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Outside monitoring and CEO compensation in the banking industry

Kose John [a,*], Hamid Mehran [b], Yiming Qian [c]

[a] Stern School of Business, New York University, 44 West 4th Street, New York, NY 10012, United States
[b] Federal Reserve Bank of New York, 33 Liberty Street, 3rd Floor, New York, NY 10045, United States
[c] Tippie College of Business, University of Iowa, Iowa City, IA 52245, United States

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ABSTRACT

We hypothesize that CEO compensation is optimally designed to trade off two types of agency problems: the standard shareholder-management agency problem as well as the risk-shifting problem between shareholders and debtholders. Analyses in this setup produces two predictions: (1) the pay-for-performance sensitivity of CEO compensation decreases with the leverage ratio; and (2) the pay-for-performance sensitivity of CEO compensation increases with the intensity of outside monitoring on the firm's risk choice. We test these two hypotheses for the banking industry where regulators and nondepository (subordinated) debtholders provide outside monitoring on the risk choice. We construct an index of the intensity of outside monitoring based on three variables: subordinated debt rating, non performing loan ratio and examination rating assigned by regulators. We find supporting evidence for both hypotheses.

1. Introduction

The topic of corporate governance in general, and top management compensation in particular, has received enormous attention in recent years. In this paper, we examine CEO compensation in light of the interaction of two types of agency problems: the standard agency problem between shareholders and management, and the conflict of interest between shareholders and debtholders. An important mechanism to mitigate the shareholder-management agency problem is through incentive compensation, i.e., by tying managerial compensation to shareholder wealth. Aligning managerial incentives with shareholders' interest, however, will exacerbate the shareholder–debtholder conflicts in levered firms. In particular, managers who are aligned with shareholders will have the risk-shifting incentive, i.e., the incentive to undertake excessive risk at the expense of debtholders.

Although both types of agency problems have been extensively researched, there is little work examining the interaction of the two. One notable exception is John and John (1993) who take the perspective that CEO compensation plays the role of a commitment mechanism to mitigate risk-shifting incentive in addition to its conventional role of aligning managerial incentives with shareholder interest. Their model shows that as leverage increases, the optimal pay-for-performance sensitivity of CEO compensation should decrease to offset the increased risk-shifting incentive.

We extend the model of John and John (1993) by introducing another mechanism that controls agency problem. In particular, if there is outside monitoring on the firm's risk choice and such monitoring disciplines the firm's risk-shifting incentives, the costs of

* Corresponding author.
E-mail addresses: kjohn@stern.nyu.edu (K. John), hamid.mehran@ny.frb.org (H. Mehran), yiming-qian@uiowa.edu (Y. Qian).

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increased alignment of the CEO with shareholders will be reduced. Hence outside monitoring allows for higher pay-for-performance sensitivity in the optimal CEO compensation structure.

The above arguments yield two testable hypotheses: (1) the pay-for-performance sensitivity of CEO compensation decreases with the firm's leverage ratio; (2) the pay-for-performance sensitivity of CEO compensation increases with the intensity of the outside monitoring on the firm's risk choice. We empirically test these two hypotheses.

We test these hypotheses for the banking industry. We argue that due to the bank's unique claim structure, two parties will provide outside monitoring of the bank's risk choice: the subordinated debtholders and the regulators of the bank.[1] A lion's share of a bank's cash flow claims is in the form of debt held by dispersed depositors, and the Federal Deposit Insurance Corporation (FDIC) insures a large fraction of this type of debt. Consequently, unlike the case in manufacturing firms, the primary debtholders of a bank do not have sufficient incentives to monitor the bank. Instead, a bank's nondepository (subordinated) debtholders, as claimants on junior and uninsured debt, have incentives to monitor the bank's risk choice. Moreover, regulators will also monitor a bank's risk choice because they have the responsibility to maintain a stable financial system and because the deposit insurance is equivalent to a put option given to the depositors by the FDIC (Merton, 1977). We discuss in detail the two parties' incentives and abilities to monitor a bank's risk choice in Section 2.

