

COST OF DEBT AND AUDITOR CHOICE

Sherry Fang Li, Rider University
Fengyun Wu, Manhattan College

ABSTRACT

This paper examines whether auditor choice affects a firm's cost of debt and whether debt sources matter. We find that the choice of a brand name or industry specialist auditor decreases a firm's cost of debt. The additional impact of industry specialization, however, is not significant for the sub-sample of Big N audited firm-years. For the sub-sample of non-Big N audited firm-years, engaging an industry specialist auditor appears to increase cost of debt. A further breakdown of the full sample into a sample with only private debt and a sample with both public and private debt provides more insight. For the sample with both public and private debt, engaging a brand name and specialist auditor decreases cost of debt. But for the sample with only private debt, engaging a specialist auditor increases cost of debt. Our findings provide additional evidence for the role of external auditing in reducing cost of debt and show differences between the two dimensions of auditor differentiation: brand name reputation and industry specialization. Furthermore, our findings suggest that the choice of an industry specialist auditor has different impact on cost of debt for firms that have only private debt and firms that also have public debt.

JEL: M41, M42

KEYWORDS: Auditor Choice, Cost of Debt, Debt Sources, Public Debt, Private Debt

INTRODUCTION

The demand for auditing from debt holders arises because of the agency conflicts between debt holders and managers/shareholders. Auditing is an important external monitoring mechanism that mitigates the agency cost between debt holders and manager/shareholders because it delivers credibility to a firm's financial information that is used to evaluate its debt-paying ability. The benefit from reduced agency costs is shared between firms and debt holders and could result in lower cost of debt. The auditor differentiation literature typically considers large and industry specialist auditors to provide higher-quality audits. Thus the choice of brand name and specialist auditors is expected to further reduce cost of debt. Pittman and Fortin (2004) find that retaining a Big-N auditor lowers cost of debt for newly public firms. Mansi, Maxwell, and Miller (2004) find similar results using the bond market data. Fortin and Pittman (2007), however, find that retaining a Big-N auditor does not affect 144A bond pricing for private firms.

This paper extends the prior literature in three ways. First, using a comprehensive dataset, it examines whether the relation between auditor choice and cost of debt hold in general. Secondly, besides brand name reputation (Big N versus non-Big N distinction), it also examines another important dimension of auditor choice, industry specialization, which has drawn special attention from practitioners and researchers in more recent years. Thirdly, it examines whether the choice of a Big N or industry specialist auditor matters for firms that have only private debt. Given the information and monitoring advantage of private debt holders, it is possible that the impact of choosing Big N/industry specialist auditor on cost of debt is weak for firms with only private debt.

Our sample covers the years from 1988 to 2013. Additional analyses are performed on a sample of firm-years that have both public and private debt and a sample of firm-years that have only private debt. The additional explanatory power of industry specialization is identified by separately analyzing a sub-sample that is audited by Big N auditors only and a sub-sample that is audited by non-Big N auditors.

Our results show that the choice of a brand name or industry specialist auditor decreases a firm's cost of debt. The additional explanatory power of industry specialization is very weak, however, when using a sample of Big N audited firm-years. For the sample of non-Big N audited firm-years, engaging an industry specialist auditor has the effect of increasing cost of debt. A further breakdown of the full sample into a sample with both public and private debt and a sample with only private debt provides more insight. For the sample with both public and private debt, engaging a brand name or a specialist auditor decreases cost of debt. The result holds when using sub-sample of Big N audited firm-years to seek the additional explanatory power of industry specialist. But for the sample with only private debt, engaging a specialist auditor marginally increases cost of debt for both Big-N audited firm-years and non-Big N audited firm-years. The results suggest that engaging a brand name auditor decreases cost of debt in general, but having an industry specialist auditor might not benefit firms that have only private debt.

Our paper contributes to the literature in three ways. It provides additional evidence for the general role of external auditing in reducing agency cost of debt. It suggests differences between brand name reputation and industry specialization. It also shows the different role of external auditing in mitigating agency conflicts for firms that have only private debt.

