



## The impact of bank ownership concentration on impaired loans and capital adequacy

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### ABSTRACT

This paper examines the impact of bank ownership concentration on two indicators of bank riskiness, namely banks' non-performing loans and capital adequacy. Using balance sheet information for around 500 commercial banks from more than 50 countries averaged over 2005–2007, we find that concentrated ownership (proxied by different levels of shareholding) significantly reduces a bank's non-performing loans ratio, conditional on supervisory control and shareholders protection rights. Furthermore, ownership concentration affects the capital adequacy ratio positively conditional on shareholder protection. At low levels of shareholder protection rights and supervisory control, ownership concentration reduces bank riskiness.

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### 1. Introduction

How does concentrated ownership affect bank riskiness? The corporate finance literature comes up with different answers to this question. According to [Berle and Means \(1933\)](#), dispersed ownership reduces the effective power of shareholders to control the management of the firm. Similarly, [Shleifer and Vishny \(1986\)](#) argue that ownership concentration enhances corporate control by improving the monitoring of management. With diffused ownership, shareholders have little incentives to monitor. With concentrated ownership, the cost of shirking will be mostly borne by large shareholders who therefore have a strong incentive to monitor the firm's management.

However, other studies suggest that ownership concentration may not reduce bank riskiness. For example, [Burkart et al. \(1997\)](#) argue that tight outside ownership constitutes an expropriation threat that reduces managerial initiatives and non-contractible investments. According to [Gomes and Novaes \(1999, 2005\)](#), large shareholders can have interests that are different from those of minority shareholders. Moreover, the bargaining problems due to

the presence of multiple controlling shareholders may prevent efficient decision-making. [Demsetz and Lehen \(1985\)](#) argue that in heavily regulated industries, such as the financial sector, regulation leads to more effective disciplining of managers. This, in turn, reduces the potential benefits of ownership control. Also [Elyasiani and Jia \(2008\)](#) pose that increased regulation can be a substitute for ownership monitoring.

In this paper, we test the traditional Berle-Means position that ownership concentration improves banking firm performance against the view that ownership concentration does not matter for banks' riskiness, using non-performing loans and capital adequacy as indicators of riskiness.<sup>1</sup> There are two important issues that have to be taken into account when testing these competing hypotheses in the context of the banking industry: the protection of minority shareholders and the protection of deposit holders.

If minority shareholders are hardly protected they may be unable to exert effective control over management ([Shleifer and Vishny, 1997](#)). [La Porta et al. \(1998\)](#) report that for non-financial

<sup>1</sup> Surprisingly, only few studies examine the effect of ownership concentration on bank riskiness. In a recent study, [Iannotta et al. \(2007\)](#) compare the performance and risk of a sample of 181 large banks from 15 European countries and report that ownership concentration is associated with better loan quality, lower asset risk, and lower insolvency risk.

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**Table 1**  
Data sources and expected signs.

Dependent variables	Expected sign		Data source
Impaired loans/gross loans			Bankscope
Risk-weighted capital adequacy			Bankscope
Explanatory variables	Impaired loans/gross loans ratio	Capital adequacy ratio	
Ownership concentration (OC)	Positive/negative	Positive/negative	Bankscope
Shareholder protection rights (SPR)	Negative	Positive	Djankov et al. (2008)
Supervisory control (SC)	Negative	Positive	Barth et al. (2001)
Cost/income (efficiency)	Positive	Positive/negative	Bankscope
Bank equity (size)	Negative	Positive	Bankscope
Activities restrictions	Positive	Positive/negative	Barth et al. (2001)
Loan growth	Negative	Positive	Bankscope
Bank concentration	Positive	Positive/negative	Beck et al. (2000)
Listed bank	Positive/negative	Positive/negative	Bankscope
GDP per capita	Negative	Positive	World development indicators of the World Bank

firms concentration of ownership is negatively related to investor protection. This is consistent with the hypothesis that small, diversified shareholders are unlikely to be important in countries that fail to protect their rights.<sup>2</sup> Therefore, we need to take shareholder protection rules into account in our empirical model.

