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The role of dynamic renegotiation and asymmetric information in financial contracting [☆]

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ABSTRACT

Using data from Securities and Exchange Commission filings, I show that the typical bank loan is renegotiated five times, or every nine months. The pricing, maturity, amount, and covenants are all significantly modified during each renegotiation, whose timing is governed by the financial health of the contracting parties and uncertainty regarding the borrowers' credit quality. The relative importance of these factors depends on the duration of the lending relationship. I interpret these results in light of financial contracting theories and emphasize that renegotiation is an important mechanism for dynamically completing contracts and for allocating control rights ex post.

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1. Introduction

Privately placed debt is by far the most important source of external financing for firms in Organisation for

Economic Co-operation and Development (OECD) countries (Gorton and Winton, 2003). Unsurprisingly, a large literature has developed that examines this form of financing and its implications for corporate behavior.¹ Despite this attention, few studies examine the renegotiation of privately placed debt outside of financial distress. This void is troubling because a large number of theoretical studies show that the possibility of renegotiation can have a significant impact on security design, incentives, and welfare.²

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¹ Empirical studies of privately placed debt have examined: debt maturity (e.g., Scherr and Hulburt, 2001; Ortiz-Molina and Penas, 2004; Berger, Espinosa-Vega, Frame, Miller, 2005), pricing (Chava, Livdan, and Purnanandam, 2009; Altman, Gande, and Saunders, 2010), and covenants (Bradley and Roberts, 2003; Chava and Roberts, 2008; Roberts and Sufi, 2009a).

² See Section 3 for a discussion of the relevant theories.

This paper helps fill that void using a novel, hand-collected data set of loan paths for a random sample of bank borrowers. A loan path is a sequence of events beginning with an origination and ending with a terminal event, such as maturity or early termination. In between these two termini I record any and all renegotiations that occur, as well as information on the modifications made to the loan. These data enable me to address two broad questions: What happens in renegotiation? And, when does renegotiation occur? For both questions, I focus on how the answer varies as a function of the duration of the lending relationship and the number of renegotiations.

My primary findings are fourfold. First, renegotiations are initiated by borrowers primarily in response to changing conditions, as opposed to lender interventions due to default. Less than 28% of the sample renegotiations are due to a covenant violation or in anticipation of a covenant violation. Yet, more than 75% of all covenant violations lead to a renegotiation. Thus, renegotiations caused by contractual breaches occur infrequently, though when a contractual breach occurs it frequently leads to renegotiation.³

Second, most loans are renegotiated multiple times over relatively short horizons, with each renegotiation leading to significant changes to the contract. Ignoring the few short-term loans that are not renegotiated, the typical loan has a maturity at origination of four and a half years but is renegotiated almost five times, or every nine months. This finding is not an artifact of maturity extensions, which occur in less than 20% of renegotiations and typically with modifications to other features of the contract.

Renegotiations produce average increases (decreases) in the pricing, amount, and maturity of the loan equal to 73 (74) basis points, 103 (100) million dollars, and 23 (12) months, respectively. Relative to an average interest rate spread of 205 basis points, loan amount of 200 million dollars, and maturity of 5.5 years, these changes are economically large. They are also mostly independent of the renegotiation round (i.e., first, second, third, etc.) and the duration of the contractual relationship. In addition to modifications of the contract terms, I observe changes to the tranche structure and loan type. Borrowers and lenders frequently repackage loans into more or fewer tranches during renegotiations, while also changing the nature of lenders' commitments from term loans to revolving lines of credit and vice versa.

Third, the plurality of renegotiations (46%) modify only the covenant package. In fact, covenants are more likely to be modified than other loan terms throughout the life of the loan. These modifications are driven largely by borrowers' desires to alter their investment, operating, or financing policies and, to a lesser extent, by borrowers' financial distress. In light of a growing number of contingencies tied to the interest rate (performance pricing grid), amount (borrowing base), and maturity (evergreen provisions), it might not be surprising that covenant

modifications are responsible for many renegotiations.⁴ Despite the presence of these contingencies, the majority (54%) of renegotiations modify the interest rate, amount, or maturity and over 35% of renegotiations modify an interest rate spread linked to a pricing grid. Thus, while contractual contingencies likely mitigate the transaction costs associated with ex post renegotiation, an important role appears to be allocating bargaining power in renegotiation (Roberts and Sufi, 2009b), which occurs frequently and in spite of the large number of contractual contingencies.

Finally, the timing of renegotiations is governed by three factors: the financial health of the parties to the loan, the uncertainty regarding borrowers' future profitability, and the outcome of renegotiation. Financially weak borrowers and borrowers with more uncertain future prospects accelerate the onset of renegotiation. I also find significant temporal heterogeneity in the impact of these factors on the duration to renegotiation. The timing of initial renegotiations occurs independently of macroeconomic conditions or the outcome of renegotiation. In fact, borrower leverage is the only relevant determinant of the initial renegotiation duration. In contrast, subsequent renegotiations are driven by a combination of factors.

In sum, my evidence highlights the dynamic, state-contingent nature of loan contracts in which renegotiation fills the void left by contractual incompleteness. Alternatively, one can view renegotiation as a means to dynamically complete contracts. While my study is primarily descriptive, my results provide a unique opportunity to comment on theories of financial contracting and offer guidance for future research.

The frequency of renegotiation despite the presence of numerous contractual contingencies emphasizes the fundamental incompleteness of loan contracts (Grossman and Hart, 1986; Hart and Moore, 1988). The focus of most renegotiations on covenant modifications emphasizes that renegotiation is an important mechanism for the allocation of control rights across states (Garleanu and Zwiebel, 2009). Thus, while contracts, via covenants and other contractual contingencies, allocate control rights ex ante (e.g., Aghion and Bolton, 1992; Dewatripont and Tirole, 1994), renegotiation allocates control rights ex post.

The finding that borrowers grant creditors strong control rights suggests that information asymmetry in conjunction with agency problems is an important element of the contracting environment (e.g., Dessein, 2005; Garleanu and Zwiebel, 2009). This finding presents a challenge for theories predicated on symmetric information and hold-up (Hart and Moore, 1998), in which the relative importance of borrower effort for the success of the funded investment dictates that the borrower should retain strong control rights. Further, the persistence of strong creditor control rights throughout the lending relationship suggests that

³ A number of studies examine the implications of covenant violation, including Smith and Warner (1979), Beneish and Press (1993, 1995), Chen and Wei (1993), Smith (1993), Sweeny (1994), Chava and Roberts (2008), Roberts and Sufi (2009a), and Nini, Smith, and Sufi (2009).

⁴ Some covenants do come with contingencies. For example, maintenance covenant thresholds often vary over time in a manner determined by the performance of the company. Net worth covenants often include buildup provisions that increase the threshold with a fraction of positive net income. Restrictions on capital expenditures often include carryovers, which define the amount of unused investment capacity in a given period that could be carried forward into future periods.

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