The rest of the paper is organized as follows. In the next section, we review relevant literature and develop hypotheses. We then present the data and methodology, followed by a discussion of the results. In the last section, we provide concluding comments.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The demand for auditing arises because of agency problems between managers/shareholders and debt holders. External auditing is an important external monitoring mechanism. It delivers credibility to a firm's financial accounting information that is used to evaluate the creditworthiness of a business and its debt-paying ability. So the agency cost theory predicts that external auditing reduces agency cost between debt holders and shareholders/managers. The benefits of reduced agency cost are shared between debt holders and borrowing firms. For firms, the benefits can be reflected in lowered cost of debt.

The auditor differentiation literature typically considers Big N auditors to provide higher-quality audits because they are more competent and independent. Large auditors are generally more competent because of economies of scale and technical expertise. Large auditors are more independent because: (1) relative financial independence enables them to stand up against clients' questionable reporting behaviors; (2) they have more quasi-rent to lose if they fail to deliver high-quality audits; (3) they are more concerned about protecting their investment in reputation capital; (4) litigation risk is higher for large auditors because of their "deeper pocket" (Dye, 1993).

The positive relation between auditor size and audit quality is supported by many empirical auditor differentiation studies using various constructs such as discretionary accruals, management forecast errors, earnings response coefficients, the promptness of disclosing auditor changes, going-concern opinions, other modified audit opinions, and conservatism as defined as asymmetric recognition of gains and losses (Becker et al., 1998; Francis et al., 1999; Davidson and Neu, 1993; Teoh and Wong, 1993; Schwartz and Soo, 1996; Francis and Krishnan, 1999; Kim et al., 2003)

The arguments on differentiated audits for different size auditors have been extended to industry specialization. Prior studies focus more on auditor size. But industry specialization has drawn much attention in the auditing literature since these earlier studies. For example, Lim and Tan (2008) find the relation between non-audit service fees and audit quality differs between firms audited by industry specialists and non-specialists. Gul et al. (2009) find industry specialization also affects the relation between earnings quality and auditor tenure. So we examine the choice of industry specialist auditors as well.

An auditor might build competitive advantage through specializing in certain industries. It invests heavily in industry-specific technologies, recruits and trains professionals and builds organizational structures around this objective. Industry specialization is argued to enhance audit effectiveness because the error characteristics and methods of detection differ across industries (Maletta and Wright, 1996) and knowledge and best practices gained from auditing other clients of the same industry are transferable. As a result, financial statements audited by industry specialist auditors are considered to be of better quality.

As to empirical evidence, financial statements audited by specialist auditors have been found to have lower levels of discretionary accruals (Balsam et al., 2003), higher earnings response coefficients (Balsam et al., 2003), and enhanced disclosures (Dunn & Mayhew, 2004). Krishnan (2005) uses the asymmetric timeliness measure of conservatism and finds that financial statements audited by specialist auditors are quicker in recognizing losses and are therefore more conservative.

In summary, based on the arguments that external auditing mitigates agency conflicts and Big N/specialist auditors provide higher-quality audits, we have the following hypotheses:

Hypothesis 1 (a): Firms with Big N/specialist auditors receive lower cost of debt

Hypothesis 1 (b): Firms audited by specialist Big N auditors receive lower cost of debt

Hypothesis 1 (c): Firms audited by specialist non-Big N auditors receive lower cost of debt

Public and private debt markets differ in monitoring functions and covenant features. Private debt holders have better access to the borrower's private information and they have better information processing capacity. They are typically monitoring experts. There are generally more accounting-based negative covenants in private debt contracts and the covenants are set tighter. Technical violation of private debt covenants is more prevalent. Any technical violation hands over part of the control rights to debt holders who can then step in and enforce their preferred actions (Dichev and Skinner, 2002). In contrast, the incentive to engage in monitoring is weak for diffuse creditors of public debt due to the "free rider" problem (Strahan, 1999). There are less accounting-based debt covenants in public debt and they are set looser.

