



# CEO inside debt holdings and risk-shifting: Evidence from bank payout policies



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## ABSTRACT

Bank payouts divert cash to shareholders, while leaving behind riskier and less liquid assets to repay debt holders in the future. Bank payouts, therefore, constitute a type of risk-shifting that benefits equity holders at the expense of debt holders. In this paper, we provide insights on how CEO incentives stemming from inside debt (primarily defined benefit pensions and deferred compensation) impact bank payout policy in a manner that protects debt holder interests. We show that CEOs with higher inside debt relative to inside equity are associated with more conservative bank payout policies. Specifically, CEOs paid with more inside debt are more likely to cut payouts and to cut payouts by a larger amount. Reductions in payouts occur through a decrease in both dividends and repurchases. Our results also hold over a subsample of TARP banks where we expect the link between risk-shifting and payouts to be of particular relevance because it involves wealth transfers from the taxpayer to equity holders. We conclude that inside debt can help in addressing risk-shifting concerns by aligning the interests of CEOs with those of creditors, regulators, and in the case of TARP banks, the taxpayer.

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## 1. Introduction

Recently, there has been considerable interest in what determines banks to pursue risky policies. This interest stems in part from the historic magnitude of the financial crisis of 2007–09 which resulted in substantial losses for bank investors and gave rise to unprecedented levels of government support to the banking sector. In an attempt to prevent financial sector meltdown, the U.S. government bailed out the banking sector by injecting more than \$400 billion of taxpayer funds. With taxpayers turned into creditors and exposed to losses resulting from risky bank behavior, there has been a great deal of attention on how to prevent excessive bank risk-taking in the future. Specifically, a prominent question now is how to motivate banks to pursue bank policies which protect creditor and taxpayer interests. Our paper looks at this question.

When banks engage in high levels of risk-taking, it implies a type of risk-shifting that favors bank equity holders over debt holders. Risk-shifting favors equity investors because equity investors hold convex claims over firm assets which causes their expected payoffs to rise exponentially with bank risk; by contrast, debt

holder payoffs are concave due to limited upside potential in the value of their claims (Jensen and Meckling, 1976). For debt holders, high risk taking, therefore, implies a higher probability of losses without the same potential for gains that equity holders benefit from. Consequently, it is important to understand how the risk-shifting behavior of banks can be mitigated. We examine this issue by focusing on the compensation structure of bank CEOs. Specifically, we test whether payments to CEOs of banks that are more like debt (than like equity) is associated with bank policies that favor debt holders over equity holders.

To analyze the link between CEO inside debt and risk-shifting, we explore the case of bank payout policy. If banks distribute large payouts to shareholders, they draw down their liquid assets and retained earnings, leaving behind riskier and less liquid assets<sup>1</sup>. Payouts, therefore, reduce the quantity and quality of capital available to repay bank debt holders. In this paper, we argue that cash disbursements in any form (dividends or repurchases) constitute a form of risk-shifting that reduces the amount of equity capital available to absorb losses.

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<sup>1</sup> We define payouts as consisting of cash disbursements to equity holders in the form of cash dividends and share repurchases. Since payouts are also commonly referred to as capital distributions in the banking industry, we use both terms interchangeably throughout the paper.

In principle, CEO incentives to pursue risk-shifting are moderated by the compensation structure of the CEO (Jensen and Meckling, 1976; John and John, 1993). Consistent with this view, various authors have linked equity-based CEO compensation (stock options and firm equity) to risky bank policies before the financial crisis (Chen et al., 2006; Mehran and Rosenberg, 2007; Minnick et al., 2011; Hagendorff and Vallascas, 2011; DeYoung et al., 2013; Bai and Elyasiani, 2013). By contrast, little is empirically known about the role of debt-based compensation and bank risk-taking<sup>2</sup>. Applied work has only recently started to explore the impact of inside debt on bank risk (e.g. Bolton et al. (2011), Bekkum (2014)). The paucity of empirical work on debt-based compensation is particularly unfortunate, given that the value of debt-based CEO compensation is often substantial. For instance, the average value of debt-based CEO compensation is \$6.3 million in our sample, around half the value of equity-based compensation.

Jensen and Meckling (1976) refer to debt-based compensation components (primarily defined benefit pension and deferred compensation) as 'inside debt'. Inside debt holdings align CEO and debt holder interests because the value of inside debt, just like the value of debt held by outside investors, is sensitive to both the incidence of bankruptcy and the liquidation value of the firm in the event of bankruptcy (Edmans and Liu, 2011). Sundaram and Yermack (2007) and Cassell et al. (2012) show for non-financial firms that CEOs with large inside debt claims against their firms are more inclined to decrease firm risk and pursue less risky firm investment policies to protect the value of their debt holdings.

