underwriters			
	FULL	IG	HY	NR	FULL	IG	HY	NR
Intercept	3.2108* (0.0007)	3.4444* (0.0027)	0.7412 (0.4580)	-1.1996 (0.3299)	3.2060* (0.0003)	3.0050* (0.0058)	0.7702 (0.4445)	-0.2374 (0.7593)
Average of log proceeds in year t	**0.2459**** **(0.0229)**	**0.3365*** **(0.0064)**	**0.4840*** **(0.0032)**	**0.8396*** **(<0.0001)**	**0.2495**** **(0.0124)**	**0.3605*** **(0.0029)**	**0.4987*** **(0.0027)**	**0.8218*** **(<0.0001)**
Std dev of log proceeds in year t	0.0871 (0.5681)	0.0150 (0.9245)	**0.3625**** **(0.0274)**	-0.3927 (0.1491)	0.0831 (0.5507)	0.0353 (0.8170)	**0.3805**** **(0.0221)**	-0.2509 (0.1470)
Log number of issues	0.0691 (0.4506)	-0.0332 (0.7715)	0.2432 (0.1100)	**0.3939**** **(0.0447)**	0.0692 (0.4081)	0.0126 (0.9090)	0.2221 (0.1456)	**0.2028***** **(0.0986)**
Number of observations	28	28	28	27	28	28	28	27
Adjusted R^2	10.94%	32.92%	39.72%	74.22%	15.31%	33.38%	39.35%	86.67%

*, **, *** *denote significance at the 1%, 5%, and 10% levels, respectively*

Table XVIII – *Continued*

Panel: B

Dependent Variable: Average Log Proceeds Underwritten by Top Underwriters

	Top 7 Underwriters				Top 10 Underwriters			
	FULL	IG	HY	NR	FULL	IG	HY	NR
Intercept	3.1085* (0.0002)	3.1973* (0.0023)	0.8333 (0.4115)	0.3686 (0.5421)	2.9489* (0.0002)	3.3648* (0.0010)	0.7607 (0.4414)	0.2854 (0.6236)
Average of log proceeds in year t	0.2835* (0.0029)	0.3620* (0.0017)	0.4872* (0.0034)	0.8387* (<0.0001)	0.2837* (0.0019)	0.3517* (0.0015)	0.4812* (0.0031)	0.7933* (<0.0001)
Std dev of log proceeds in year t	0.1502 (0.2500)	0.0794 (0.5823)	0.3940** (0.0189)	-0.3122** (0.0248)	0.1580 (0.2046)	0.1095 (0.4295)	0.3393** (0.0358)	-0.2780** (0.0366)
Log number of issues	0.0433 (0.5756)	-0.0282 (0.7865)	0.2183 (0.1549)	0.0929 (0.3211)	0.0649 (0.3800)	-0.0540 (0.5880)	0.2382 (0.1132)	0.1154 (0.2039)
Number of observations	28	28	28	27	28	28	28	27
Adjusted R^2	23.31%	37.70%	38.57%	91.66%	25.58%	39.24%	39.14%	91.41%

*, **, *** *denote significance at the 1%, 5%, and 10% levels, respectively*

Table XIX
Changes in Firm Quality, Underwriter Reputation and Subsequent Switching

Data are from the SDC's U.S. New Issues Database. Market share of merger affiliated underwriters are calculated for each year using all public debt issues by non-financial firms over the period from January 1, 1980 through December 31, 2007. The sample is concurrent issues restricted to no more than five years between issues. Percentile ranks are calculated for the Megginson-Weiss underwriter reputation measure (LUR), issue proceeds, and issue credit ratings in each year are used to construct the explanatory variables. Control variables include the initial underwriter's reputation rank at the time of the subsequent issue, the difference in the underwriter's reputation rank associated with the initial and the subsequent issue, and the log of days between the two issues. The absolute difference in the issuer quality rank and the initial underwriter's reputation rank at the time of the subsequent issue explains the probability of the firm's switching to a different underwriter. Panel A reports results from regressions of the full sample with and without time period dummies; Models 1 and 2 use the absolute difference in reputation rank and proceeds rank, Models 3 and 4 use the absolute difference in reputation rank and rating rank. Panels B and C report results from similar regressions on the sample partitioned by credit quality; Panel B uses the absolute difference in reputation rank and proceeds rank; Panel C uses the absolute difference in reputation rank and rating rank. P-values are reported in parentheses beneath the coefficients.

Panel A

Sample Restricted to Subsequent Issues Occurring Within 5 Years

Dependent Variable: Probability of a Switch in Underwriter

	Model 1	Model 2	Model 3	Model4
Intercept	1.8655* (<0.0001)	1.8367* (<0.0001)	1.7400* (<0.0001)	1.6551* (<0.0001)
Current reputation rank for previous underwriter	**-0.0160*** **(<0.0001)**	**-0.0206*** **(<0.0001)**	**-0.0147*** **(<0.0001)**	**-0.0188*** **(<0.0001)**
Current underwriter reputation rank minus previous underwriter reputation rank	**-0.0101*** **(<0.0001)**	**-0.0117*** **(<0.0001)**	**-0.0078*** **(0.0005)**	**-0.0085*** **(0.0002)**
Log of days between issues	-0.0078 (0.6143)	-0.0159 (0.3195)	0.0066 (0.6684)	0.0038 (0.8121)
Absolute difference in current reputation rank for previous underwriter and issue proceeds rank	**-0.0024**** **(0.0119)**	**-0.0034*** **(0.0003)**		
Absolute difference in current reputation rank for previous underwriter and issue credit rating rank			**-0.0046*** **(<0.0001)**	**-0.0063*** **(<0.0001)**
1987 - 1993 Dummy		**0.4172*** **(<0.0001)**		**0.4250*** **(<0.0001)**
1994 - 2000 Dummy		**0.5609*** **(<0.0001)**		**0.5766*** **(<0.0001)**
2001 - 2007 Dummy		**0.9861*** **(<0.0001)**		**1.0291*** **(<0.0001)**
Do Not Switch	2977	2977	2977	2977
Switch	4141	4141	4141	4141
R-Square	0.74%	1.23%	3.46%	3.13%
Max-rescaled R-Square	1.00%	1.66%	4.62%	4.21%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XIX – *Continued*

Panel B

Sample Restricted to Subsequent Issues Occurring Within 5 Years

Dependent Variable: Probability of a Switch in Underwriter

Firm Quality: Proceeds Rank

	Investment Grade	High Yield	Not Rated	Investment Grade	High Yield	Not Rated
Intercept	2.5701* (<0.0001)	2.1950* (0.0004)	-7.4562** (0.0198)	2.6426* (<0.0001)	1.5983** (0.0249)	-10.3221** (0.0454)
Current reputation rank for previous underwriter	-0.0240* (<0.0001)	-0.0274* (<0.0001)	0.0695** (0.0171)	-0.0292* (<0.0001)	-0.0316* (<0.0001)	0.0884*** (0.0589)
Current underwriter reputation rank minus previous underwriter reputation rank	-0.0136* (<0.0001)	-0.0144** (0.0441)	0.0991** (0.0143)	-0.0156* (<0.0001)	-0.0145*** (0.0511)	0.1459** (0.0181)
Log of days between issues	0.0055 (0.7345)	0.0154 (0.8154)	0.0885 (0.7664)	-0.0031 (0.8553)	0.0380 (0.5762)	-0.0765 (0.8202)
Absolute difference in current reputation rank for previous underwriter and issue proceeds rank	-0.0028* (0.0050)	0.0018 (0.6158)	-0.0130 (0.3310)	-0.0038* (0.0001)	-0.0018 (0.6415)	-0.0213 (0.1661)
1987 - 1993 Dummy				0.3752* (<0.0001)	0.7916* (0.0079)	3.1370*** (0.0521)
1994 - 2000 Dummy				0.5276* (<0.0001)	0.9292* (0.0017)	1.7563 (0.2332)
2001 - 2007 Dummy				0.9321* (<0.0001)	1.6288* (<0.0001)	4.1071** (0.0162)
Do Not Switch	2641	284	52	2641	284	52
Switch	3851	280	10	3851	280	10
R-Square	1.23%	3.46%	23.32%	3.00%	8.64%	33.79%
Max-rescaled R-Square	1.66%	4.62%	39.74%	4.05%	11.52%	57.60%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XIX – *Continued*

Panel C

Sample Restricted to Subsequent Issues Occurring Within 5 Years

Dependent Variable: Probability of a Switch in Underwriter

Firm Quality: Credit Rating Rank

	Investment Grade	High Yield	Not Rated	Investment Grade	High Yield	Not Rated
Intercept	2.4236* (<0.0001)	2.2028* (0.0003)	-9.3188** (0.0250)	2.4478* (<0.0001)	1.5618** (0.0263)	-11.8131** (0.0354)
Current reputation rank for previous underwriter	-0.0233* (<0.0001)	-0.0535* (<0.0001)	-0.1158 (0.1626)	-0.0280* (<0.0001)	-0.0345* (0.0038)	-0.0497 (0.5922)
Current underwriter reputation rank minus previous underwriter reputation rank	-0.0119* (<0.0001)	-0.0400* (0.0002)	-0.0067 (0.9235)	-0.0130* (<0.0001)	-0.0170 (0.1647)	0.0627 (0.4321)
Log of days between issues	0.0156 (0.3274)	0.0124 (0.8496)	0.2427 (0.4610)	0.0100 (0.5478)	0.0422 (0.5309)	0.1986 (0.5460)
Absolute difference in current reputation rank for previous underwriter and issue credit rating rank	-0.0024** (0.0360)	0.0316* (0.0013)	0.1962** (0.0220)	-0.0041* (0.0005)	0.0034 (0.7770)	0.1394 (0.1045)
1987 - 1993 Dummy				0.3687* (<0.0001)	0.7650** (0.0155)	2.3437 (0.1835)
1994 - 2000 Dummy				0.5163* (<0.0001)	0.8897* (0.0081)	1.1964 (0.4725)
2001 - 2007 Dummy				0.9415* (<0.0001)	1.5522* (<0.0001)	2.5435 (0.1928)
Do Not Switch	2641	284	52	2641	284	52
Switch	3851	280	10	3851	280	10
R-Square	1.18%	5.26%	32.75%	2.97%	8.62%	35.64%
Max-rescaled R-Square	1.59%	7.02%	55.82%	4.01%	11.49%	60.74%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XX