Due to their information and monitoring advantage, private debt holders are expected to have less demand for the monitoring of external auditors compared to the public debt holders. As a result, the effect of choosing a brand name/specialist auditor on cost of debt is weaker for firms that have only private debt. We therefore have the following hypotheses:

Hypothesis 2 (a): Firms that have private debt only will not receive lower cost of debt for engaging Big N/specialist auditors

Hypothesis 2 (b): Firms that have private debt only will not receive lower cost of debt for engaging Big N specialist auditors.

Hypothesis 2 (c): Firms that have private debt only will not receive lower cost of debt for engaging non-Big N specialist auditors.

DATA AND METHODOLOGY

To test our hypotheses, the following model is used.

$$\begin{aligned} \text{Interest rate} = & \alpha + \beta_1 \text{Auditor}(\text{Specialization}) + \beta_2 \text{Leverage} + \beta_3 \text{Prime rate} \\ & + \beta_4 \text{Default} + \beta_5 \text{Size} + \beta_6 \text{Fixed assets} + \beta_7 \text{Negative equity} \\ & + \beta_8 \text{Profitability} + \text{Industry} + \text{Year} + \varepsilon \end{aligned} \quad (1)$$

Auditor choice is measured along two dimensions: brand name reputation as designated by Big N and non-Big N auditors and industry specialization. Brand name reputation is coded as a dichotomous variable (*Auditor*) that equals 1 if financial statements are audited by one of the Big N and 0 otherwise. Following prior literature (Craswell et al., 1995; Lim and Tan, 2008), industry specialization (*Specialization*) is measured as an auditing firm's industry market share. To be specific, it is calculated as the audit firm's market share of the client firm's two-digit SIC industry.

$$\text{Specialization}_{ik} = \frac{\sum_{j=1}^{J_{ik}} \text{Sales}_{ijk}}{\sum_{i=1}^{I_k} \sum_{j=1}^{J_{ik}} \text{Sales}_{ijk}} \quad (2)$$

Sales refers to the client firm's sales revenue. The numerator is the sum of sales of all J_{ik} clients of an auditor i in industry k for a specific year. The denominator is the sum of sales of all firms (clients and non-clients of i) in industry k for the same year. The results presented have industry specialization as a continuous variable to avoid the ambiguity of arbitrarily using a cut-off point for dichotomous variables.

Cost of debt (*Interest Rate*) is measured with interest expenses divided by the average total debt. We follow Pittman and Fortin (2004) in selecting the control variables. *Leverage* is the sum of short-term debt and long-term debt divided by total assets. *Prime Rate* is the average prime rate for the year; *Default* is the difference between the yield on BAA-rated corporate bonds and the yield on 10-year government bonds for the year; *Size* is the natural logarithm of total assets; *Fixed Assets* is gross property, plant and equipment divided by total assets; *Neg Equity* equals 1 if the book value of common equity is negative; *Profitability* is income before extraordinary items divided by total assets. *Industry* represents indicator variables coded following Fama-French industry classification (Fama and French, 1997); *Year* is also indicator variables to control for year fixed effect.

We follow the practice of Faulkender and Peterson (2006) that use the availability of S&P credit ratings to identify the availability of public debt. A firm-year is considered as having only private debt if S&P long-term domestic issuer credit rating or a short-term domestic issuer credit rating for that year does not exist. This method of segregating public and private debt is also justified by Cantor and Packer (1997) who report that "both agencies (S&P and Moody's) currently have a policy of rating ALL taxable corporate bonds publicly issued in the United States regardless of whether they have been asked by an issuer for a rating". This statement suggests that there are rarely public debt issues that are covered by other rating agencies but not by S&P.

We select our sample from COMPUSTAT Annual that covers the time horizon of 1988 to 2013. We truncate observations falling into the top and bottom 1 percent of all continuous independent variables. There are 130,307 observations in the full sample. The public debt sample has 25,163 observations and the private debt sample has 105,144 observations.

