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Risk-shifting and the regulation of bank CEOs' compensation

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ABSTRACT

This paper analyzes the effects of two regulatory mechanisms, namely a regulation of the structure of bank CEOs incentive pay and sanctions for the CEOs of failed banks, on bank risk shifting. We extend a standard model of CEO compensation by incorporating leverage and an investment decision. To the extent that bank depositors and creditors are even partially protected by public guarantees, we show that it is in the interests of bank shareholders to choose more risky investments than would be socially optimal, and therefore to design a CEO contract with excessive risk taking incentives. Thus, we argue that current corporate governance arrangements in the banking sector are not efficient. In this setting, we show that putting in place one of the aforementioned mechanisms could yield the socially optimal outcome at no cost. We also identify some limitations and potential perverse effects of these mechanisms.

1. Introduction

> "We had a compensation committee that spent a tremendous amount of time making sure that the interests of the executives and the employees were aligned with shareholders." Richard S. Fuld Jr., former Lehman Brothers CEO.[1]

> "One of the worst suggestions ever made in this field is that you should align the interests of [bank] managers with the interests of bank shareholders." Charles Goodhart.[2]

Recent failures of big financial institutions have had a devastating effect on the world economy. They have been blamed on perverse CEO incentives to take excessive risks (Bebchuk and Spamann, 2010; Bebchuk et al., 2010). However, it is not clear why such incentives would emerge in equilibrium. Did corporate governance fail? On the contrary, this paper argues that bank shareholders are inherently biased toward excessive risk-taking, so that they will set CEO incentives correspondingly. This implies that the observed incentives of bank CEOs to take excessive risks can be viewed as a manifestation of shareholder power rather than as evidence of corporate governance failure. This in turn calls for a regulatory intervention.

This perspective certainly does not prevail at the moment. Most tellingly, the Restoring American Financial Stability Act of 2010 emphasizes and strengthens the role of shareholders in setting executive pay.[3] This is in line with the view that incentive provision is a corporate governance problem which does not require any stringent regulation, including in the banking industry (Core and Guay, 2010; Krainer, 2012). As Tirole (2006) reminds us in his textbook on Corporate Finance (section 1.8, p. 56), "economists, and for that matter much of the legal framework, have always asserted (. . .) that management should aim at maximizing shareholder wealth."

However, standard corporate governance mechanisms may not be suited to the banking industry. Indeed, to the extent that deposits are insured and that bank creditors expect a bail-out in case of failure, they do not demand to be *fully* compensated for the costs of failure that they would otherwise incur.[4] This feature is

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[1] Source: Testimony before the United States House Committee on Oversight and Government Reform, October 6, 2008.

[2] Source: The Future of Finance, LSE public lecture, July 14, 2010.

[3] The main provisions of the Act include a non-binding vote by shareholders on executive pay, independent compensation committees, punishments for earnings manipulation, and increased transparency of executive pay.

[4] Deposits are insured by the FDIC to avoid coordination failures resulting in inefficient runs on fundamentally solvent institutions, and to minimize contagion following the failure of a financial institution. For the same reasons, and because a bank is deemed too big or too interconnected to fail, or because the supply of credit and the accumulated knowledge of lenders is too important for economic activity to be allowed to disappear, it is often ex post optimal to rescue a failing bank.

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specific to the banking industry. In other industries, shareholders are also protected by limited liability, so that they do not bear all the costs of failure ex post, but they would have to bear the expected costs of failure in the form of a higher cost of debt funding ex ante (Jensen and Meckling, 1976). It can then be in their interests to commit not to pursue a risky strategy, for example by setting managerial incentives such that the CEO does not risk shift (John and John, 1993).

On the contrary, bank shareholders are inherently biased toward following a more risky strategy than is socially optimal.[5] Consequently, they tend to offer managerial incentives which are biased toward excessive risk-taking (with respect to the socially optimal or Pareto efficient level). This phenomenon of risk-shifting is well-known in the banking literature, and many commentators claimed that it was an important contributory factor to the financial crisis of 2007–2008. The contribution of this paper is to analyze the effects of a regulation of bank CEO incentive pay in this context. We highlight in a simple model of bank risk shifting and managerial compensation that two mechanisms could in principle each yield the first-best outcome at no cost. Either the structure of bank CEOs incentive pay could be regulated, or the CEOs of failed banks could be punished, to the extent that they had excessive risk-taking incentives. Whereas the first mechanism relies on ex ante constraints on contracting, the second relies on ex post corrective action in case of deviation. In practice, it is probable that one of these two mechanisms can be more readily put in place than the other. Accordingly, we also discuss some of their potential limitations. Nevertheless, it is noteworthy that such an involvement of the state would not be unprecedented. For example, the US Treasury monitored and indirectly set CEO pay at several companies, including GM, AIG, and Ally Financial, following the 2007–2008 financial crisis.