Whether changes in payout policy are influenced by incentives stemming from a CEO's inside debt holdings is an important empirical question and the focus of our study. Bank CEOs face a trade-off between increasing current payouts (to the benefit of equity holders) and preserving/reinvesting cash which could be transferred to debt holders in the event of default. Since inside debt holdings are an unsecured firm obligation, inside debt falls in value as bank default risk increases, possibly as a result of a higher payout to shareholders. Thus, the compensation structure of CEOs geared towards a higher fraction of inside debt creates a disincentive to pay out excess capital to the shareholders. Stated alternatively, we expect CEO inside debt to have a negative effect on total payout.

To test our prediction, we compile CEO compensation data on U.S. publicly listed banks during 2007–2011. Observing payout policy choices over this period covers the payout behavior by banks from the run-up to the crisis as well as the recovery period. Arguably, banks should have reduced their payouts during the run-up to the crisis as this would have made it more likely ex ante that they could withstand the crisis. To measure bank payouts, we compute total payouts as the total amount of cash distributed to equity holders in the form of cash dividends and stock repurchases. While this measure offers a holistic view of the total cash disbursed to shareholders, our analysis also focuses separately on the components of payout, cash dividends and repurchases.

Our findings are as follows. We find that bank CEOs with higher inside debt holdings are more likely to cut payouts and cut payouts by a larger magnitude. The results are economically significant. A one-standard-deviation increase in our measure of inside debt results in a cut in total payouts by 13 basis points (the equivalent of \$86 million for the average bank in our sample). We also show that our results hold if we use an alternate measure to capture the value of CEO inside debt holdings or alternative measures for bank payouts.

Next, we focus on the subsample of banks which received government support in the form of the Troubled Asset Relief Program (TARP) during the recent financial crisis. Under TARP, any cash distributed to equity holders by banks after the receipt of TARP funds represents subordination of not just creditor but also taxpayer interests. TARP bank payouts are a direct transfer of wealth from taxpayers to bank equity holders. We therefore explore the impact of TARP on the link between inside debt and bank payouts. To the extent that TARP resulted in exacerbating the risk-shifting incentives of bank equity holders (e.g. Duchin and Sosyura (2014), Flannery, 2010), we expect inside debt to be more effective in limiting risk-shifting by TARP banks in comparison to non-TARP banks. We explore this issue by employing a treatment effects model. Our results present evidence that TARP banks where CEOs held a higher amount of inside debt reduced payouts by a larger amount than non-TARP banks.

Finally, we test if the negative association between bank payouts and inside debt is driven by either one of the components of bank payouts, namely dividends or repurchases. We find that the reported negative relation between inside debt and payouts is driven by both dividends and repurchases. Moreover, we show that there is a positive association between inside debt and the cash raised from share issues. Thus, incentives stemming from CEO inside debt holdings reduce all forms of cash outflows to shareholders and increase cash inflows from shareholders.

Our paper makes several contributions. First, we contribute to the literature on the impact of CEO compensation structure on bank policies and risk-shifting (e.g. Minnick et al., 2011; Hagendorff and Vallascas, 2011; DeYoung et al., 2013). Our study builds on Bennett et al. (2012) who document a negative association between pre-crisis CEO inside debt and bank default risk during the crisis and on Bekkum (2014) who reports a negative relation between CEO and CFO inside debt in 2006 and measures of subsequent market volatility and tail risk during 2007–09. Currently, the topic of inside debt is still a 'black box' wherein the mechanisms through which inside debt decreases bank risk remain largely unidentified and warrant further attention. In this respect, we establish a direct link between inside debt and a specific bank policy through which inside debt limits risk-shifting incentives of bank CEOs.

Second, we contribute to the literature examining the role of compensation incentives as a determinant of corporate payout choices. Although prior research has explored the compensation-payout link, this research has not accounted for debt-like incentives. Our study extends prior research by taking into account the role of inside debt on payout. Thus, we offer a novel perspective by introducing a previously unrecognized and important, component of CEO compensation to this literature (Fenn and Liang, 2001; Aboody and Kasznik, 2008; Cuny et al., 2009). More generally, we also contribute to the banking literature by examining payout policies (Hirtle, 2004; Boldin and Leggett, 1995). To our knowledge, we provide the first comprehensive examination of bank payout behavior, by taking into account total payouts rather than separately studying one of the components of total payouts (dividends or repurchases). This is important since the risk-shifting literature does not explicitly distinguish cash distribution to shareholders in the form of dividends or repurchases (e.g. Kalay, 1982).

Third, we contribute to an emerging stream of research that studies the impact of debt-based compensation (e.g. Sundaram and Yermack, 2007; Cassell et al., 2012). We add to the sparse empirical literature to date which supports the theoretical predictions of the role of inside debt in Jensen and Meckling (1976) and Edmans and Liu (2011). The results we report highlight the importance of considering the various components of CEO compensation. Analyzing the effects of CEO compensation without considering inside debt holdings is unlikely to give a holistic picture of the incentives arising from CEO compensation.

<sup>2</sup> The lack of empirical work on debt-based compensation can be partly attributed to the unavailability of reliable data on the value of CEO inside debt holdings. Only since 2006 have revised SEC disclosure requirements mandated the publication of CEO inside debt holdings in the U.S., including pension benefits, supplemental executive retirement plans (SERPs), and total deferred compensation.

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