Table 1 presents the summary statistics. The mean (median) interest rate for the full sample is 11.9% (9%). For the public-private debt sample, the mean (median) interest rate is 8.8% (8.2%) while it is 12.8% (9.4%)

for the private debt sample. The statistics show the dominance of Big N auditors that audit 80% of firm-years for the full sample, 97% for the public-private debt sample and 74.6% for the private debt sample. The mean market share measured by client sales revenues for auditors is 16.5%, 23% for the public-private debt sample and 14.5% for the private debt sample. Mean leverage is 33.2%, 39.9% and 31.1% for the full sample, public-private debt sample and private debt only sample respectively. Prime rate is roughly 7.5% and default rate is around 2% for the three samples. The public-private debt sample is much large with a mean (median) total asset of 5,828 (1,958), as compared to 540 (58) for the private debt only sample. Fixed assets are 55.7% of total assets for the full sample, 69.3% and 51.5% for the public-private debt sample and the private debt only sample. 11.3% of firm-years have negative book value of common equity for the full sample, 9% and 12% for the sub-samples. The mean (median) profitability is negative 11.8% (positive 2.1%) of total assets for the full sample, positive 1.6% (3.2%) for the public-private debt sample and negative 16% (positive 1.3%) for the private debt only sample.

Table 1: Descriptive Statistics

Variable	Full Sample			Public-private Debt Sample			Private Debt Sample		
	Mean	Median	SD	Mean	Median	SD	Mean	Median	SD
Interest rate	0.119	0.09	0.141	0.088	0.082	0.05	0.128	0.094	0.158
Auditor	0.8	1	0.4	0.97	1	0.171	0.746	1	0.435
Specialization	0.165	0.129	0.144	0.23	0.206	0.146	0.145	0.114	0.138
Leverage	0.332	0.277	0.338	0.399	0.351	0.258	0.311	0.237	0.357
Prime rate	7.573	8.25	1.83	7.387	8	1.887	7.631	8.25	1.808
Default	2.033	1.958	0.461	2.083	1.968	0.487	2.017	1.958	0.452
Size	1,804	131	6,540	5,828	1,958	11,380	540	58	2,967
Fixed assets	0.557	0.467	0.423	0.693	0.653	0.436	0.515	0.418	0.41
Neg equity	0.113	0	0.316	0.09	0	0.286	0.12	0	0.325
Profitability	-0.118	0.021	0.618	0.016	0.032	0.13	-0.16	0.013	0.699

This Table shows the descriptive statistics of the dependent and independent variables. Interest Rate is measured with interest expenses divided by the average total debt. Auditor is coded as a dichotomous variable that equals 1 if financial statements are audited by one of the Big N and 0 otherwise. Specialization is measured as an auditing firm's industry market share. Leverage is the sum of short-term debt and long-term debt divided by total assets. Prime Rate is the average prime rate for the year. Default is the difference between the yield on BAA-rated corporate bonds and the yield on 10-year government bonds for the year. Size is the natural logarithm of total assets. Fixed Assets is gross property, plant and equipment divided by total assets. Neg Equity equals 1 if the book value of common equity is negative. Profitability is income before extraordinary items divided by total assets.

RESULTS AND DISCUSSION

Table 2 presents the Pearson correlation. The correlation shows a negative relation between interest rate and the choice of brand name and specialist auditors. This Table also shows that Big N measure of auditor choice and industry specialist measure are highly correlated. To tease out the effect of industry specialization, we also use sub-samples of Big N or non-Big N audited firm-years to perform additional analyses testing H1 (b), H1 (c), H2 (b), and H2 (c).

Table 2: Pearson Correlation

Variables	Interest Rate	Auditor	Specialization	Leverage	Prime Rate	Default	Size	Fixed Assets	Negative Equity	Profitability
Interest rate	1									
Auditor	-0.100*	1								
Specialization	-0.072*	0.484*	1							
Leverage	-0.031*	-0.096*	-0.036*	1						
Prime rate	0.017*	0.060*	-0.094*	-0.026*	1					
Default	0.003	-0.051*	0.084*	0.075*	-0.583*	1				
Size	-0.073*	0.114*	0.179*	-0.012*	-0.080*	0.059*	1			
Fixed assets	-0.080*	0.047*	0.091*	0.113*	-0.003	0.011*	0.076*	1		
Neg equity	0.116*	-0.126*	-0.066*	0.488*	-0.052*	0.079*	-0.068*	0.016*	1	
Profitability	-0.213	0.203*	0.114*	-0.311*	0.076*	-0.121*	0.067*	0.027*	-0.326*	1