Changes in Firm Quality, Underwriter Reputation and Subsequent Switching for Sub-Periods

Market share of affiliated underwriters are calculated for each year using all public debt issues by non-financial firms over the sample period from January 1, 1980 through December 31, 2007. Percentile ranks are calculated for the Megginson-Weiss underwriter reputation measure (LUR), issue proceeds, and issue credit ratings in each year. Explanatory variables are the percentile reputation rank of the initial underwriter at the time of the subsequent issue, the difference in the reputation rank of the subsequent issue underwriter and the initial underwriter, the log of days between the two issues, and the absolute difference in reputation rank and either proceeds rank or rating rank. A logistic regression is estimated to predict the probability of firms matching with a different underwriter for the subsequent issue. The sample is concurrent issues restricted to no more than five years between issues. Regression results of the full sample and the three segments are presented below; Panels A and B present results when proceeds rank proxies firm quality; Panels C and D present results when credit rating rank proxies firm quality. Panels A and C report results for the time periods 1980 – 1986 and 1987 – 1993; Panels B and D report results for the time periods 1994 – 2000 and 2001 – 2007. P-values are reported in parentheses beneath the coefficients.

Panel A

Firm Quality: Proceeds Rank

Dependent Variable: Probability of a Switch in Underwriter

	Period: 1980 - 1986				Period: 1987 - 1993			
	Full Sample	Investment Grade	High Yield	Not Rated	Full Sample	Investment Grade	High Yield	Not Rated
Intercept	0.8894 (0.1161)	2.8497* (<0.0001)	-0.6795 (0.7810)	-37.4582 (0.8556)	0.8461*** (0.0546)	0.9512*** (0.0577)	4.0325* (0.0086)	-17.6794 (0.1864)
Current reputation rank for previous underwriter	**-0.0138**** **(0.0142)**	**-0.0351*** **(<0.0001)**	-0.0268 (0.1753)	0.0306 (0.9840)	-0.0036 (0.4376)	-0.0058 (0.2813)	**-0.0373**** **(0.0164)**	0.1222 (0.1027)
Current underwriter reputation rank minus previous underwriter reputation rank	-0.0036 (0.5192)	**-0.0118***** **(0.0645)**	0.0056 (0.8044)	1.0865 (0.7822)	-0.0044 (0.2934)	-0.0044 (0.3241)	**-0.0327**** **(0.0367)**	-0.1223 (0.5315)
Log of days between issues	-0.0124 (0.8064)	-0.0285 (0.5965)	0.3831 (0.2464)	1.5204 (0.9614)	-0.0246 (0.3987)	0.0033 (0.9155)	-0.1477 (0.2056)	1.3923 (0.3520)
Absolute difference in current reputation rank for previous underwriter and proceeds rank	**0.0074*** **(0.0046)**	**0.0094*** **(0.0007)**	-0.0097 (0.4148)	-0.0090 (0.9948)	**-0.0042**** **(0.0102)**	**-0.0043**** **(0.0126)**	-0.0044 (0.5350)	-0.0559 (0.2865)
Do Not Switch	573	489	57	27	990	884	92	14
Switch	519	494	24	1	1,268	1190	75	3
R^2	1.24%	3.46%	6.74%	26.50%	0.36%	0.37%	6.62%	43.55%
Max-rescaled R^2	1.65%	4.61%	9.58%	99.91%	0.48%	0.49%	8.86%	71.84%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XX – *Continued*

Panel B

Firm Quality: Proceeds Rank

Dependent Variable: Probability of a Switch in Underwriter

	Period: 1994 - 2000				Period: 2001 - 2007			
	Full Sample	Investment Grade	High Yield	Not Rated	Full Sample	Investment Grade	High Yield	Not Rated
Intercept	3.2732* (<0.0001)	4.1087* (<0.0001)	1.4439 (0.2241)	185.6510 (0.6927)	5.6904* (<0.0001)	6.4752* (<0.0001)	3.3973** (0.0205)	122.8707 (0.5120)
Current reputation rank for previous underwriter	-0.0307* (<0.0001)	-0.0396* (<0.0001)	-0.0254** (0.0304)	0.3354 (0.7743)	-0.0493* (<0.0001)	-0.0556* (<0.0001)	-0.0427** (0.0152)	-0.3272 (0.5486)
Current underwriter reputation rank minus previous underwriter reputation rank	-0.0171* (<0.0001)	-0.0221* (<0.0001)	-0.0086 (0.4409)	1.0699 (0.5808)	-0.0293* (<0.0001)	-0.0337* (<0.0001)	-0.0142 (0.4380)	-0.6396 (0.5759)
Log of days between issues	-0.0116 (0.6383)	-0.0001 (0.9981)	0.0931 (0.4917)	-34.3895 (0.6404)	-0.0096 (0.8267)	-0.0323 (0.4977)	0.1848 (0.1450)	-12.7035 (0.4990)
Absolute difference in current reputation rank for previous underwriter and proceeds rank	-0.0033** (0.0478)	-0.0043** (0.0142)	0.0069 (0.3885)	-0.8087 (0.6594)	-0.0109* (<0.0001)	-0.0122* (<0.0001)	-0.0015 (0.8390)	-0.4257 (0.5268)
Do Not Switch	945	855	82	8	469	413	53	3
Switch	1,351	1263	85	3	1,003	904	96	3
R^2	2.27%	3.14%	3.63%	68.98%	4.65%	5.09%	6.35%	48.88%
Max-rescaled R^2	3.07%	4.24%	4.84%	99.93%	6.51%	7.15%	8.73%	65.17%

*, **, *** *denote significance at the 1%, 5%, and 10% levels, respectively*

Table XX – *Continued*

Panel C

Firm Quality: Credit Rating Rank

Dependent Variable: Probability of a Switch in Underwriter

	Period: 1980 - 1986				Period: 1987 - 1993			
	Full Sample	Investment Grade	High Yield	Not Rated	Full Sample	Investment Grade	High Yield	Not Rated
Intercept	0.8894 (0.1161)	2.9598* (<0.0001)	-0.1707 (0.9440)	-3.1801 (0.9915)	0.8461*** (0.0546)	0.7344 (0.1397)	3.9373** (0.0116)	-19.1840 (0.1402)
Current reputation rank for previous underwriter	-0.0138** (0.0142)	-0.0308* (<0.0001)	-0.0191 (0.4299)	-1.1357 (0.9750)	-0.0036 (0.4376)	-0.0024 (0.6614)	-0.0440** (0.0328)	-0.0292 (0.8616)
Current underwriter reputation rank minus previous underwriter reputation rank	-0.0036 (0.5192)	-0.0108*** (0.0913)	0.0145 (0.6016)	0.0259 (0.9975)	-0.0044 (0.2934)	-0.0002 (0.9657)	-0.0389*** (0.0796)	-0.2192 (0.4526)
Log of days between issues	-0.0124 (0.8064)	-0.0166 (0.7562)	0.3292 (0.3031)	-0.6058 (0.9817)	-0.0246 (0.3987)	0.0050 (0.8712)	-0.1380 (0.2351)	1.0657 (0.2395)
Absolute difference in current reputation rank for previous underwriter and credit rating rank	0.0074* (0.0046)	-0.0094* (0.0066)	-0.0184 (0.4776)	1.1466 (0.9748)	-0.0042** (0.0102)	-0.0087* (<0.0001)	0.0069 (0.7231)	0.1764 (0.4555)
Do Not Switch	573	489	57	27	990	884	92	14
Switch	519	494	24	1	1,268	1190	75	3
R^2	2.99%	3.46%	6.74%	26.50%	1.41%	0.37%	6.62%	43.55%
Max-rescaled R^2	3.99%	4.61%	9.58%	99.91%	1.89%	0.49%	8.86%	71.84%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XX – *Continued*

Panel D

Firm Quality: Credit Rating Rank

Dependent Variable: Probability of a Switch in Underwriter

	Period: 1994 - 2000				Period: 2001 - 2007			
	Full Sample	Investment Grade	High Yield	Not Rated	Full Sample	Investment Grade	High Yield	Not Rated
Intercept	3.2732* (<0.0001)	3.9533* (<0.0001)	1.8674*** (0.0860)	13.7560 (0.9842)	5.6904* (<0.0001)	5.2894* (<0.0001)	3.2954** (0.0201)	127.9961 (0.7378)
Current reputation rank for previous underwriter	-0.0307* (<0.0001)	-0.0411* (<0.0001)	-0.0312 (0.1704)	-2.1521 (0.8568)	-0.0493* (<0.0001)	-0.0498* (<0.0001)	-0.0596 (0.1078)	-6.9409 (0.7011)
Current underwriter reputation rank minus previous underwriter reputation rank	-0.0171* (<0.0001)	-0.0209* (<0.0001)	-0.0159 (0.4704)	0.0048 (0.9994)	-0.0293* (<0.0001)	-0.0239* (0.0007)	-0.0303 (0.4214)	-6.5018 (0.7056)
Log of days between issues	-0.0116 (0.6383)	0.0220 (0.3549)	0.0589 (0.6527)	-3.2696 (0.9758)	-0.0096 (0.8267)	0.0041 (0.9300)	0.1871 (0.1326)	-23.2118 (0.6987)
Absolute difference in current reputation rank for previous underwriter and credit rating rank	-0.0033** (0.0478)	-0.0003 (0.8833)	0.0061 (0.7913)	2.1114 (0.8719)	-0.0109* (<0.0001)	-0.0012 (0.6326)	0.0190 (0.6154)	6.7802 (0.7049)
Do Not Switch	945	855	82	8	469	413	53	3
Switch	1,351	1263	85	3	1,003	904	96	3
R^2	2.21%	3.14%	3.63%	68.98%	3.24%	5.09%	6.35%	48.88%
Max-rescaled R^2	2.98%	4.24%	4.84%	99.93%	4.53%	7.15%	8.73%	65.17%