In addition, we have to take an important difference between a non-financial firm and a banking firm into account. The difference being that banks have depositors and non-financial firms do not. Consequently, bank shareholders may collude with managers against deposit holders to extend high-risk loans, which may result in a high level of impaired loans and inadequate bank capital (Boyd et al., 1998). Additionally, Pathan (2009) argues that strong boards increase the bank's risk-appetite. To some extent, supervisory authorities act as the representative of deposit holders and safeguard their interests, while deposit insurance schemes protect the wealth of deposit holders. However, these deposit insurance schemes can reduce market discipline (Demirgüç-Kunt and Detragiache, 2002; Demirgüç-Kunt and Huizinga, 2004). Moral hazard problems may arise as bank managers and owners do not bear the full consequences of their actions. Consequently, supervisory agencies will want to keep a check on bank policies.<sup>3</sup> Therefore, we need to incorporate the role of supervisory agencies and deposit insurance regulation into our empirical model.

We analyze data for around 500 banks from more than 50 countries averaged over 2005–2007. We examine whether ownership concentration (i) improves risk-weighted capital adequacy ratios through better risk-taking policies by management, and (ii) decreases the impaired loans to gross loans ratio by reducing the potential moral hazard problem. We find that concentrated ownership significantly reduces a bank's non-performing loans ratio, conditional on supervisory control and shareholders protection rights. Furthermore, ownership concentration improves the capital adequacy ratio conditional on the extent of shareholder protection.<sup>4</sup>

There are two papers that are related to our study. Caprio et al. (2007) assess the impact of ownership structure of banks and shareholders protection laws on bank valuation using data on 244 banks in 44 countries. They find that ownership structure is

<sup>2</sup> Autore et al. (2009) report that firm value is positively associated with the strength of shareholder rights.

<sup>3</sup> Park and Peristiani (2007) analyze the moral hazard problem in the context of banking firms and examine whether bank shareholders have incentives to transfer wealth from the deposit insurer by pursuing riskier strategies. These authors argue that tighter capital rules and more rigorous supervision reduce moral hazard incentives in the banking system. See also Brockman and Yan (2009).

<sup>4</sup> Similarly, De Jong et al. (2008) argue that country-specific variables (like shareholder protection rights) directly and indirectly affect firm-specific variables. Their analysis refers to the leverage and capital structure of firms.

an important mechanism for governing banks as (i) larger cash-flow rights by the controlling owner boost valuation, and (ii) weak shareholders protection laws lower bank valuation. In contrast to Caprio et al. (2007), we focus on impaired loans and capital adequacy instead of the value of the bank. Furthermore, our data set is much broader.

The study that comes closest to the present paper is from Laeven and Levine (2008) who assess theories on the relationship between risk taking by banks, their ownership structures and national bank regulations. In line with our findings, these authors report that ownership concentration affects risk taking, conditional on shareholder protection rights and the supervisory environment. However, there are various important differences between both studies. First, Laeven and Levine (2008) only consider ownership stakes of 10% and 20%, whereas our results suggest that at higher levels of ownership concentration the results may be different. Second, these authors proxy bank risks by the so-called Z-score whereas we take the impaired loans ratio and the capital adequacy ratio as proxies for risk. Third, Laeven and Levine (2008) use data for some 300 banks whereas we have a much larger dataset. Finally, we follow Aiken and West (1991) in examining interaction effects and do not draw conclusions on the basis of the (in) significance of interaction terms.

The organization of the remainder of this paper is as follows. Section 2 describes our model, while Section 3 discusses the data. Section 4 reports the main estimation results and the outcomes of a sensitivity analysis. Finally, Section 5 offers the conclusions and discusses some implications of our findings.

## 2. The model

We use two dependent variables: the impaired loans to gross loans ratio and the capital adequacy ratio. Both variables may be considered as indicators of bank riskiness.<sup>5</sup> The impaired loans to gross loans ratio is a standard proxy for a bank's asset risk. The capital adequacy ratio plays a central role in the international bank solvency standards of the Basel Committee of the Bank for International Settlements (BIS) and is a proxy for bank capitalization. Demirgüç-Kunt et al. (2006) and Podpiera (2004) show that low capitalization implies that the bank is more risky.

Our explanatory variables are ownership concentration, a proxy for shareholder protection, a proxy for supervisory control, and various control variables that have been suggested in the literature. As argued in the previous section, shareholder protection and

<sup>5</sup> Both variables arguably compensate each other. A bank with a higher asset risk should have a higher capital ratio. However, if a bank's impaired loans ratio goes up and the bank does not respond by attracting new capital, the capital ratio will decline.

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