This Table shows the Pearson correlation between the dependent and independent variables. Interest Rate is measured with interest expenses divided by the average total debt. Auditor is coded as a dichotomous variable that equals 1 if financial statements are audited by one of the Big N and 0 otherwise. Specialization is measured as an auditing firm’s industry market share. Leverage is the sum of short-term debt and long-term debt divided by total assets. Prime Rate is the average prime rate for the year. Default is the difference between the yield on BAA-rated corporate bonds and the yield on 10-year government bonds for the year. Size is the natural logarithm of total assets. Fixed Assets is gross property, plant and equipment divided by total assets. Neg Equity equals 1 if the book value of common equity is negative. Profitability is income before extraordinary items divided by total assets.

Table 3 presents the results for the full sample. We find consistent evidence that firms with Big N or industry specialist auditors are rewarded with lower cost of debt, confirming the results in Pittman and Fortin (2004). To explore the additional explanatory power of industry specialization, we run the analysis using Big N-audited firm-years and non-Big N audited firm years. The coefficient for specialization is not significant for the former sub-sample and significantly positive for the latter sub-sample, which suggests that firms pay higher interest rate if you choose a non-Big N specialist auditor.

Table 3: Cost of Debt and Auditor Choice: Full Sample

	Pred. Sign	Brand Name	Industry Specialists	Industry Specialist Big N Audited Firm-years	Industry Specialist Non-Big N Audited Firm-years
Intercept	+	0.343 (1.00)	0.336 (1.00)	0.116 (1.00)	0.112 (1.00)
Auditor	-	-0.007 (0.00)			
Specialization	-		-0.009 (0.00)	0.002 (0.44)	0.048 (0.02)
Leverage	+	-0.060 (0.00)	-0.060 (0.00)	-0.070 (0.00)	-0.050 (0.00)
Prime rate	+	-0.008 (1.00)	-0.008 (1.00)	0.002 (1.00)	0.005 (1.00)
Default	+	-0.064 (1.00)	-0.062 (1.00)	0.013 (1.00)	0.023 (1.00)
Size	-	-0.005 (0.00)	-0.005 (0.00)	-0.005 (0.00)	-0.005 (0.00)
Fixed assets	-	-0.018 (0.00)	-0.018 (0.00)	-0.017 (0.00)	-0.024 (0.00)
Neg equity	+	0.044 (0.00)	0.044 (0.00)	0.046 (0.00)	0.041 (0.00)
Profitability	-	-0.043 (0.00)	-0.044 (0.00)	-0.047 (0.00)	-0.040 (0.00)
R2		0.089	0.088	0.077	0.086
Adj. R ²		0.084	0.084	0.075	0.081

The full sample has 130,307 observations that cover the time horizon of 1988 to 2013. Interest Rate is measured with interest expenses divided by the average total debt. Auditor is coded as a dichotomous variable that equals 1 if financial statements are audited by one of the Big N and 0 otherwise. Specialization is measured as an auditing firm’s industry market share. Leverage is the sum of short-term debt and long-term debt divided by total assets. Prime Rate is the average prime rate for the year. Default is the difference between the yield on BAA-rated corporate bonds and the yield on 10-year government bonds for the year. Size is the natural logarithm of total assets. Fixed Assets is gross property, plant and equipment divided by total assets. Neg Equity equals 1 if the book value of common equity is negative. Profitability is income before extraordinary items divided by total assets.