*, **, *** *denote significance at the 1%, 5%, and 10% levels, respectively*

Table XXI
Lead Underwriter Reputation and Equity Related Firm Quality Regressions with Underwriter Scope

The table reports multivariate OLS regressions of the Megginson-Weiss lead underwriter reputation measure (LUR) on each of the equity related firm quality measures; the natural log of proceeds controls for issue size, and the natural log of market capitalization of the issuer controls for firm size. The underwriter scope variable represents the history of services for each issuer-underwriter match; services are debt underwriting, equity underwriting, and merger advisor. The column heading indicates the credit quality for each regression. The firm quality measure used in each regression is identified above the credit quality. The natural log of the years the firm was followed by CRSP at the time of the issue proxies for firm age. The number of years on CRSP, five-year viability, and return data are from CRSP. Subsequent debt issue and underwriter scope data are from SDC. Earnings data are from Compustat. All dollar values are in year 2000 dollars using the annual implicit GDP price deflator. P-values are reported in parentheses beneath the coefficients.

Panel A

Sample: Concurrent Issues

Dependent Variable: Lead Underwriter Reputation (LUR)

	Log of Years on CRSP				5 Year Viability			
	FULL	IG	HY	NR	FULL	IG	HY	NR
Intercept	51.1225* (<0.0001)	67.8498* (<0.0001)	36.0920* (<0.0001)	-32.8972*** (0.0849)	50.9099* (<0.0001)	69.8119* (<0.0001)	36.0405* (<0.0001)	-32.3022*** (0.0763)
Log of Proceeds	3.0947* (<0.0001)	2.2143* (<0.0001)	8.7024* (<0.0001)	12.4038* (<0.0001)	3.0255* (<0.0001)	2.1316* (<0.0001)	8.7221* (<0.0001)	12.6690* (<0.0001)
Log of Market Capitalization	1.3754* (<0.0001)	0.6813* (<0.0001)	0.4911 (0.1808)	4.4630** (0.0132)	1.5023* (<0.0001)	0.6736* (<0.0001)	0.3932 (0.2559)	4.4271* (0.0050)
Firm Quality Measure	0.4257** (0.0187)	0.0984 (0.6056)	-0.3954 (0.3492)	0.6029 (0.7703)	-0.0263 (0.9592)	-1.3828* (0.0080)	0.2248 (0.8577)	-0.4893 (0.9324)
Underwriter Scope	1.4025* (<0.0001)	1.5145* (<0.0001)	0.7981 (0.2095)	-0.9070 (0.8226)	1.4215* (<0.0001)	1.6110* (<0.0001)	0.8848 (0.1636)	-0.4440 (0.9087)
Number of Observations	5,125	4,189	854	82	5,162	4,207	870	85
Adjusted R^2	16.86%	10.15%	31.25%	46.23%	16.76%	10.30%	30.51%	46.46%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XXI – *Continued*

Panel B

Sample: Concurrent Issues

Dependent Variable: Lead Underwriter Reputation (LUR)

	Subsequent Debt Issue				Positive Earnings			
	FULL	IG	HY	NR	FULL	IG	HY	NR
Intercept	51.3416* (<0.0001)	68.0601* (<0.0001)	37.2801* (<0.0001)	-27.4409 (0.1335)	52.2219* (<0.0001)	69.0289* (<0.0001)	39.4004* (<0.0001)	-46.5581** (0.0177)
Log of Proceeds	3.1029* (<0.0001)	2.1947* (<0.0001)	8.7861* (<0.0001)	12.9355* (<0.0001)	3.0306* (<0.0001)	2.2345* (<0.0001)	8.8965* (<0.0001)	11.5342* (<0.0001)
Log of Market Capitalization	1.4112* (<0.0001)	0.7048* (<0.0001)	0.2613 (0.4754)	3.8847** (0.0173)	1.4459* (<0.0001)	0.6833* (<0.0001)	0.0702 (0.8411)	5.0933* (0.0029)
Firm Quality Measure	0.8179** (0.0358)	-0.1735 (0.6572)	0.9102 (0.3538)	5.8595 (0.2667)	-0.4936 (0.3751)	-0.7761 (0.2238)	0.1500 (0.8868)	7.2802 (0.2893)
Underwriter Scope	1.3917* (<0.0001)	1.5163* (<0.0001)	0.8897 (0.1601)	-1.6798 (0.6680)	1.3486* (<0.0001)	1.3447* (<0.0001)	1.0626*** (0.0985)	1.7766 (0.6582)
Number of Observations	5,162	4,207	870	85	4,714	3,864	775	75
Adjusted R^2	16.84%	10.15%	30.57%	47.28%	16.79%	10.26%	31.88%	46.68%

*, **, *** *denote significance at the 1%, 5%, and 10% levels, respectively*

Table XXI – *Continued*

Panel C

Sample: Concurrent Issues

Dependent Variable: Lead Underwriter Reputation (LUR)

	Std. Dev. of Daily Returns			
	FULL	IG	HY	NR
Intercept	54.3350* (<0.0001)	66.3550* (<0.0001)	42.6023* (<0.0001)	-16.8333 (0.4295)
Log of Proceeds	3.1337* (<0.0001)	2.1688* (<0.0001)	8.9341* (<0.0001)	13.0724* (<0.0001)
Log of Market Capitalization	1.3541* (<0.0001)	0.7114* (<0.0001)	0.1205 (0.7313)	3.7582** (0.0215)
Firm Quality Measure	-0.8446* (<0.0001)	0.5738** (0.0231)	-1.3447* (0.0028)	-3.2661 (0.1936)
Underwriter Scope	1.3859* (<0.0001)	1.5460* (<0.0001)	0.8819 (0.1619)	-0.6939 (0.8537)
Number of Observations	5,162	4,207	870	85
Adjusted R^2	17.02%	10.26%	31.22%	47.58%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XXII
Lead Underwriter Reputation and Debt Related Firm Quality Regressions with Underwriter Scope

The table presents multivariate OLS regressions of the Megginson-Weiss lead underwriter reputation measure (LUR) on each of the debt related firm quality measures; the natural log of proceeds controls for issue size, and firm size is controlled for using the natural log of assets for the issuer at the end of the quarter prior to the offering. Interest coverage is calculated as the sum of pretax income at the end of the quarter prior to the issue (*Qtr t-1*) and interest and related expenses from the end of the quarter in which the issue occurs (*Qtr t*), divided by interest and related expenses from the end of the issue quarter. All other data are from the end of the fiscal quarter prior to the issue (*Qtr t-1*). The underwriter scope variable represents the history of services for each issuer-underwriter match; services are debt underwriting, equity underwriting, and merger advisor. The column heading indicates the credit quality for each regression. The firm quality measure used in each regression is identified above the credit quality. Assets are total assets in millions of dollars. Long-term debt is the total of debt obligations due in more than one year. Total debt is the sum of long-term debt and debt in current liabilities. Issue and underwriter scope data are from SDC. Accounting data are from Compustat. All dollar values are in year 2000 dollars using the annual implicit GDP price deflator. P-values are reported in parentheses beneath the coefficients.

Panel A

Sample: Concurrent Issues

Dependent Variable: LUR

	Interest Coverage				Long-Term-Debt-to-Assets			
	FULL	IG	HY	NR	FULL	IG	HY	NR
Intercept	59.8893* (<0.0001)	69.0634* (<0.0001)	40.2820* (<0.0001)	5.8976 (0.5600)	60.5984* (<0.0001)	68.8027* (<0.0001)	41.1347* (<0.0001)	0.7961 (0.9391)
Log of Proceeds	3.2104* (<0.0001)	2.4246* (<0.0001)	8.5139* (<0.0001)	12.1186* (<0.0001)	3.1935* (<0.0001)	2.4017* (<0.0001)	8.5013* (<0.0001)	12.1372* (<0.0001)
Log of Assets	1.4811* (<0.0001)	0.9233* (<0.0001)	0.2314 (0.4389)	3.8795** (0.0191)	1.4565* (<0.0001)	0.9330* (<0.0001)	0.1710 (0.5567)	3.8901** (0.0168)
Quality Measure	-0.0070 (0.5706)	-0.0060 (0.6364)	-0.0052 (0.8589)	-0.9106 (0.4499)	-1.3821 (0.1386)	1.1764 (0.3558)	-0.9933 (0.5435)	5.0936 (0.7093)
Underwriter Scope	1.5052* (<0.0001)	1.6549* (<0.0001)	1.4640** (0.0135)	-2.6536 (0.4665)	1.4959* (<0.0001)	1.6431* (<0.0001)	1.5511* (0.0077)	-2.0415 (0.5742)
Number of Observations	6,389	5,340	966	83	6,568	5,491	989	88
Adjusted R^2	15.79%	10.75%	32.40%	47.80%	15.84%	10.77%	32.18%	47.09%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XXII – *Continued*

