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Journal of Banking & Finance 31 (2007) 2493–2515

Journal of BANKING & FINANCE

www.elsevier.com/locate/jbf

Are bank shareholders enemies of regulators or a potential source of market discipline?

Sangkyun Park [1], Stavros Peristiani *,[2]

Main 3, Federal Reserve Bank of New York, 33 Liberty Street, New York, NY 10045, USA

Received 15 February 2006; accepted 18 October 2006
Available online 25 January 2007

Abstract

In moral hazard models, bank shareholders have incentives to transfer wealth from the deposit insurer – that is, maximize put option value – by pursuing riskier strategies. For safe banks with large charter value, however, the risk-taking incentive is outweighed by the possibility of losing charter value. Focusing on the relationship between Tobin's q and an ex ante measure of the failure probability, this paper develops a semi-parametric model for estimating the critical level of bank risk at which put option value starts outweighing charter value. From these estimates, we infer the prevalence of moral hazard. Examining publicly held bank holding companies (BHC) during the tumultuous 1986–1992 period, we find that shareholders' risk-taking incentives were confined to a small fraction of highly risky institutions. Furthermore, our analysis shows that the inflection point at which banks begin to tilt in favor of moral hazard increased substantially in 1993–2005. These findings are encouraging to bank regulators and legislators because they indicate that tighter capital rules and more rigorous supervision introduced by several legislative initiatives in the 1990s have helped squeeze a lot of the moral hazard incentives out of the banking system.
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JEL classification: G21; G28

Keywords: Moral hazard; Tobin's q ratio; Deposit insurance; Bank risk; Implied default probability

* Corresponding author.
E-mail address: steve.peristiani@ny.frb.org (S. Peristiani).

[1] Economist at the Office of Management and Budget.

[2] Research Officer in the Research and Market Analysis Group of the Federal Reserve Bank of New York.

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doi:10.1016/j.jbankfin.2006.10.025

1. Introduction

Many regulators and academic researchers have emphasized market discipline as a means to improve the safety and soundness of the banking system. Perhaps this cannot be more pertinent than in today's complex financial landscape. Because of ever increasing complexity of the banking business, it is difficult to effectively regulate banks solely based on prescribed rules. The importance of market discipline is underscored by several banking and financial crises experienced in the last two decades across several emerging markets as well as more industrialized countries worldwide. In many instances, the inability of bank regulators and market forces to effectively discipline financial institutions was deemed as the missing ingredient for ensuring financial stability.

Not surprisingly, there is renewed interest among policymakers in enacting changes that would encourage more market disclosure and transparency. Directed by the Gramm–Leach–Bliley Act of 1999, the U.S. Treasury and the Federal Reserve Board have explored the possibility of using mandatory subordinated debt as a catalyst to strengthening market discipline. More recently, the new capital adequacy proposals of the Basel Committee for Banking Supervision (Basel II) consider market discipline, along with capital requirements and supervision, as one of the three pillars of support for the banking system (Basel Committee on Banking Supervision, 2003).

In a market discipline framework, debtholders, depositors, and shareholders can apply pressure on banks, raising the funding premium on debt, deposits, and equity. The direct and indirect effects of market discipline have been extensively studied in the academic literature (see survey article by Flannery (1998)). The interest in market discipline has been largely stimulated by the moral hazard literature describing the conflict between shareholders and debtholders (or the deposit insurer in the case of insured banks). In a moral hazard framework, bank management acts in the interest of shareholders that have voting power. Merton (1977) shows that deposit insurance gives insured banks a put option, that is, the right to sell the bank's assets at the face value of its liabilities. When the deposit insurance premium is fixed or does not fully reflect a bank's risk, the value of the put option increases with the bank's risk, typically, represented by a larger return variance of the asset portfolio and a lower capital ratio. If the shareholders of a bank are interested mainly in the put option value, managers may accommodate them by increasing the bank's risk. In this case, shareholders are enemies of bank regulators, and the burden of market discipline falls on the shoulders of debtholders.

Several studies of moral hazard have shown that bank shareholders are also responsive to the bank's charter value or intangible capital (e.g., Keeley, 1990; Ritchken et al., 1993; Park, 1997). In the event of failure, shareholders have to forfeit charter value. Their incentive to preserve charter value should therefore outweigh their desire to increase the put option value when the bank's risk is low or moderate, while the opposite is true at high levels of risk. Consequently, bank shareholders can be allies of regulators and a source of market discipline when a bank is reasonably safe.

The moral hazard theory raises an intriguing empirical question: At what level of risk do shareholders turn into enemies of regulators? Several empirical studies have attempted to shed some light on the relative importance of put option value and charter value. Most notably, Keeley's (1990) study attributes the sharp rise in failure among banks and thrift institutions to the gradual deterioration of bank charter value. Keeley argues that during the 1980s the rapid deregulation of the banking and thrift sectors, coupled with intense

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