A further breakdown of the full sample into a sample with both public and private debt and a sample with private debt alone provides more insight. For the sample with both public and private debt, the coefficient on specialist is significantly negative. The significant negative relation holds when we use Big-N audited firm-years. For the non-Big N audited firm-years, however, the relation is not significant. The results are presented in Table 4. For the sample with private debt alone, however, the results are the opposite for the sub-samples. Although we find firms that have only private debt pay lower cost of debt when they engage a brand name auditor, the negative relation turns positive for the two sub-samples (Big N-audited firm-years and non-Big N audited firm-years). The results are presented in Table 5. This indicates that despite of their information advantage and monitoring effectiveness, the private debt market still values the monitoring function of Big N auditors. However, the results also suggest that engaging a specialist auditor might be perceived negatively by the private debt holders beyond the brand name consideration.

Table 4: Cost of Debt and Auditor Choice: Public-private Debt Sample

Variables	Public Debt (25,163 obs)				
	Pred. Sign	Brand Name	Industry Specialists	Industry Specialist Big N Audited Firm-years	Industry Specialist Non-Big N Audited Firm-years
<i>Intercept</i>	+	0.092 (1.00)	0.089 (1.00)	0.087 (1.00)	-0.031 (0.88)
<i>Auditor</i>	-	-0.004 (0.02)			
<i>Specialization</i>	-		-0.007 (0.00)	-0.006 (0.00)	-0.010 (0.68)
<i>Leverage</i>	+	-0.023 (0.00)	-0.023 (0.00)	-0.022 (0.00)	-0.050 (0.00)
<i>Prime rate</i>	+	0.004 (1.00)	0.004 (1.00)	0.004 (1.00)	0.006 (0.61)
<i>Default</i>	+	0.013 (1.00)	0.013 (1.00)	0.013 (1.00)	0.075 (0.33)
<i>Size</i>	-	-0.005 (0.00)	-0.005 (0.00)	-0.005 (0.00)	-0.008 (0.00)
<i>Fixed assets</i>	-	-0.007 (0.00)	-0.007 (0.00)	-0.007 (0.00)	-0.005 (0.49)
<i>Neg equity</i>	+	0.031 (0.00)	0.031 (0.00)	0.031 (0.00)	0.032 (0.00)
<i>Profitability</i>	-	-0.029 (0.00)	-0.029 (0.00)	-0.029 (0.00)	-0.044 (0.05)
<i>R2</i>		0.137	0.138	0.139	0.125
<i>Adj. R²</i>		0.132	0.132	0.135	0.120

The public-private debt sample has 25,163 observations that cover the time period of 1988 to 2013. Interest Rate is measured with interest expenses divided by the average total debt. Auditor is coded as a dichotomous variable that equals 1 if financial statements are audited by one of the Big N and 0 otherwise. Specialization is measured as an auditing firm's industry market share. Leverage is the sum of short-term debt and long-term debt divided by total assets. Prime Rate is the average prime rate for the year. Default is the difference between the yield on BAA-rated corporate bonds and the yield on 10-year government bonds for the year. Size is the natural logarithm of total assets. Fixed Assets is gross property, plant and equipment divided by total assets. Neg Equity equals 1 if the book value of common equity is negative. Profitability is income before extraordinary items divided by total assets.

Table 5: Cost of Debt and Auditor Choice: Private Debt Only Sample

Variables	Private Debt Only (105,144 obs)				
	Pred. Sign	Brand Name	Industry Specialists	Industry Specialist Big N Audited Firm-Years	Industry Specialist Non-Big N Audited Firm-years
<i>Intercept</i>	+	0.152 (0.00)	0.151 (0.00)	0.194 (0.03)	0.520 (0.00)
<i>Auditor</i>	-	-0.010 (0.00)			
<i>Specialization</i>	-		-0.008 (0.02)	0.007 (0.10)	0.047 (0.04)
<i>Leverage</i>	+	-0.064 (0.00)	-0.063 (0.00)	-0.082 (0.00)	-0.050 (0.00)
<i>Prime rate</i>	+	0.001 (0.00)	0.001 (0.00)	-0.003 (0.54)	-0.015 (0.08)
<i>Default</i>	+	0.001 (0.52)	0.001 (0.34)	-0.011 (0.72)	-0.124 (0.03)
<i>Size</i>	-	-0.004 (0.00)	-0.004 (0.00)	-0.004 (0.00)	-0.005 (0.00)
<i>Fixed assets</i>	-	-0.021 (0.00)	-0.021 (0.00)	-0.019 (0.00)	-0.023 (0.00)
<i>Neg equity</i>	+	0.046 (0.00)	0.046 (0.00)	0.049 (0.00)	0.042 (0.00)
<i>Profitability</i>	-	-0.045 (0.00)	-0.045 (0.00)	-0.049 (0.00)	-0.040 (0.00)
<i>R2</i>		0.074	0.072	0.067	0.087
<i>Adj. R²</i>		0.070	0.069	0.062	0.080

