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Abstract

Essays on financial intermediation

by

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In this dissertation, I analyze behavior of two types of financial intermediaries that play critical roles in capital allocation: ratings agencies and merger advisors. Each type of intermediary survives due to (assumed) informational advantages relative to firms and investors. In the following chapters, I analyze how differences in information between market participants and intermediaries lead to signaling behavior related to privately-observed quality. My results explain some seemingly-anomalous aspects of financial markets, and provide a framework for assessing the impact intermediaries can have on efficient capital allocation.

In the first chapter, I examine whether rating agencies strategically manipulate the informativeness of bond ratings in response to competition from private lenders. I model a monopolistic rating agency that caters to a low-quality marginal customer with uninformative ratings. High-quality customers prefer informative ratings but are captive customers
of the rating agency in the absence of competition from private lenders. With competition from private lenders, the rating agency uses informative ratings to keep high-quality customers in public markets. The model also suggests that the ratings sector dampens the impact of capital supply shocks, and offers a strategic pricing rationale for the controversial practice of issuing unsolicited credit ratings.

In the second chapter, I test predictions of the model using a measure of informativeness based on the impact of unexpected ratings on a debt issuer’s borrowing cost. I analyze two events that increased the relative supply of private vs. public lending: the temporary shutdown of the high-yield market in 1989 and legislation in 1994 that reduced barriers to interstate bank lending. After each event, I find that the informativeness of ratings increased for issuers whose relative supply of private vs. public capital increased most.

In the third chapter, I analyze how acquiring firms select and pay advisors. I present a model in which an advisor with privately known quality screens targets (due diligence) and improves negotiation outcomes (bidding). When a transaction involves only bidding, advisors pool by offering fees contingent on a completed transaction. By contrast, a transaction involving due diligence can lead to a separating equilibrium and fixed fees. The model predicts that acquirers use advisor market share instead of stock return-based measures to select advisors when synergies are not observable, and that acquirers with better information about advisor quality pay higher fees. I argue that investors in leveraged buyouts are skilled in acquisitions, and find that they pay higher fees for both mergers and tender offers, controlling for assignment and deal characteristics. They are also less likely
to include contingent fees than other acquirers. Results suggest skilled investors use private information about advisor ability to hire advisors, and do so primarily to screen targets rather than to improve negotiation outcomes.
Executive summary

This report presents evidence consistent with the hypothesis that competition between banks and public lenders increases the incentive of rating agencies to provide accurate credit ratings. Public debt issues typically require a credit rating; when there is no viable alternate source of financing, the credit rating agency has little incentive to make ratings informative because its low-quality marginal customers (who might otherwise not raise capital) prefer uninformative ratings. Its high-quality customers prefer informative ratings, but have no alternative when competition in lending is low. A shock to bank lending supply, however, could lead to viable alternatives to public debt markets for high-quality issuers, which in turn leads the rating agency to increase the accuracy of ratings to prevent defection of these issuers.

To test how competition from private lenders influences ratings informativeness, I consider the Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994 (the “Riegle-Neal Act”). This legislation reduced barriers to interstate branching (Dick, 2006), and had a disproportional affect for issuers who had limited access to interstate capital markets before 1994 (Zarutskie, 2006). I evaluate the hypothesis that lending to young and small businesses became more competitive following the Riegle-Neal Act, as bank lenders became able to actively compete with public lenders. By increasing the supply of private lending for small and young issuers, without having a similar impact on the supply of public lending, this legislation shifted the relative supply of private vs. public lending.

In this paper, I test the hypothesis that such a supply shift leads to an increase in the accuracy of public debt ratings for young and small issuers after 1994. In a regression of a new issue yield spread on the credit rating and issue- and issuer-level control variables, I interpret the coefficient on the credit rating as a measure of the rating’s accuracy. This measure is based on the premise that investors incorporate ratings into pricing when they are expected to be accurate. When they expect ratings to be inaccurate, pricing is based on other observable issue and issuer
characteristics. Consistent with my predictions, I find that credit rating accuracy for young and small issuers increased sharply following the Riegle-Neal Act.

These results highlight an aspect of competition in lending that has not received much attention: competition between banks and public lenders. They also provide support for the hypothesis that accuracy of credit ratings responds to changes in the rating agency’s incentives, and suggest these incentives be taken into account in evaluating legislation of the ratings sector.
Introduction

In this paper, I argue that such competition in lending can influence the equilibrium accuracy of corporate debt ratings. An increase in competition leads to more informative credit ratings if alternatives to public debt markets are more attractive to higher-quality issuers. Such issuers, who prefer informative ratings, are constrained to public borrowing in the absence of competition from private lenders. Consequently, the rating agency need not make ratings informative unless such competition is present. When alternatives to public borrowing emerge, an outside option for higher-quality issuers may force the rating agency to increase ratings accuracy. Such changes in rating accuracy are important for small business finance because they influence which firms have access to public debt markets.

Sources of lending vary over the firm’s life cycle. As noted by Berger and Udell (1995), relationship lending allows the bank-borrower relationship to overcome asymmetric information problems in small business finance, leading to lower interest rates for firms with longstanding banking relationships. While public debt is usually thought of as a cost-effective source of growth capital, firms have access to multiple classes of investors who may potentially compete for the same borrowers, and this type of across-class competition in lending is poorly understood.

