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Board composition and operational risk events of financial institutions

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ABSTRACT

We investigate the relation between board composition and operational risk events of financial institutions in the period from 1996 to 2010. Drawing from corporate governance literature, we consider the impact of board characteristics on the likelihood of operational risk events. Overall, our findings suggest that board size is negatively and non-linearly associated with the possibility of operational risk events. For the event types of "Clients, Products, and Business Practices," and "Internal Fraud and External Fraud," firms with a higher proportion of independent directors are less likely to suffer from fraud or failure to comply with professional obligations to clients. Our results on age and tenure heterogeneity also indicate that having a more diverse board can have an adverse impact on the board monitoring function. These results can shed new light on board demographics and operational risk management in financial institutions.

1. Introduction

Since the 1990s, major operational loss events have caused financial institutions and regulators to pay increasing attention to the development and improvement of managerial practices that could prevent or mitigate these emerging operational risks. Operational risks are those risks associated with failures related to internal processes, people, and/or systems, or the impact from external events. More specially, the Basel Committee on Banking Supervision (BCBS) classifies operational risk events into 7 plus 1 types: (1) Internal Fraud, (2) External Fraud, (3) Employment Practices and Workplace Safety, (4) Clients, Products, and Business Practices, (5) Damage to Physical Assets, (6) Business Disruption and System Failures, (7) Execution, Delivery, and Process Management, and (8) other non-BIS events.[1] Over the past decade, high-profile operational risk events include the rogue trading resulting in the 1995 bankruptcy of the Barings Bank, the financial losses of Allied Irish Bank in the early 2000s and Société Générale in 2008, the failure of Turquoise leading to the loss of trading volume in 2009, and the insider trading of NASDAQ's managing director between 2006 and 2009, to name a few. In the finance literature, studies have shown that while operational losses have an immediate impact on market performance (Cummins et al., 2006; Gillet et al., 2010), they also increase banks' risk exposures if the losses materialize over a period of time (Chernobai and Yildirim, 2008). In June 2011, recognizing the importance of operational risk, the BCBS issued a report which points out the imperative duty of the corporate board to ensure that an appropriate governance structure and culture is in place. The document states that "*sound operational risk senior management is a reflection of the effectiveness of the board and bank's management in administrating its portfolio of products, activities, processes, and systems*" (BCBS, 2011, p. 3). Within this particular context, this research attempts to investigate and address the relation between board composition and the occurrence of operational risk events.

Existing empirical research provides evidence that the corporate board is an important element in the governance structure of the organization (Beasley, 1996; de Andres and Vallelado, 2008). Economists argue that from the firm's agent-principal perspective, agency problems emerge when there is a divergence or conflict of interest between managers and stockholders. The board is designed to mediate agency conflicts, facilitate effective governance, and increase stockholders' share value. Thus, the board receives its powers from the shareholders and has the responsibility to oversee and monitor management action and ensure that a sound control environment is in place. An inadequate or failed control environment is a major contributing factor to significant operational losses, as indicated in the earlier examples. While the BCBS highlights the central role of the board in operational risk management, the document lacks specific guidance regarding board characteristics that might be relevant and essential to an organization's establishment of a strong control environment and risk culture.

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[1] See http://www.bis.org/bcbs/qis/oprdata.pdf for a detailed discussion of event types.

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Given that this is a relatively new research area, work on the determination of operational risk events from a corporate governance perspective remains very limited, with the notable exception of the study by Chernobai et al. (2011). Their study provided empirical evidence of the relation between the incidence of operational risk events and an environment of weak internal control among US financial institutions. Their pioneering work found internal control indicators such as internal control weaknesses (ICWs), G-index, and CEO compensation are highly connected to the frequency of operational risk events. However, to our knowledge, no one has conducted an empirical analysis to test the direct relation between the composition of the board of directors and the occurrence of operational risk events in corporations. Thus, the findings in this study are expected to have important implications for understanding operational risk management. First, this study can extend additional empirical support to the claims put forward by the BCBS and Chernobai et al. (2011) with respect to the role of the board in ensuring the soundness of operational risk management in financial institutions. Our findings can further strengthen the argument that operational risk management needs to be seen as the cornerstone of good corporate governance in firms. Second, this study attempts to analyze the effect of board characteristics on establishing, enhancing, and maintaining an effective governance structure for managing operational risk. The underpinning argument is that the board characteristics (size, proportion of independent directors, and age/tenure heterogeneity) might have implications regarding the ability of the board to monitor and offer support to management in the development and implementation of appropriate operational risk policies and standards. We anticipate that a board, which is more effective in overseeing and advising senior management, can implement and maintain a better governance structure which, in turn, helps reduce a firm's chances of experiencing potentially damaging operational risk events. In particular, the study's results can shed light on the relative importance of specific board composition characteristics as they pertain to operational risk management.