Panel B

Dependent Variable: LUR

	Total-Debt-to-Assets				Long-Term-Debt-to-Equity			
	FULL	IG	HY	NR	FULL	IG	HY	NR
Intercept	60.5822* (<0.0001)	68.6063* (<0.0001)	40.2112* (<0.0001)	-4.9078 (0.6787)	60.6860* (<0.0001)	72.2264* (<0.0001)	40.3640* (<0.0001)	-3.1545 (0.7663)
Log of Proceeds	3.1933* (<0.0001)	2.3826* (<0.0001)	8.5995* (<0.0001)	10.8178* (<0.0001)	3.1727* (<0.0001)	2.2921* (<0.0001)	8.2089* (<0.0001)	12.2144* (<0.0001)
Log of Assets	1.5067* (<0.0001)	1.0407* (<0.0001)	0.1643 (0.5884)	5.5968* (0.0016)	1.4742* (<0.0001)	0.7123* (<0.0001)	0.5873*** (0.0664)	5.0104* (0.0038)
Quality Measure	-2.8692* (0.0050)	-1.3197 (0.3306)	-1.1906 (0.5116)	12.2272 (0.4046)	-1.2230* (<0.0001)	-0.2832 (0.2776)	-1.1899* (0.0036)	-6.3306** (0.0375)
Underwriter Scope	1.6121* (<0.0001)	1.6885* (<0.0001)	1.8390* (0.0027)	-4.1565 (0.2852)	1.5649* (<0.0001)	1.4526* (<0.0001)	1.6609* (0.0077)	0.2948 (0.9441)
Number of Observations	6,161	5,201	881	79	5,134	4,208	851	75
Adjusted R^2	16.21%	11.07%	33.49%	49.84%	17.40%	10.24%	34.13%	47.60%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XXII – *Continued*

Panel C

Dependent Variable: LUR

	Total-Debt-to-Equity			
	FULL	IG	HY	NR
Intercept	60.1346* (<0.0001)	71.4313* (<0.0001)	39.0219* (<0.0001)	-4.3107 (0.6918)
Log of Proceeds	3.1580* (<0.0001)	2.2737* (<0.0001)	8.2981* (<0.0001)	11.4819* (<0.0001)
Log of Assets	1.5628* (<0.0001)	0.8248* (<0.0001)	0.6027*** (0.0794)	6.0846* (0.0010)
Quality Measure	-1.7251* (<0.0001)	-0.6513** (0.0451)	-1.3214* (0.0071)	-5.0255*** (0.0806)
Underwriter Scope	1.7134* (<0.0001)	1.5280* (<0.0001)	2.0996* (0.0017)	-1.7071 (0.6960)
Number of Observations	4,721	3,907	746	68
Adjusted R^2	18.29%	10.76%	35.74%	50.36%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XXIII
Lead Underwriter Reputation, Equity Related Firm Quality and Credit Quality Interaction Regressions with Underwriter Scope

The table reports multivariate OLS regressions of gross spread on each of the equity related firm quality measures; the natural log of proceeds controls for issue size, and the natural log of market capitalization of the issuer controls for firm size. The underwriter scope variable represents the history of services for each issuer-underwriter match; services are debt underwriting, equity underwriting, and merger advisor. The quality measure used in each regression is identified in the column heading. Subsequent debt issue and underwriter scope data are from SDC. Earnings data are from Compustat.. All dollar values are in year 2000 dollars using the annual implicit GDP price deflator. P-values are reported in parentheses beneath the coefficients.

Sample: Concurrent Issues

Dependent Variable: Lead Underwriter Reputation (LUR)

	Log of Years on CRSP	5 Year Viability	Subsequent Debt Issue	Positive Earnings	Std. Dev. of Daily Returns
Intercept	57.2275* (<0.0001)	59.0704* (<0.0001)	55.1995* (<0.0001)	59.7368* (<0.0001)	61.2946* (<0.0001)
Log of Proceeds	3.1859* (<0.0001)	3.1176* (<0.0001)	3.1842* (<0.0001)	2.9930* (<0.0001)	3.0841* (<0.0001)
Log of Market Capitalization	0.9688* (<0.0001)	0.9537* (<0.0001)	1.0016* (<0.0001)	0.9282* (<0.0001)	0.8248* (<0.0001)
IG Interaction	0.6147* (0.0006)	0.9002*** (0.0770)	3.6811* (<0.0001)	1.3602** (0.0114)	0.4136 (0.1070)
HY Interaction	-0.4254*** (0.0806)	-2.4598* (0.0002)	0.8070 (0.2820)	-1.5453** (0.0260)	-0.9002* (<0.0001)
NR Interaction	-3.8708* (<0.0001)	-16.8948* (<0.0001)	-7.3013* (0.0003)	-17.0072* (<0.0001)	-6.0976* (<0.0001)
Underwriter Scope	1.2784* (<0.0001)	1.3116* (<0.0001)	1.3318* (<0.0001)	1.2203* (<0.0001)	1.3614* (<0.0001)
Number of Observations	5,126	5,163	5,163	4,678	5,163
Adjusted R^2	18.05%	19.01%	17.67%	18.60%	19.88%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XXIV
Lead Underwriter Reputation, Debt Related Firm Quality and Credit Quality Interaction Regressions with Underwriter Scope

The table presents multivariate OLS regressions of the Megginson-Weiss lead underwriter reputation measure (LUR) on each of the debt related firm quality measures. The underwriter scope variable represents the history of services for each issuer-underwriter match; services are debt underwriting, equity underwriting, and merger advisor. The column heading indicates the firm quality measure interacted with the credit quality dummy variables. Data are from the end of the fiscal quarter prior to the issue (*Qtr t-1*). Issue and underwriter scope data are from SDC. Accounting data are from Compustat. All dollar values are in year 2000 dollars using the annual implicit GDP price deflator. P-values are reported in parentheses beneath the coefficients.

Sample: Concurrent Issues Dependent Variable: Lead Underwriter Reputation (LUR)					
	Interest Coverage	Long-Term-Debt- to-Assets	Total-Debt-to-Assets	Long-Term-Debt-to-Equity	Total-Debt-to-Equity
Intercept	59.8287* (<0.0001)	62.4413* (<0.0001)	62.5640* (<0.0001)	62.4048* (<0.0001)	61.9804* (<0.0001)
Log of Proceeds	3.1998* (<0.0001)	3.2789* (<0.0001)	3.2730* (<0.0001)	3.2427* (<0.0001)	3.2515* (<0.0001)
Log of Assets	1.4970* (<0.0001)	1.0389* (<0.0001)	1.0674* (<0.0001)	1.1881* (<0.0001)	1.2172* (<0.0001)
IG Interaction	-0.0098 (0.4004)	4.1556* (0.0009)	2.0221 (0.1208)	0.0081 (0.9775)	-0.0522 (0.8825)
HY Interaction	0.0067 (0.5542)	-2.4510** (0.0111)	-3.5112* (0.0007)	-1.8731* (<0.0001)	-2.2827* (<0.0001)
NR Interaction	-0.2603 (0.2631)	-34.3025* (<0.0001)	-33.3243* (<0.0001)	-8.8230* (<0.0001)	-9.5691* (<0.0001)
Underwriter Scope	1.4886* (<0.0001)	1.6892* (<0.0001)	1.7681* (<0.0001)	1.6257* (<0.0001)	1.7738* (<0.0001)
Number of Observations	6,353	6,565	6,158	5,134	4,721
Adjusted R^2	15.75%	17.60%	18.06%	18.68%	19.90%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XXV

Gross Spread and Equity Related Firm Quality Regressions with Underwriter Scope by Credit Quality

The table reports multivariate OLS regressions of the average gross spread of concurrent issues weighted by each issue's proceeds on each of the equity related firm quality measures, the natural log of proceeds controls for issue size, and the natural log of market capitalization of the issuer controls for firm size. The underwriter scope variable represents the history of services for each issuer-underwriter match; services are debt underwriting, equity underwriting, and merger advisor. The column heading indicates the credit quality for each regression. The firm quality measure used in each regression is identified above the credit quality. The number of years on CRSP, five-year viability, and return data are from CRSP. Subsequent debt issue and underwriter scope data are from SDC. Earnings data are from Compustat. All dollar values are in year 2000 dollars using the annual implicit GDP price deflator. P-values are reported in parentheses beneath the coefficients.