The possible financing sources for small issuers are illustrated on the right-hand side of Figure 1, which is reproduced from Berger and Udell (1998). While we see an overlap between issues of bank financing (commercial paper, medium-term notes) and public debt, the figure suggests a static relationship between potential sources of capital and borrower lifecycle. However, if institutions face heterogeneous shocks to funds available for lending, borrowers will actually experience time-variation in terms from different classes of lenders. Hence, issuers at the margin between different classes of lending should be most affected when the competitive landscape changes.
A key feature of issuer-paid ratings is that they allow costly signaling. Better firms are more willing to pay for ratings, since lower-quality firms may choose to invest less in risky projects if fees make raising capital more expensive. This allowing the ratings decision to reveal information (regardless of whether the rating itself does). The amount of information the rating itself contains is a strategic choice for the rating agency. Because a rating is required for raising public debt, issuers purchase ratings regardless of their accuracy. In setting the accuracy of corporate debt ratings, the rating agency trades off the different preferences of low-quality and high-quality firms. Low-quality firms want uninformative ratings so they can pool with high-quality firms. Conversely, high-quality firms want to separate using informative ratings.
This figure illustrates a traditional view of financing options available to issuers who differ in firm age, size, and amount of available information. Source: Berger and Udell 1998.
The main insight of this paper is that the tradeoff between the preference of low-quality firms (for uninformative ratings) and high-quality firms (for informative ratings) is influenced by the amount of competition in lending. Without competition in lending, the rating agency caters to its low-quality marginal customers. More competition provides an outside option for high-quality firms (who could raise funds from private lenders and stay out of public markets). This presents a problem for the rating agency, since the willingness to pay for ratings for all customers increases in the quality of the rated pool. Consequently, informative ratings may be used to keep high-quality issuers from choosing bank financing over public financing.

I test this hypothesis by relating an empirical measure of informativeness of credit ratings to shocks to the relative supply of private vs. public lending. The measure of informativeness I analyze involves a regression of the new issue yield spread on the credit rating and a set of issue- and issuer-level control variables. Since these variables are observable for each issuer, and related to credit quality, they should be sufficient to predict the credit spread when ratings are uninformative. When ratings are informative, by contrast, the coefficient on the rating should be significant, as the rating provides additional information about credit quality.

The 1994 Riegle-Neal Act\(^1\) allows for identification of a change in the relative supply of private vs. public lending. This legislation removed barriers to interstate bank branching, and resulted in greater competition from private lenders after 1994. As discussed by Dick (2005) and Zarutskie (2006), this legislation was most influential for younger and smaller firms, were previously constrained to local borrowing. For such firms, private (bank) lending became an increasingly viable alternative to raising public debt after nationwide adoption of the Riegle-Neal legislation.

I find that the informativeness of ratings increased for issuers impacted by the change in the amount of lending competition (small and young issuers), following the 1994 nationwide implementation of the Riegle-Neal Act. These empirical findings are consistent with the hypothesis that increased competition from banks for lending to younger and smaller borrowers

following 1994 was associated with higher rating accuracy. Rating agencies, faced with the prospect that high-quality borrowers would find alternatives to public markets, increased the accuracy of credit ratings in response to this competitive threat. This analysis sheds light on the role of rating agencies, who have long been viewed as gatekeepers for largely passive public investors. It suggests that such investors actively compete for borrowers, with the rating agency facilitating such competition.

**Related literature**

This paper contributes to literature related to certification markets (markets for third-party information providers) and to small business lending. Early work on informational providers includes Admati and Pfleiderer, 1985, who discuss incentives of a monopolistic information producer to introduce noise into reporting to reduce leakage through prices. Thakor, 1982, shows that a debt issuer can purchase insurance, with the insurance level serving as a signaling mechanism. While he rules out credit ratings explicitly, I suggest a similar signaling mechanism as better-quality issuers are more willing to pay for insurance. Farhi, Lerner and Tirole, 2009, analyze certification markets generally more generally, focusing on seller strategies in a variety of possible certification market settings.

My analysis draws on a related theoretical and empirical analysis of competition between private and public lenders in Ahmed (2011), which suggests that higher levels of bank competition lead monopolist rating agencies to increase the informativeness of credit ratings. It also draws on much of the same methodology and testing setup from that analysis, which focuses more broadly on the issue of competition between public and private lenders. This paper focuses specifically on effects for small and young issuers following nationwide adoption of the Riegle-Neal Act.

It also relates to several studies which specifically address the issue of incentives faced by ratings agencies. Several recent works specifically discuss incentives of rating agencies and
the issuer-pays model. In an extension of Lizzeri’s (1999) work on certification intermediaries, Faure-Grimaud, Peyrache and Quesada, 2009, suggest the threat of ex-post renegotiation by higher-quality issuers can lead to the ratings agency's ability to extract all rents by charging signal-contingent fees. In a related project, Doherty, Kartasheva and Phillips, 2009, show that both investor risk aversion and the threat of entry can lead to more precise ratings. Skreta and Veldkamp, 2009, discuss how ratings shopping by issuers can lead to biased ratings even when individual ratings are unbiased.

Others have analyzed how ratings agencies, in setting ratings accuracy, trade off reputation against current profits. Bolton, Freixas and Shapiro, 2009, analyze the amount of reputation necessary to implement truth-telling. Mathis MacAndrews and Rochet, 2009, suggest issuers may build up reputation over time in order to exploit it when it is most valuable. Depending on the value of reputation, both of these models can lead to truth-telling as an equilibrium outcome. Ashcraft, Goldsmith-Pinkham and Vickery, 2009, find that subordination conditional on fundamentals (a proxy for accuracy) declined during the recent boom in issuances.

Finally, this paper adds to literature which analyzes the choice between bank financing and public arms-length financing, by emphasizing the role of the certification sector. For example, Berger and Udell, 1995, suggest the long-term nature of bank financing helps reduce information problems, particularly for small firms. Rajan, 1992, finds that bank monitoring is most useful for medium-quality firms, and that higher and lower types access public bond markets.

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2 By contrast, Becker and Milbourn, 2009, suggest ratings accuracy declined recently, pointing to an increase in competition.