Our empirical analysis focuses on financial institutions and collects operational risk events from the FIRST database between 1996 and 2010. Given the 7 plus 1 different operational risk event types, in this study, we perform our test in two steps. First, we evaluate the association between board composition and the likelihood of operational risk events at the aggregate level. Second, we follow the Basel II classification of risk events and perform our analyses on categories that are more relevant to the board's decision-making, such as "Clients, Products, and Business Practices," and "Internal Fraud and External Fraud". Overall, we observe a U-shaped relation between board size and the likelihood of operational risk events aggregately or by event types. This finding was consistent with some studies indicating that the monitoring and controlling function grows stronger as the board size grows. However, our U-shaped finding further indicates that as the board grows beyond a certain size, the effectiveness of monitoring and decision-making quality starts to diminish. This finding also offers a complementary support to the earlier observation by Chernobai et al. (2011) that firms with operational risk events seem to have larger boards. With respect to the influence of independent directors, we observe that collectively there is no statistically significant relation between independent directors and the likelihood of operational risk events. Nonetheless, when we break down the operational risk event types, our results in the category of "Clients, Products, and Business Practices", and "Internal Fraud and External Fraud" indicate that firms with a higher proportion of independent directors have a lower likelihood of operational risk events. This finding is consistent with the prior literature that independent directors are imperative in overseeing and monitoring management, resulting in an environment of stronger internal controls (Fama and Jensen, 1983; Beasley, 1996; Chernobai et al., 2011).

Apart from board size and the proportion of independent directors, age and tenure heterogeneity are examined in this empirical investigation. The findings from the aggregate level demonstrate that age heterogeneity is positively related to the likelihood of operational risk events, but for the heterogeneity of tenure, the findings were not statistically significant. However, the heterogeneity of tenure has a significantly positive association with the likelihood of operational risk events when we focus on the event type "Clients, Products, and Business Practices". In the context of operational risk management, our results show that board diversity can lead to an increase in communication cost and impede board efficacy in evaluating the quality of operational risk measurements.

The organization of the paper is as follows. Section 2 describes the theoretical background on board composition and develops our hypotheses. Section 3 details the data collection process and methodological approach used for our study. Section 4 presents our empirical results both at the aggregate level and by different categories. Finally, we conclude with research implications in Section 5.

2. Board composition and hypothesis development

Corporate research discusses board composition as an internal governance mechanism to mitigate agency problems within the firm (Baysigner and Butler, 1985; Raheja, 2005; Carter et al., 2003). With the authority to select, dismiss, and reward important decision-makers in the organization, the board serves to monitor management actions in order to protect the corporation's value for its stockholders. Although various theories have been applied to discover the most significant board characteristics, there is yet no common agreement in the literature in this regard (Pathan and Skully, 2010). Of those characteristics that have been studied, we consider the following board characteristics to be the most relevant, widely adopted variables, and we classify them into two groups: (1) board size and independent directors and (2) heterogeneity of board member age and tenure.

Board size has been widely examined and discussed concerning its impact on firm performance (Eisenberg et al., 1998; Boone et al., 2007), financial fraud (Beasley, 1996), and the efficiency of decision-making (Dalton et al., 1999). No consensus has been reached on the relation between board size and firm performance. Dalton et al. (1999) suggest that support for a larger board is grounded in resource dependence theory. This theoretical viewpoint argues that the board is essential to acquiring external funding or accessing a wider spectrum of knowledge. Hence, a larger board can collectively help generate more external resources to improve firm performance. Nonetheless, not all studies show favorable results regarding larger boards (Goodstein et al., 1994; Firstenberg and Malkiel, 1994). The counter argument is that as board size grows, group communication likely becomes decreasingly effective because of social loafing and increasing conflicts. Such problems can lead to difficulties in achieving consensus and initiating strategic actions. Jensen (1993) argues that a smaller board is more effective in its controlling function, while a larger board tends to give control power to the CEO. Since operational risk management is a relatively new arena, top management can benefit from a larger board's greater knowledge pool. However, a larger board can reduce decision-making quality and hinder the organization's ability to determine an appropriate level of operational risk management. Thus, we expect a trade-off between the benefits of additional knowledge and the drawbacks of poor decision-making quality as board size grows. In our hypothesis, although we expect to see a negative association between board size and the likelihood of operational risk events, we expect the trade-off to be reflected in a nonlinear (U-shaped) relation between the two.

In addition to discussing board size, scholarly work has also highlighted the significance of independent directors in ensuring