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Inside debt, bank default risk, and performance during the crisis

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ABSTRACT

In this paper, we examine whether the structure of the chief executive officer's (CEO) compensation package can explain default risk and performance in bank holding companies (BHCs) during the recent credit crisis. Using a sample of 371 BHCs, we show that in 2006 higher holdings of inside debt relative to inside equity by a CEO after controlling for firm leverage is associated with lower default risk and better performance during the crisis period. We present evidence that before the crisis banks with higher inside debt ratios also have supervisory ratings that indicate stronger capital positions, better management, stronger earnings, and being in a better position to withstand market shocks in the future. Such ex-ante evidence can explain the observed relationship between inside debt, default risk, and performance during the crisis.

1. Introduction

The possible role that executive compensation played as a cause of the credit crisis that began in 2007 has attracted significant attention from the public, policy makers, and researchers. The Dodd-Frank Wall Street Reform and Consumer Protection Act (the Dodd Frank Act) was enacted in response to the credit crisis and was signed into law on July 21, 2010. The Dodd Frank Act required for the first time that regulatory agencies prohibit incentive-based compensation practices that encourage inappropriate risk-taking activities at financial institutions.

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Two questions have emerged from this attention and the subsequent legislative action. The first question is whether there is a relation between the executive compensation and the excessive risk taking at banks. The second question is whether we can control risk taking by regulating the executive compensation. An extensive body of research examines the first question. This research focuses on the relation between risk taking and the inside equity holdings of the chief executive officer (CEO), such as stock options and firm equity holdings.

In this paper, we examine also the relation between risk taking and CEO compensation, but we focus on the structure of compensation relative to the capital structure of the bank. In particular, we investigate whether there is an association between the CEO's inside debt holdings (pension benefits and deferred compensation) and the bank holding company (BHC) default risk and performance controlling for the debt to equity ratio. Furthermore, we explore whether the inside debt ratio has more power to explain the default risk and the performance in BHCs than the measures based on inside equity.

Our approach is motivated by Jensen and Meckling (1976), who argue that if the CEO holds more wealth in the form of inside equity then the interests of the CEO are aligned with the shareholders, which causes more risk taking. If a CEO holds more wealth in the form of inside debt (pensions and deferred compensation) then the CEO cares more about the long-term solvency of the firm. This concern reduces the CEO's risk appetite. Jensen and Meckling (1976) argue that the compensation structure should result in a composition of the CEO's holdings of inside debt and inside equity that mimics the composition of the firm's debt and equity holdings. They hypothesize that there is an optimal ratio of the CEO's inside debt-to-equity ratio deflated by the firm's debt-to-equity ratio. Sundaram and Yermack (2007), Gerakos (2010), Bolton et al. (2010) and Edmans and Liu (2011) later formalized and tested this insight.

The credit crisis provides an opportunity to examine this hypothesized relation between CEO compensation and either risk taking or the firm's performance. Fahlenbrach and Stulz (2011) provide evidence that inside equity and the BHCs' performance were negatively related during the credit crisis. Furthermore, they argue that the CEOs were maximizing shareholder wealth and that the poor performance was merely an unexpected outcome. Given this argument, one can argue that if the CEOs were focused on shareholder maximization, then their risk-taking activities were not optimal for the other stakeholders of the bank (i.e., the debt holders and the deposit insurer). Therefore, higher inside debt compensation can lead the CEOs to choose investments that have a risk-return profile that is more favorable to the interests of the debt holders and the deposit insurer. Thus, BHCs that compensate their CEOs with a higher share of inside debt should face a lower risk of default and perform better during a crisis period. In this paper we test this hypothesis.

Our results support this argument. Specifically, we show that there is a significant association between the CEO's inside debt in 2006 and the cross-sectional variation in the BHCs' default risk at the end of 2008 and their performance during the crisis period of 2007–2008.

Our paper sheds light on the use of inside debt in the banking industry by constructing one of the largest samples assembled for bank governance research. The sample consists of 371 BHCs in the U.S. at the end of 2006.[1] Assets at the insured subsidiaries of these companies make up about 72% of the assets for all insured depositories in the U.S. at that time.

Our multivariate analysis indicates that the CEO's inside debt is a statistically significant predictor of the future default risk of the BHC, after controlling for the BHC leverage ratio, asset and liability characteristics of the BHC, and CEO characteristics, such as age, tenure, and total compensation. We measure default risk using Moody's KMV Expected Default Frequency (EDF), our estimates of distance-to-default at the end of 2008, the stock return volatility during 2007 and 2008, risk ratings assigned by bank supervisors and actual bank default frequency between 2007 and 2011. Our findings show that higher inside debt in 2006 is associated with a lower default risk regardless of the risk measures that we use.

[1] We have 57 stand-alone banks and thrifts in our sample and 314 bank holding companies. For simplicity, we refer to the institutions in our sample as BHCs throughout the paper.