The private debt sample has 105,144 observations that cover the time periods of 1988 to 2013. *Interest Rate* is measured with interest expenses divided by the average total debt. *Auditor* is coded as a dichotomous variable that equals 1 if financial statements are audited by one of the Big N and 0 otherwise. *Specialization* is measured as an auditing firm's industry market share. *Leverage* is the sum of short-term debt and long-term debt divided by total assets. *Prime Rate* is the average prime rate for the year. *Default* is the difference between the yield on BAA-rated corporate bonds and the yield on 10-year government bonds for the year. *Size* is the natural logarithm of total assets. *Fixed Assets* is gross property, plant and equipment divided by total assets. *Neg Equity* equals 1 if the book value of common equity is negative. *Profitability* is income before extraordinary items divided by total assets.

As a robustness check, we also use two alternative measures that are based on the market share but coded as dichotomous variables. First, an industry specialist auditor is defined as the auditor with the largest industry market share and second it is defined as any auditor with a market share of 24% or more. The results are qualitatively the same when these two alternative measures are used.

CONCLUSION

In this paper, we examine the impact of choosing a brand name or specialist auditor on a firm's cost of debt. We further examine whether the impact differs between firms that only offer private debt and firms that also have public debt. Using a sample that covers the years from 1988 to 2013, we find that engaging a brand name auditor decreases cost of debt. But the additional impact of industry specialist is weak. For firm-year observations that only have private debt, the choice of specialist auditor might even increase cost of debt, once the choice of brand name has been fixed. The findings indicate differences in the two aspects of auditor choice – brand name reputation and industry specialization. The findings also suggest that despite of private debt holders' information and monitoring advantages, they still value the external monitoring provided by Big N auditors. However, their perception of industry specialist auditor differs from that of the public debt holders. Specifically, engaging a brand name auditor decreases cost of debt in general, but having an industry specialist auditor might not benefit firms that have only private debt.

Our paper contributes to the literature in three ways. It provides additional evidence for the general role of external auditing in reducing agency cost of debt. It suggests the difference between brand name reputation and industry specialization. It also shows the different role of external auditing in mitigating agency conflicts for firms that have only private debt. Our paper has practical implication for companies of different finance structure in their decision of hiring brand name or specialist auditor. Although industry specialist auditor has been shown to enhance audit quality, for firms that have only private debt, the benefit in decreasing cost of debt might not justify the additional cost of hiring an industry specialist auditor.

One caveat about our analysis is that our differentiation of public and private debt is based on availability of S&P credit ratings in COMPUSTAT, while a company might be covered by other rating agencies. Although the use of this classification has been well-established in the literature, it is still a best estimate. In the future, with access to private debt database, we can analyze a subset of data to supplement our large-sample analysis in this paper. Another potentially fruitful direction of future research is to examine auditor industry expertise on an office level.