We draw from the principal-agent literature to propose a stylized model of conflicts of interests and incentives in the banking sector. Our model builds on Edmans, Gabaix, and Landier (2009) (henceforth EGL) and John and John (1993). This enables us to take into account heterogeneity in talent across CEOs and effort incentives as in EGL, but also bank leverage and risk-taking incentives as in John and John (1993) and John et al. (2000). We assume that the CEO of a bank has some private information on the investment opportunity set of the bank. He must decide whether the bank will pursue a safe strategy or a risky strategy, and whether he will exert effort in the latter case. The bank may fail if and only if it opts for a risky strategy. However, we do not assume that a risky strategy is necessarily socially suboptimal, nor do we assume that it is necessarily the preferred choice of shareholders. We derive the CEO incentive package that a hypothetical benevolent regulator would set, and the one that the shareholders of the bank would set. To the extent that bank depositors and creditors benefit from some *partial* public guarantees (we do not assume that bank depositors and creditors are fully insulated from losses), we show that the investment policy preferred by shareholders differs from the one preferred by the benevolent regulator. In this case, we show that the CEO compensation contract designed by shareholders induces excessive risk-taking. Furthermore, we show that it is the *structure* of CEO incentive pay that determines the investment policy followed by the CEO, but that neither the level of CEO pay nor the pay-performance sensitivity directly matter in that respect. In particular, the compensation contract designed by shareholders bases CEO pay on the equity value of the bank.

Our analysis emphasizes that measures of pay-performance-sensitivity do not allow to assess CEO risk-taking incentives. These metrics measure the power of incentives. This is the relevant measure of alignment of interests between the CEO and shareholders in the context of effort incentives (which address perk consumption, shirking, the extraction of private benefits, etc.). If, instead, the problem is to determine whether the risk-taking incentives of the CEO are aligned with the shareholders' or with a hypothetical benevolent regulator's, then it is the structure of incentives which matters, not their power (see also Edmans and Gabaix, 2011a). Indeed, in our model, risk-taking incentives are affected by the functional form which relates CEO pay to firm performance – for example, the form of the contract can be linear, option-based, etc. However, risk-taking incentives are not affected by the level of pay-performance sensitivity of the contract if the "principal" (whether the hypothetical benevolent regulator or the shareholders) can design the contract without constraints. This distinction may help explain why some studies (Houston and James, 1995; John and Qian, 2003) find that bank CEOs have lowered-powered incentives than CEOs in other industries.

In this setting, we study two mechanisms which have recently been discussed by regulators, politicians and commentators in the context of banking regulation (see Bebchuk et al., 2010 for references), but which have received remarkably little attention from financial economists. Accordingly, we extend our baseline model in two directions. First, we let the regulator impose some constraints on the compensation of bank CEOs. Second, we let the regulator punish the CEOs of failed banks.

We emphasize that the regulator could regulate the *structure* of CEO compensation but let shareholders optimally set both the level and pay-performance sensitivity of CEO pay, as long as the latter is above a mandated minimum level. More specifically, the regulator could mandate that the value of bank assets be used as a compensation basis (instead of the value of bank equity) and that CEO compensation be linear as a function of this performance measure (otherwise shareholders could simply give equity to the CEO, in the form of call options on bank assets). In this case, we show that shareholders would optimally give the CEO the first-best optimal contract. Besides, they could freely adjust the level of pay and the pay-performance sensitivity to attract and retain a talented CEO and provide more effort incentives than the mandated minimum level, respectively. An appealing feature of this mechanism is that it is largely robust to modeling assumptions and parameter uncertainty.

If the regulator regulates the structure of CEO incentive pay, it is important that it also sets a minimum level of pay-performance sensitivity. Indeed, without such a requirement, we show that shareholders might optimally give a contract with a pay-performance sensitivity below the first-best level. The reason is that this discourages CEO effort, which diminishes the equity value of the bank, but this also encourages the CEO to invest in the risky project (and enjoy the private benefits of low effort) for more

Expecting a bailout, the depositors, creditors and counterparties of a bank do not charge the interest rate corresponding to the likelihood of default and the expected loss given default, nor do they have the incentives to monitor the bank. It follows that shareholders may pursue a risky strategy *and* obtain cheap funding by issuing debt at a low yield. These effects have already been studied in the banking literature, which stresses that banks that expect to be bailed-out in case of failure tend to take excessive risks (Merton, 1977; Kareken and Wallace, 1978; John et al., 1991; see also Bhattacharya and Thakor (1993), section 6, for a review of the literature). Other aggravating factors include the fact that it is now relatively easy for a bank to increase the riskiness of its activities, and that the debt-to-equity ratio in the banking sector is very high, usually over 10. This said, public guarantees do not extend fully to all bank debt – which we acknowledge in our model. For example, Flannery and Sorescu (1996) show that the yields of debentures issued by banks are sensitive to bank-specific risks, which leads Lang and Robertson (2002) to advocate that it be mandatory for banks to issue subordinated debt.

[5] As emphasized in Acharya (2009), the risk shifting problem will be more severe if a bank failure negatively affects other banks, which gives rise to "systemic risk-shifting."