



Can subordinated debt constrain banks' risk taking?

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Abstract

This paper presents a model in which requiring banks to issue a proper amount of subordinated debt can constrain their risk taking both before and after debt issuance. The main idea is that the prospect of issuing debt motivates banks to invest in safe assets before debt issuance; holding such assets then constrains their risk taking after debt issuance. The model helps understand the existing empirical findings, and offers a new testable prediction. It also suggests that: (1) regulators should set the amount of subordinated debt within a range; and (2) subordinated debt cannot entirely substitute for equity capital.

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1. Introduction

Many economists believe that requiring banks to issue some amount of subordinated debt can constrain their risk taking. The idea seems intuitive: if creditors charge riskier banks a higher interest rate, banks would think twice before taking excessive risk. This idea is referred to as direct market discipline.¹

Empirical studies, however, seem to have produced conflicting findings. Some researchers examine cross-sectional data. They find that creditors indeed charge riskier banks a higher interest rate, and conclude that subordinated debt can constrain banks' risk taking (see, e.g., Covitz et al., 2004; Morgan and Stiroh, 2001 and Sironi, 2003). Others look at time-series data. They find no change of the banks' risk-taking behavior before and after debt issuances (see

Krishnan et al., 2005).² When does risk reduction occur, then, if subordinated debt can constrain banks' risk taking?

To answer this question, we propose a theoretical model. The model studies how a bank chooses between two types of assets: safe or risky. A safe asset has a higher expected return, but a risky asset provides a higher return when it succeeds. The bank first chooses an asset to invest its existing funds. It then raises some new funds by issuing insured deposits and subordinated debt. After that the bank chooses another asset to invest its new funds. At the time of debt issuance creditors can observe which type of asset the bank has already invested in, but they cannot contract on the bank's future asset choice. The bank pays a flat-rate deposit insurance premium, and defaults when both of its assets fail.

We show that there exists a range of the amount of subordinated debt such that below this range, the bank invests

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¹ When the market prices of bank debts help regulators and other private creditors detect risky banks, subordinated debt constrains the banks' risk taking indirectly. This idea is referred to as indirect market discipline. See Flannery (2001) for an excellent discussion on the various aspects of market discipline.

² Several researchers attempt to directly measure the effect of subordinated debt on banks' risk-taking behavior. The findings are mixed. Bliss and Flannery (2000) find that bond price changes do not reliably influence subsequent bank behavior. Ashcraft (2006) documents that the presence of subordinated debt has a positive effect on the future outcomes of distressed banks.