REFERENCES

- Balsam, S., J. Krishnan and Y. S. Yang (2003) "Auditor industry specialization and earnings quality," *Auditing: a Journal of Practice & Theory*, 22 (2), p. 71-97.
- Becker C. L., M. L. Defond, J. Jiambalvo and K. R. Subramanyam (1998) "The effect of audit quality on earnings management," *Contemporary Accounting Research*, 15 (1), p. 1-24.
- Cantor, R. and F. Packe (1997) "Differences of opinion and selection bias in the credit rating industry," *Journal of Banking and Finance*, vol. 21, p. 1395 – 1417.
- Craswell, A. T., J. R. Francis and S. L. Taylor (1995) "Auditor brand name reputations and industry specializations," *Journal of Accounting and Economics*, 20 (3), p. 297-322.
- Davidson, R. A. and D. Neu (1993) "A note on the association between audit firm size and audit quality," *Contemporary Accounting Research*, 9 (2), p. 479-488.
- Dichev, I. D. and Skinner, D. J. (2002) "Large-Sample Evidence on the Debt Covenant Hypothesis," *Journal of Accounting Research*, 40 (4), p. 1091 – 1123.
- Dunn, K. A. and B. W. Mayhew (2004) "Audit firm industry specialization and client disclosure quality," *Review of Accounting Studies*, vol. 9, p. 35-58.
- Dye, R. A. (1993) "Auditing standards, legal liability, and auditor wealth," *The Journal of Political Economy*, 101 (5), p. 887-914.
- Fama, E. F. and K. R. French (1997) "Industry cost of equity," *Journal of Financial Economics*, 43 (2), p. 153-193.
- Faulkender, M. and M. A. Petersen (2006) "Does the source of capital affect capital structure?" *Review of Financial Studies*, 19 (1), p. 45-79.
- Fortin, S. and J. A. Pittman (2007) "The role of auditor choice in debt pricing in private firms," *Contemporary Accounting Research*, vol 24, p. 859-896
- Francis, J. R. and J. Krishnan (1999) "Accounting accruals and auditor reporting conservatism," *Contemporary Accounting Research*, 16 (1), p. 135-165.
- Gul, F. A., S. Y. Fung and B. Jaggi (2009) "Earnings quality: some evidence on the role of auditor tenure and auditors' industry expertise," *Journal of Accounting and Economics*, vol. 47, p. 265 – 287.
- Kim, J., R. Chung and M. Firth (2003) "Auditor conservatism, asymmetric monitoring, and earnings management," *Contemporary Accounting Research*, 20 (2), p. 323-359.

Krishnan, G. V. (2005) “The association between Big 6 auditor industry expertise and the asymmetric timeliness of earnings,” *Journal of Accounting, Auditing and Finance*, 20 (3), p. 209-228.

Lim, C. and H. Tan (2008) “Non-audit service fees and audit quality: the impact of auditor specialization,” *Journal of Accounting Research*, 46 (1), p. 199 – 246.

Mansi, S. A., W. F. Maxwell and D. P. Miller (2004) “Does auditor quality and tenure matter to investors? Evidence from the bond market,” *Journal of Accounting Research*, 42 (4), p.755 – 793.

Maletta, M. and A. Wright (1996) “Audit evidence planning: an examination of industry error characteristics,” *Auditing: a Journal of Practice and Theory* 15 (1), p. 71-86.

Pittman, J. A. and S. Fortin (2004) “Auditor choice and the cost of debt capital for newly public firms,” *Journal of Accounting and Economics* vol. 37, p. 113 - 136.

Schwartz, K. B. and B. S. Soo (1996) “Evidence of regulatory noncompliance with SEC disclosure rules on auditor changes,” *The Accounting Review*, 71 (4), p. 555 - 572.

Strahan, P. E. (1999) “Borrower Risk and the Price and Nonprice Terms of Bank Loans,” *FRB of New York Staff Report* No. 90.

Teoh, S. H. and T. J. Wong (1993) “Perceived auditor quality and the earnings response coefficient,” *The Accounting Review*, 68 (2), p. 346-366.

BIOGRAPHY

Dr. Sherry F. Li is an Associate Professor of Accounting at Rider University. She can be contacted at: Department of Accounting, College of Business Administration, Rider University, Lawrenceville, NJ 08648.

Dr. Fengyun Wu is an Assistant Professor of Accounting at Manhattan College. She can be contacted at: Department of Accounting, Business Analytics, CIS, and Law, O'Malley School of Business, Manhattan College, 4513 Manhattan College Parkway, Riverdale, NY 10471.