While subordinated debtholders and regulators are primarily concerned with the risk of the bank and that of its securities, they may lack the incentives and the capabilities to monitor the agency problems between shareholders and managers. John and John (1993) model one standard shareholder-management agency problem: the CEO's desire to enjoy benefits of control in solvent states. Such incentives will result in managers being too conservative in making investment decisions. There is no obvious method for any outsider or even an informed board of directors to directly redress such distorted incentive other than trying to align the CEO's interest with that of shareholders'. It is similarly difficult, if not infeasible, to monitor shirking (effort aversion), which is another standard shareholder-management agency problem.

We construct an index of the intensity of outside monitoring based on three variables: a bank's subordinated debt rating, its non performing loan ratio, and its BOPEC rating assigned by regulators that measures its overall financial health. The first two variables measure the intensity of monitoring provided by subordinated debtholders on the assumptions that the monitoring intensity will increase with the riskiness of the subordinated debt and the riskiness of the assets. The third variable, the BOPEC rating, measures the intensity of regulatory monitoring.

With our index of outside monitoring, we find supporting evidence for both hypotheses. In particular, the pay-for-performance sensitivity of bank CEO compensation is negatively related to the leverage ratio and positively related to the monitoring intensity. Both effects are statistically and economically significant.

Our results are robust to the use of alternative indices of monitoring intensity, different measures of leverage, and various regression methods. They are also robust to different sample selection criteria. We acknowledge the possibility that leverage, monitoring and CEO compensation might be endogenously determined. We address this issue using a few methods including estimating a simultaneous equation system. Our main results hold.

A few papers have documented evidence that suggests a negative relationship between leverage and pay-for-performance sensitivity. Houston and James (1995) find that CEOs in banking firms (with high leverage ratio) receive less cash compensation, and that they receive a smaller percentage of their total compensation in the form of options and stocks than do CEOs in other industries. John and Qian (2003) also find that the CEO compensation in the banking industry has lower pay-for-performance sensitivity than manufacturing firms and that this difference is largely attributable to the difference in debt ratios between the two industries. Gilson and Vetsuypens (1993) document evidence that the pay-for-performance sensitivity of CEO compensation declines dramatically when a firm becomes financially distressed (therefore with high leverage) but increases after financial distress. This paper provides a direct test on the relationship between CEO pay-for-performance sensitivity and leverage using recent data and a comprehensive measure of the pay-for-performance sensitivity. We also find a negative relationship.

Moreover, our study is the first paper to analyze the interaction between outside monitoring and CEO compensation. We document evidence that incentive features in CEO compensation are affected by outside monitoring in banks, which also provides insights useful in the larger context of firms in general.

The remainder of the paper is organized as follows: Section 2 discusses the institutional setting and the monitoring role performed by regulators and subordinated debtholders. Section 3 lays out the arguments of our hypotheses. Section 4 presents the empirical tests. In particular, we describe in this section the data and methods, and report the empirical results and robustness tests. We also discuss the potential endogeneity issue in the tests and use various methods to address the issue. Section 5 concludes.

2. Outside monitoring of risk choice

Since the payoffs to levered equity represent a call option on a firm's assets, shareholders have risk-shifting incentives, i.e., the incentive to take excessive risk at the expense of debtholders. This problem is particularly severe in the banking industry because of these firms' high leverage ratios (Esty, 1997, 1998). Debtholders are generally concerned about a firm's risk choice. An important difference between banks and manufacturing firms lies with the incentives of debtholders to monitor the firms' risk choice. For manufacturing firms, the bank, as the senior debtholder, tends to perform most of the monitoring role. The bank has the

[1] For manufacturing firms on the other hand, it is usually banks, as their senior debtholders, that will perform the monitoring role. It will be interesting to test the hypotheses for these firms as well except that the data on bank loans are not available.