Panel A

Sample: Concurrent Issues

Dependent Variable: Gross Spread

	Log of Years on CRSP				5 Year Viability Dummy			
	FULL	IG	HY	NR	FULL	IG	HY	NR
Intercept	5.7181* (<0.0001)	1.3913* (<0.0001)	8.2737* (<0.0001)	12.4253* (<0.0001)	5.9968* (<0.0001)	1.3670* (<0.0001)	8.0390* (<0.0001)	12.5592* (<0.0001)
Log of Proceeds	0.0702* (<0.0001)	0.0206* (0.0030)	0.1303* (<0.0001)	-0.5177* (0.0052)	0.0862* (<0.0001)	0.0196* (0.0040)	0.1384* (<0.0001)	-0.5658* (0.0008)
Log of Market Capitalization	-0.3159* (<0.0001)	-0.0564* (<0.0001)	-0.5043* (<0.0001)	-0.4983* (0.0027)	-0.3582* (<0.0001)	-0.0542* (<0.0001)	-0.5005* (<0.0001)	-0.4880* (0.0014)
Firm Quality Measure	-0.1282* (<0.0001)	0.0058 (0.4269)	-0.0174 (0.4796)	-0.1799 (0.1353)	-0.1523* (<0.0001)	0.0159 (0.4228)	0.1245*** (0.0897)	-0.4646 (0.1771)
Underwriter Scope	0.0564* (0.0002)	0.0259* (0.0025)	0.0807** (0.0301)	-0.3609 (0.1372)	0.0592* (0.0001)	0.0259* (0.0026)	0.0802** (0.0300)	-0.3973*** (0.0830)
Number of Observations	4,379	3,504	802	73	4,416	3,522	818	76
Adjusted R^2	38.59%	3.70%	46.85%	54.60%	37.37%	3.70%	46.43%	54.21%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XXV - *Continued*

Panel B

Dependent Variable: Gross Spread

	Subsequent Debt Issue				Positive Earnings Dummy			
	FULL	IG	HY	NR	FULL	IG	HY	NR
Intercept	5.6895* (<0.0001)	1.3912* (<0.0001)	7.9748* (<0.0001)	12.0329* (<0.0001)	5.8633* (<0.0001)	1.5029* (<0.0001)	8.2532* (<0.0001)	13.6359* (<0.0001)
Log of Proceeds	0.0732* (<0.0001)	0.0203* (0.0031)	0.1086* (0.0004)	-0.5584* (0.0009)	0.0688* (<0.0001)	0.0142** (0.0450)	0.1000* (0.0023)	-0.5701* (0.0041)
Log of Market Capitalization	-0.3322* (<0.0001)	-0.0559* (<0.0001)	-0.4692* (<0.0001)	-0.4703* (0.0022)	-0.3301* (<0.0001)	-0.0583* (<0.0001)	-0.4924* (<0.0001)	-0.5163* (0.0030)
Firm Quality Measure	-0.2144* (<0.0001)	0.0172 (0.2419)	-0.2636* (<0.0001)	-0.4480 (0.1508)	-0.3414* (<0.0001)	-0.0190 (0.4475)	-0.1540** (0.0158)	-1.0538* (0.0072)
Underwriter Scope	0.0579* (0.0001)	0.0263* (0.0020)	0.0873** (0.0167)	-0.3365 (0.1553)	0.0446* (0.0041)	0.0228** (0.0108)	0.1122* (0.0034)	-0.5612** (0.0204)
Number of Observations	4,416	3,522	818	76	4,028	3,236	726	66
Adjusted R^2	38.07%	3.72%	47.62%	54.37%	37.96%	4.24%	47.68%	57.73%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XXV – *Continued*

Panel C

Dependent Variable: Gross Spread

	Standard Deviation of Daily Returns			
	FULL	IG	HY	NR
Intercept	4.6822* (<0.0001)	1.4333* (<0.0001)	7.6248* (<0.0001)	12.2954* (<0.0001)
Log of Proceeds	0.0521* (<0.0001)	0.0206* (0.0023)	0.1091* (0.0003)	-0.5584* (0.0012)
Log of Market Capitalization	-0.3043* (<0.0001)	-0.0554* (<0.0001)	-0.4786* (<0.0001)	-0.4956* (0.0017)
Firm Quality Measure	0.2702* (<0.0001)	-0.0211** (0.0287)	0.1300* (<0.0001)	0.0112 (0.9382)
Underwriter Scope	0.0597* (<0.0001)	0.0258* (0.0024)	0.0861** (0.0179)	-0.4373*** (0.0581)
Number of Observations	4,416	3,522	818	76
Adjusted R^2	42.21%	3.82%	47.87%	53.02%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XXVI
Gross Spread and Debt Related Firm Quality Regressions with Underwriter Scope by Credit Quality

The table reports multivariate OLS regressions of the average gross spread of concurrent issues weighted by each issue's proceeds on each of the debt related firm quality measures, the natural log of proceeds controls for issue size, and firm size is controlled for using the natural log of assets for the issuer at the end of the quarter prior to the offering. The underwriter scope variable represents the history of services for each issuer-underwriter match; services are debt underwriting, equity underwriting, and merger advisor. The column heading indicates the credit quality for each regression. The firm quality measure used in each regression is identified above the credit quality. Data are from the end of the fiscal quarter prior to the issue (*Qtr t-1*). Issue and underwriter scope data are from SDC. Accounting data are from Compustat. All dollar values are in year 2000 dollars using the annual implicit GDP price deflator. P-values are reported in parentheses beneath the coefficients.

Panel A

Sample: Concurrent Issues

Dependent Variable: Gross Spread

	Interest Coverage				Long-Term-Debt-to-Assets			
	FULL	IG	HY	NR	FULL	IG	HY	NR
Intercept	3.3824* (<0.0001)	0.9712* (<0.0001)	5.2418* (<0.0001)	9.1844* (<0.0001)	2.8186* (<0.0001)	0.9066* (<0.0001)	5.2039* (<0.0001)	8.4525* (<0.0001)
Log of Proceeds	**0.1278*** **(<0.0001)**	-0.0013 (0.8722)	**0.0974*** **(0.0001)**	**-0.7919*** **(0.0034)**	**0.1171*** **(<0.0001)**	0.0001 (0.9916)	**0.0920*** **(0.0003)**	**-0.7400*** **(0.0032)**
Log of Assets	**-0.3697*** **(<0.0001)**	**-0.0293*** **(<0.0001)**	**-0.4792*** **(<0.0001)**	-0.2841 (0.1492)	**-0.3414*** **(<0.0001)**	**-0.0299*** **(<0.0001)**	**-0.4788*** **(<0.0001)**	**-0.3302***** **(0.0697)**
Quality Measure	0.0011 (0.1881)	0.0005 (0.3661)	0.0006 (0.7076)	-0.0315 (0.7443)	**1.2930*** **(<0.0001)**	**0.2154*** **(0.0001)**	**0.1663***** **(0.0796)**	**2.3431**** **(0.0357)**
Underwriter Scope	**0.0723*** **(<0.0001)**	0.0048 (0.6155)	0.0194 (0.5685)	-0.4504 (0.1448)	**0.0695*** **(<0.0001)**	0.0081 (0.3891)	0.0104 (0.7565)	**-0.4964***** **(0.0866)**
Number of Observations	5,555	4,591	889	75	5,694	4,702	913	79
Adjusted R^2	28.31%	0.63%	46.97%	42.14%	33.65%	0.94%	47.60%	46.22%

*, **, *** *denote significance at the 1%, 5%, and 10% levels, respectively*

Table XXVI – *Continued*

Panel B

Dependent Variable: Gross Spread

	Total-Debt-to-Assets				Long-Term-Debt-to-Equity			
	FULL	IG	HY	NR	FULL	IG	HY	NR
Intercept	2.7839* (<0.0001)	1.0311* (<0.0001)	5.1399* (<0.0001)	7.9212* (<0.0001)	3.3394* (<0.0001)	0.9068* (<0.0001)	5.2471* (<0.0001)	9.0627* (<0.0001)
Log of Proceeds	0.1246* (<0.0001)	0.0013 (0.8641)	0.0874* (0.0008)	-0.3729*** (0.0782)	0.1176* (<0.0001)	0.0155** (0.0373)	0.1107* (<0.0001)	-0.5128** (0.0104)
Log of Assets	-0.3482* (<0.0001)	-0.0403* (<0.0001)	-0.4683* (<0.0001)	-0.5294* (0.0021)	-0.3723* (<0.0001)	-0.0409* (<0.0001)	-0.5337* (<0.0001)	-0.5196* (0.0015)
Quality Measure	1.2507* (<0.0001)	0.0576 (0.3232)	0.2591** (0.0108)	1.7231*** (0.0608)	0.3453* (<0.0001)	0.1075* (<0.0001)	0.2031* (<0.0001)	0.4330** (0.0243)
Underwriter Scope	0.0574* (<0.0001)	0.0054 (0.5707)	-0.0054 (0.8756)	-0.3333 (0.1718)	0.0235 (0.1087)	0.0140 (0.1148)	0.0458 (0.1972)	-0.5696** (0.0274)
Number of Observations	5,360	4,467	823	70	4,390	3,556	768	66
Adjusted R^2	34.45%	1.18%	48.41%	54.12%	39.45%	3.06%	53.28%	56.71%

*, **, *** *denote significance at the 1%, 5%, and 10% levels, respectively*

Table XXVI – *Continued*

Panel C

Dependent Variable: Gross Spread

	Total-Debt-to-Equity			
	FULL	IG	HY	NR
Intercept	3.3566* (<0.0001)	0.9655* (<0.0001)	5.2772* (<0.0001)	9.1250* (<0.0001)
Log of Proceeds	0.1240* (<0.0001)	0.0161** (0.0297)	0.1107* (<0.0001)	-0.4779** (0.0368)
Log of Assets	-0.3800* (<0.0001)	-0.0472* (<0.0001)	-0.5361* (<0.0001)	-0.5671* (0.0034)
Quality Measure	0.3326* (<0.0001)	0.0709* (<0.0001)	0.2364* (<0.0001)	0.3153*** (0.0835)
Underwriter Scope	0.0167 (0.2693)	0.0155*** (0.0793)	0.0228 (0.5297)	-0.5004*** (0.0805)
Number of Observations	4,051	3,310	682	59
Adjusted R^2	39.16%	2.52%	55.34%	54.93%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XXVII
Gross Spread, Equity Related Firm Quality and Credit Quality Interaction Regressions with Underwriter Scope

The table reports multivariate OLS regressions of gross spread on each of the equity related firm quality measures; the natural log of proceeds controls for issue size, and the natural log of market capitalization of the issuer controls for firm size. The underwriter scope variable represents the history of services for each issuer-underwriter match; services are debt underwriting, equity underwriting, and merger advisor. The column heading indicates the firm quality measure, interacted with three credit quality dummy variables: 'IG' for investment grade, 'HY' for high yield, and 'NR' for not rated. The number of years on CRSP, five-year viability, and return data are from CRSP. Subsequent debt issue and underwriter scope data are from SDC. Earnings data are from Compustat. All dollar values are in year 2000 dollars using the annual implicit GDP price deflator. P-values are reported in parentheses beneath the coefficients.

Sample: Concurrent Issues Dependent Variable: Gross Spread					
	Log of Years on CRSP	5 Year Viability	Subsequent Debt Issue	Positive Earnings	Std. Dev. of Daily Returns
Intercept	4.1348* (<0.0001)	3.6885* (<0.0001)	4.6341* (<0.0001)	4.1802* (<0.0001)	3.1310* (<0.0001)
Log of Proceeds	0.0245** (0.0232)	0.0242** (0.0150)	0.0357* (0.0005)	0.0363* (0.0007)	0.0316* (0.0007)
Log of Market Capitalization	-0.1940* (<0.0001)	-0.1836* (<0.0001)	-0.1968* (<0.0001)	-0.2013* (<0.0001)	-0.1563* (<0.0001)
IG Interaction	-0.1717* (<0.0001)	-0.3546* (<0.0001)	-1.1253* (<0.0001)	-0.5853* (<0.0001)	-0.1106* (<0.0001)
HY Interaction	0.1777* (<0.0001)	0.9599* (<0.0001)	-0.2101* (<0.0001)	0.5065* (<0.0001)	0.3655* (<0.0001)
NR Interaction	0.5019* (<0.0001)	1.8810* (<0.0001)	0.6300* (<0.0001)	1.5960* (<0.0001)	0.7245* (<0.0001)
Underwriter Scope	0.0398* (0.0098)	0.0412* (0.0041)	0.0275*** (0.0708)	0.0220 (0.1566)	0.0207 (0.1293)
Number of Observations	4,379	4,416	4,416	3,993	4,416
Adjusted R^2	53.33%	59.68%	54.65%	54.11%	63.87%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Table XXVIII
Gross Spread, Debt Related Firm Quality and Credit Quality Interaction Regressions with Underwriter Scope

The table presents multivariate OLS regressions of the average gross spread of concurrent issues weighted by each issue's proceeds on each of the debt related firm quality measures, the natural log of proceeds controls for issue size, and firm size is controlled for using the natural log of assets for the issuer at the end of the quarter prior to the offering. The firm quality measure used in each regression is identified above the credit quality. Data are from the end of the fiscal quarter prior to the issue (*Qtr t-1*). Issue and underwriter scope data are from SDC. Accounting data are from Compustat. All dollar values are in year 2000 dollars using the annual implicit GDP price deflator. P-values are reported in parentheses beneath the coefficients.

Sample: Concurrent Issues Dependent Variable: Gross Spread					
	Interest Coverage	Long-Term-Debt-to-Assets	Total-Debt-to-Assets	Long-Term-Debt-to-Equity	Total-Debt-to-Equity
Intercept	3.3724* (<0.0001)	2.5121* (<0.0001)	2.4657* (<0.0001)	3.0278* (<0.0001)	3.0329* (<0.0001)
Log of Proceeds	0.1236* (<0.0001)	0.0505* (<0.0001)	0.0522* (<0.0001)	0.0872* (<0.0001)	0.0836* (<0.0001)
Log of Assets	-0.3660* (<0.0001)	-0.2069* (<0.0001)	-0.1974* (<0.0001)	-0.3076* (<0.0001)	-0.3014* (<0.0001)
IG Interaction	-0.0017*** (0.0723)	-0.7947* (<0.0001)	-0.8459* (<0.0001)	0.0534* (0.0063)	-0.0572* (0.0065)
HY Interaction	0.0021* (0.0062)	1.7605* (<0.0001)	1.7100* (<0.0001)	0.5084* (<0.0001)	0.5417* (<0.0001)
NR Interaction	0.0400* (0.0087)	5.3473* (<0.0001)	4.5632* (<0.0001)	0.8957* (<0.0001)	0.8801* (<0.0001)
Underwriter Scope	0.0725* (<0.0001)	0.0142 (0.2534)	0.0095 (0.4179)	0.0224 (0.1077)	0.0155 (0.2657)
Number of Observations	5,525	5,691	5,357	4,390	4,051
Adjusted R^2	28.18%	51.41%	55.93%	45.25%	48.42%

, **, * denote significance at the 1%, 5%, and 10% levels, respectively*

Figure 1
Number of New Debt and Equity Issues
1980 - 2007

Comparison of the number of new debt and equity issues in the U.S. over the period from January 1, 1980 through December 31, 2007.

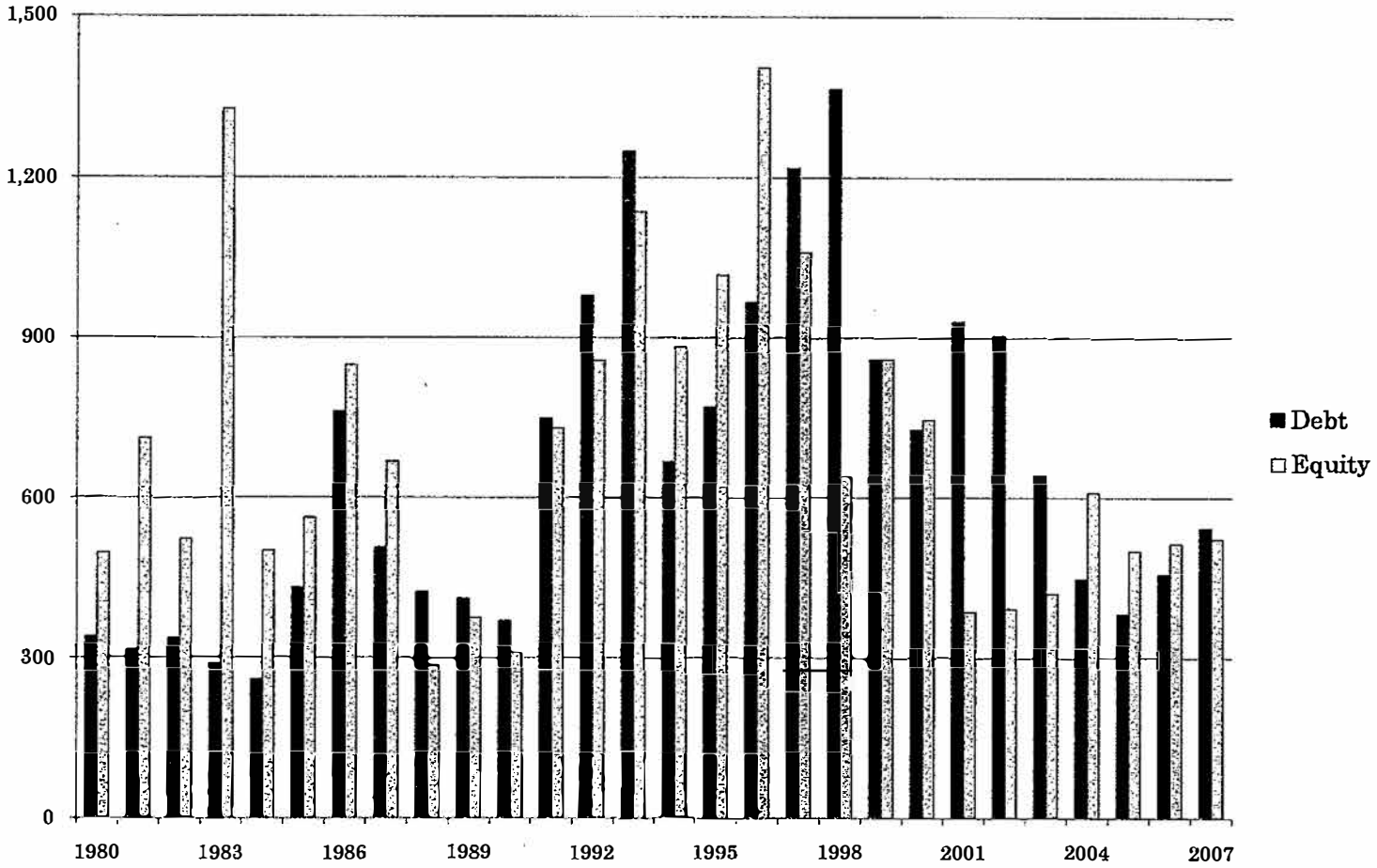


Figure 2
Proceeds from New Debt and Equity Issues
1980 - 2007

Comparison of proceeds raised by new U.S. debt and equity issues over the period from January 1, 1980 through December 31, 2007. Proceeds are expressed in year 2000 dollars using the annual implicit GDP price deflator. Data are from the SDC U.S. New Issues Database.

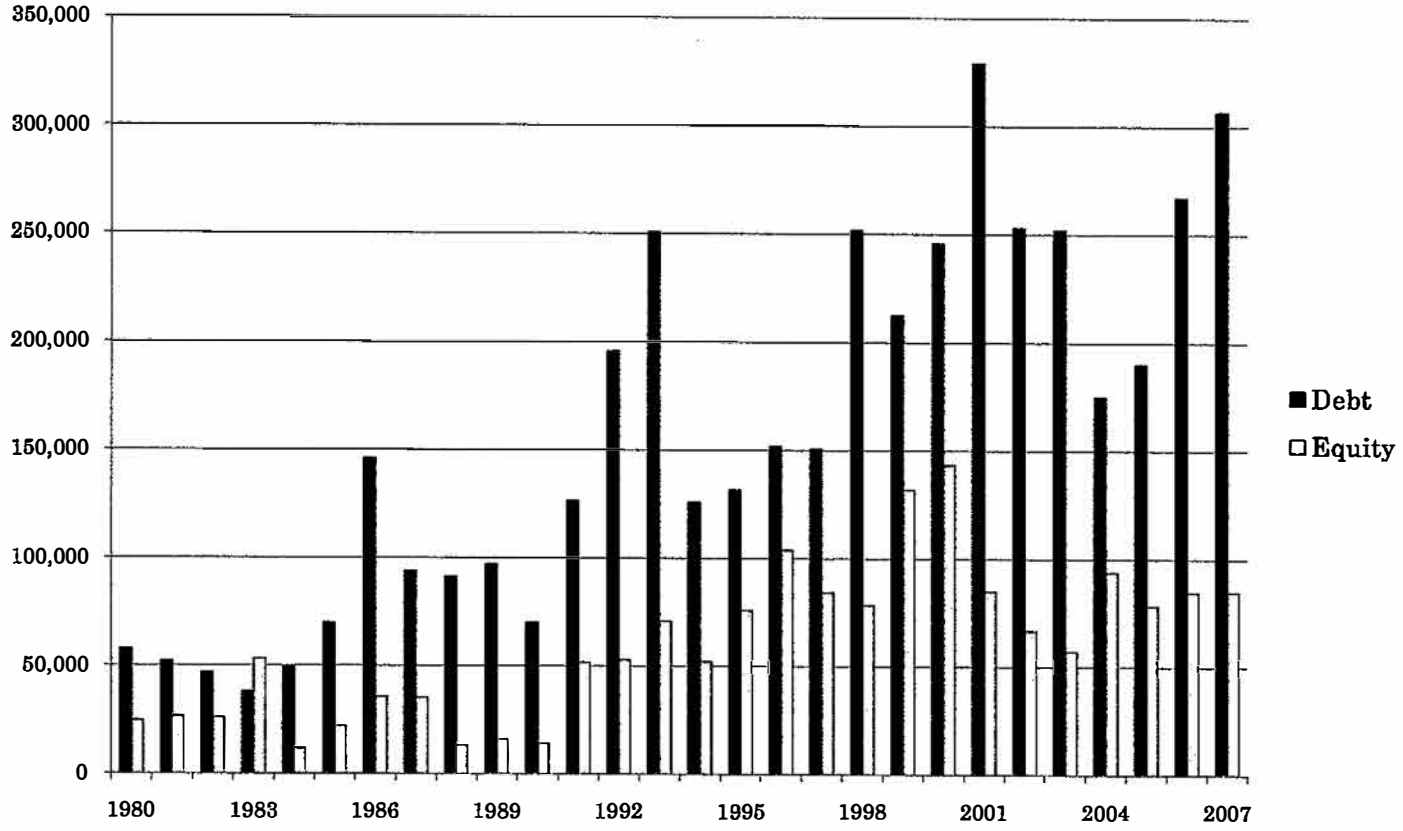


Figure 3
Underwriter Relationships 1980 – 2007

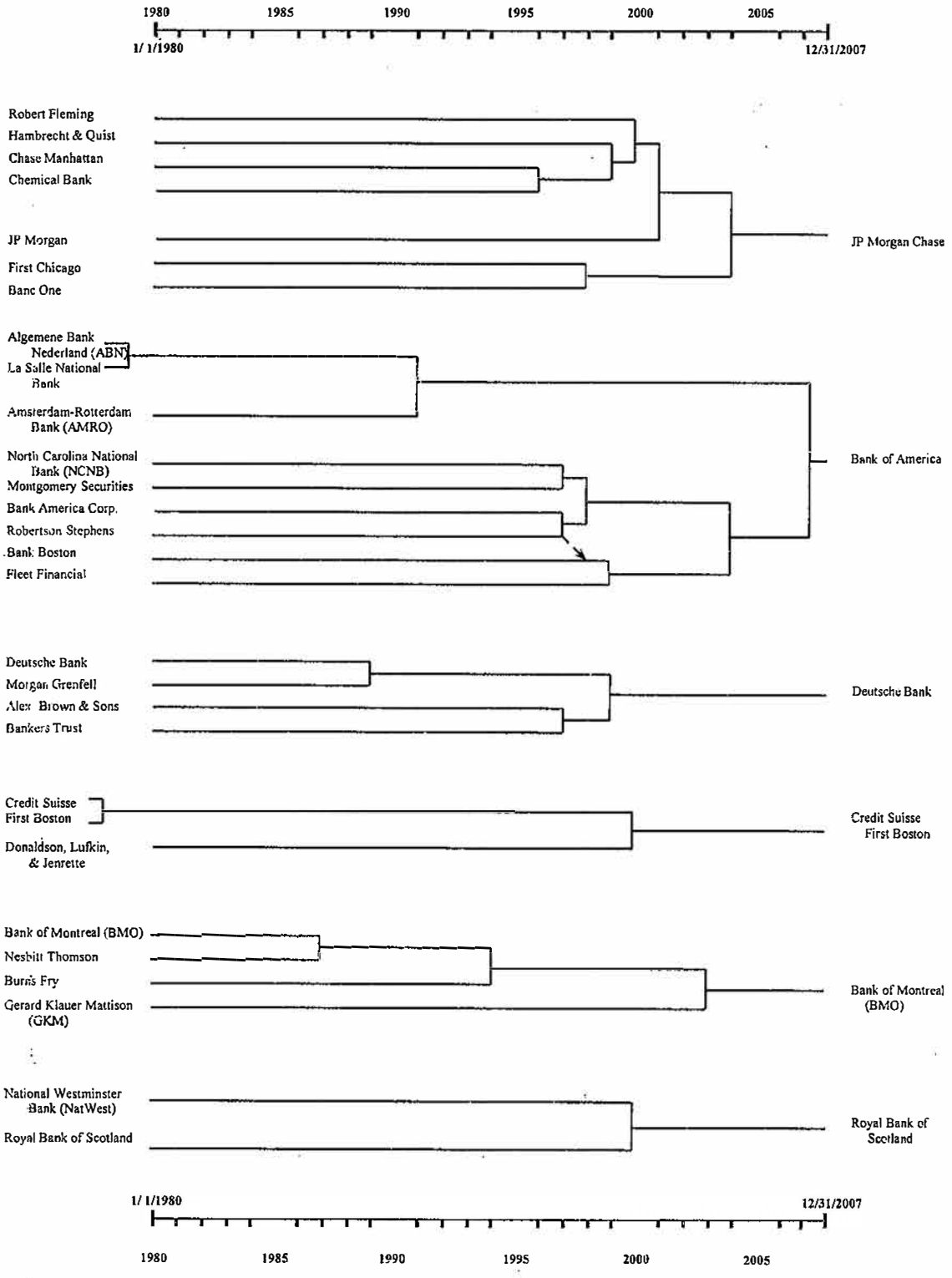


Figure 3 - *Continued*

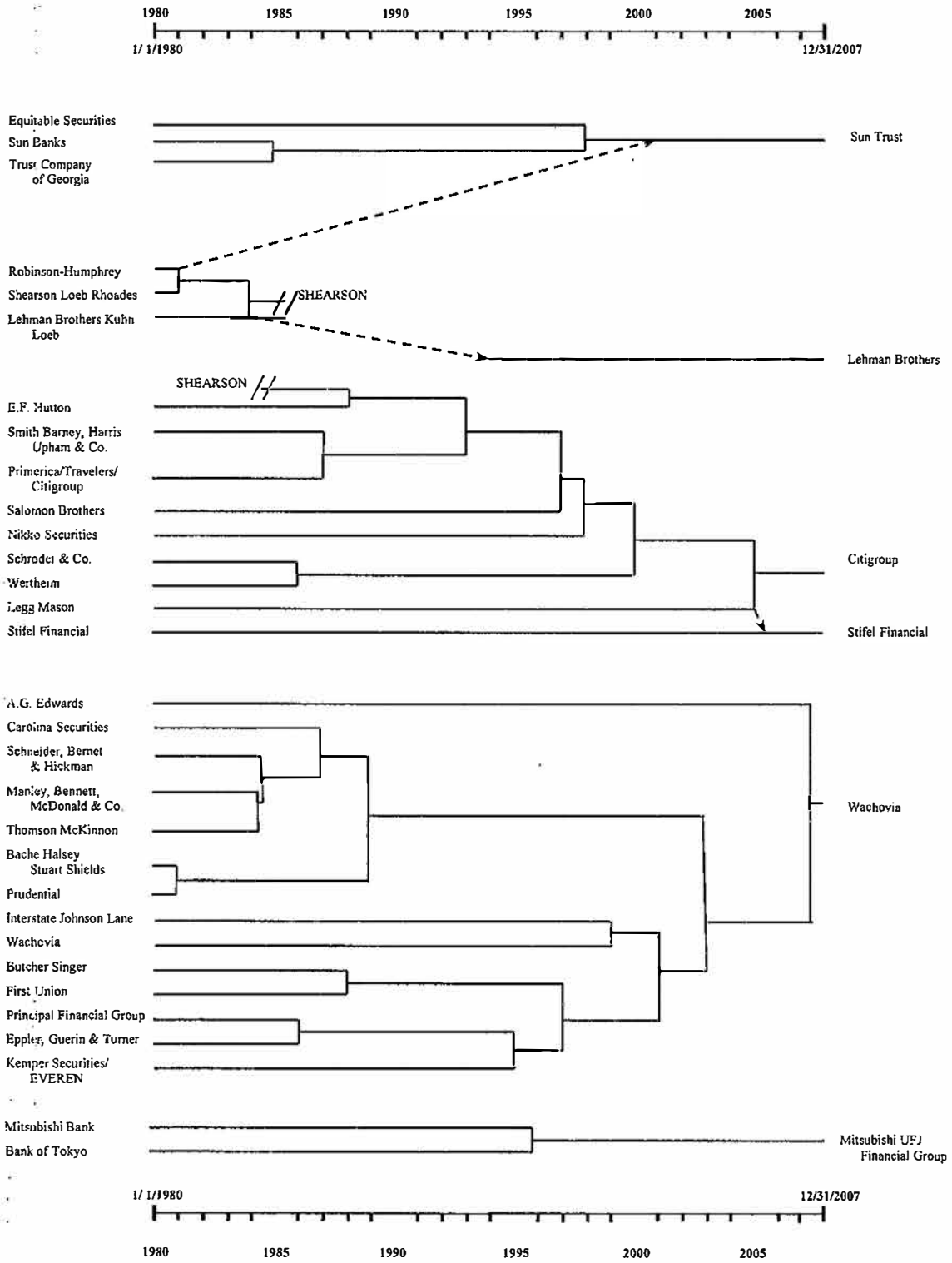


Figure 3 - *Continued*

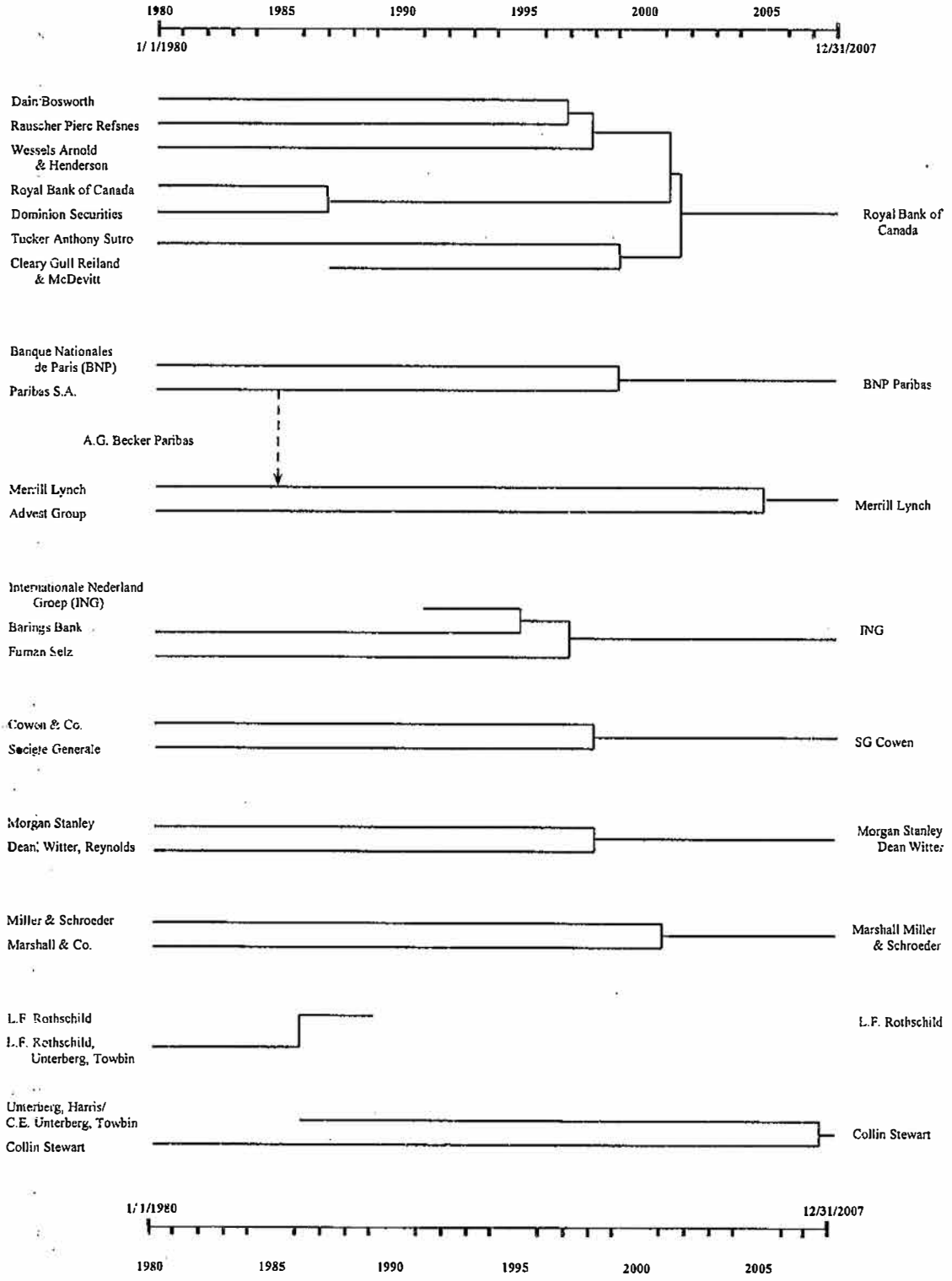
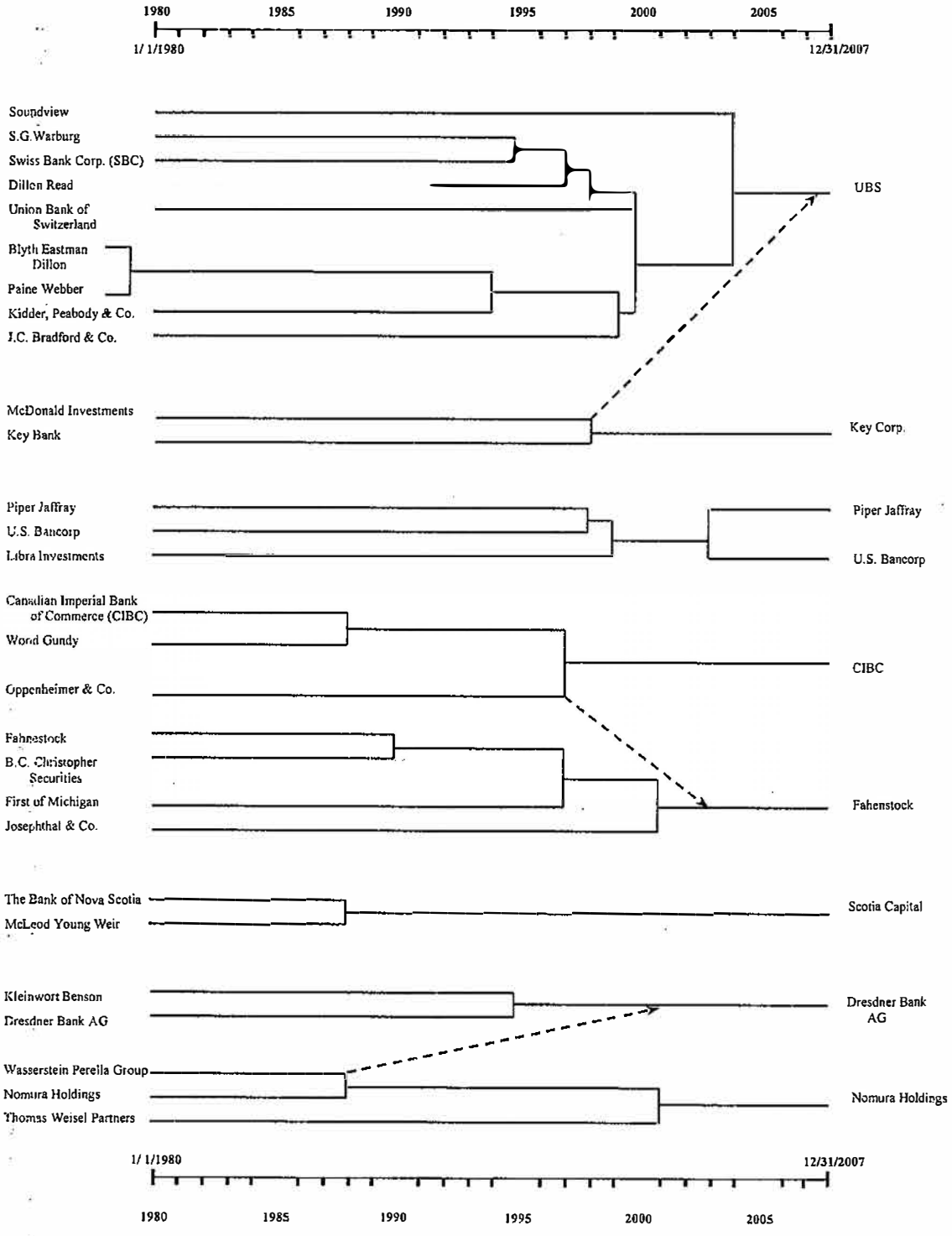


Figure 3 - *Continued*



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Biography

Shearer R. Aldridge was born in Greenville, Mississippi in 1962 and graduated from All Saints Episcopal School in Vicksburg, Mississippi in 1980. Ms. Aldridge received a B.A. in Computer Studies from Millsaps College in Jackson, Mississippi in 1986, an M.A. in Anthropology from the University of Mississippi in 1994, and an M.B.A. from Delta State University in Cleveland, Mississippi in 1999. In 2010, Ms. Aldridge received a Ph.D. in Finance from the A.B. Freeman School of Business, Tulane University, in New Orleans, Louisiana.