Ownership Concentration and Competition in Banking Markets

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Do restrictions on the ownership structure of banks limit competition? This question is relevant to more than 50 countries, including Canada, that either prohibit individuals and corporations from holding more than a given fraction of a bank's shares or require that large shareholders be reviewed by the government or by the central bank.[1]

While there are good prudential or governance rationales behind rules requiring dispersed shareholdings, these rules have their own drawbacks. For example, they may reduce access to cheaper capital and increase operating costs. This article focuses on the operational problems associated with shareholding restrictions. These problems arise in situations of potential conflict of interest between the different stakeholders of a firm. In this study, we model the conflict of interest that arises between bank shareholders and bank management, and ask whether restrictions on the ownership structure of banks can restrict competition. Since our work is not calibrated to the data of any particular country, and since we model only one potential cost to shareholding rules without modelling their benefits, we cannot directly evaluate any particular country's shareholding rule. We do, however, shed light on a potential cost of shareholding rules that might prove substantial for countries with less than perfectly competitive banking sectors.

There is a substantial literature on ownership concentration. While most empirical work in this area has examined non-bank firms, Caprio, Laeven, and Levine (2004) provide empirical evidence of a positive relationship between ownership concentration and value for a sample of 244 publicly traded banks across 44 countries.

There is some evidence of a positive relationship between control by blockholders (the owners of large blocks of shares) and firm performance in the United States. Barclay and Holderness (1989) and subsequent studies confirm that large blocks of shares trade at a premium, evidence of net private benefits from large block ownership. There is also some evidence that block formation and block trades are associated with excess stock price increases, suggesting shared benefits from such control (Mikkelson and Regassa 1991; Barclay and Holderness 1991, 1992). Hence, private benefits need not reduce the wealth of minority shareholders. Indeed, Holderness and Sheehan (1998) present evidence from the United States that large blockholders are constrained from expropriating cash flows and from other actions inimical to the interests of minority shareholders. Barclay and Holderness (1991) further find that this increase in firm value is limited if the blockholder does not exercise control (which they define to be actions such as changing the composition of the board or replacing the management).

All of the above studies deal with blocks held by external investors and not with managerial (inside) shareholdings. Morck, Shleifer, and Vishny (1988) find that firm value initially increases with small amounts of managerial ownership, decreases with managerial ownership for an intermediate range of shareholdings, and then increases again for very large managerial shareholdings. McConnell and Servaes (1990), on the other hand, find that firm value increases with managerial ownership up to 40 to 50 per cent and decreases thereafter.

Key Model Features

To formalize the operational problems associated with shareholding restrictions, we set up a game-theoretic model of two competing banks, in which bank managers choose the level of

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1. In Canada, neither individuals nor corporations may hold more than 20 per cent of the voting stock of banks with assets greater than $5 billion.

* This article summarizes Lai and Solomon (2006).

loan activity (quantities) and appropriate a fraction of the bank's residual cash flow for themselves (for example, in the consumption of benefits or perks). But either the bank manager or the controlling blockholder can choose the level of the bank's risky borrowing and, thus, the bank's capital structure.[2] To obtain control, the holder of a block of shares must engage in costly monitoring. Monitoring does not guarantee control, but it gives the blockholder the possibility of control. The more shares the blockholder owns, the more likely it is to win control. If there is no blockholder, or if the blockholder fails to obtain control, then the manager chooses the bank's capital structure. The timing of the game is as follows. First, the two potential blockholders simultaneously decide whether to acquire a controlling share of the bank and whether to monitor management. Next, either the manager or the controlling blockholder chooses the capital structure of their bank. The proceeds of any debt sold are distributed to equity holders, rather than being used to finance operations. Finally, the managers of the two banks compete in the market for loans, repay debt holders, and appropriate residual cash flow.

Results

There are three possible outcomes for the banking industry: (i) both banks are controlled by a blockholder, (ii) both banks are controlled by a manager, or (iii) one bank is controlled by a blockholder and the other by the manager. We find that controlling managers always issue less debt than controlling blockholders. As a result of their debt choices, banks controlled by managers extend fewer loans than those controlled by blockholders. Competition for loans is thus fiercest in an industry where both banks are controlled by blockholders and tamest in an industry where both banks are controlled by managers.

From a blockholder's perspective, issuing debt has two consequences. First, it "disciplines" a manager by reducing the amount of free cash flow from which the manager can appropriate. Second, it creates a strategic effect in the loans market vis-à-vis the other bank, as demonstrated by Brander and Lewis (1986). Specifically, holding fixed the amount of debt at the rival bank, a unilateral increase in one bank's debt induces that bank to extend more loans while inducing the other bank to extend fewer loans.[3]

Why would a manager whose bank has already increased the riskiness of its balance sheet by issuing debt become even more aggressive and expand the bank's loan portfolio? The key is that the bank has limited liability. In the presence of debt, extremely negative shocks give the bank a return of zero, while beneficial shocks give the bank a positive return, which actually increases as more loans are issued. Thus, the issuance of debt by one bank causes that bank's manager to compete more aggressively in the loans market relative to a market where neither bank issues debt. This raises the market share and profits of the indebted bank at the expense of the rival bank, since the issuance of debt makes the industry less profitable overall.

In a symmetric (Nash) equilibrium, where both banks issue debt, each bank's lending operations are less profitable than they would be were the two banks to function as a single (merged) entity. However, an increase in debt at both banks may increase the value of both banks. The commitment to repay debt implicitly transfers resources from the manager to the shareholders. Free cash flow has two uses: repayment of the debt and appropriation for the manager's private benefit. Larger debt repayments necessarily entail less appropriation, thus increasing the value of the bank. Moreover, the banking industry is more competitive than it would be if less debt were issued, and consumer welfare also increases as more debt is issued. Since managers issue less debt than blockholders, the presence of controlling blockholdings increases the value of banks, as well as competition in the loans market.

We find that a minimum size of shareholding is necessary to induce a blockholder to monitor. This is because the probability of winning control and, hence, the expected benefits of control, increase with the size of the block held, while the cost of monitoring is fixed. We also find that this minimum holding is larger for the blockholder facing a rival bank with its own blockholder

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2. We do not consider other regulatory constraints, such as minimum capital requirements, that banks face when making portfolio decisions.

3. This is a simple result of downward-sloping reaction functions arising from the Cournot game.

than it is for the blockholder facing a rival bank with dispersed ownership.[4]

We distinguish three classes of bank shareholding rules that restrict ownership concentration to a designated level: (i) non-restrictive—the maximum shareholding is such that a blockholder would monitor management even if the rival bank also had a blockholder, (ii) moderately restrictive—the maximum shareholding is such that a blockholder would monitor management if the rival bank did not have a blockholder but would not monitor if the rival bank had a blockholder, and (iii) highly restrictive—the maximum shareholding is such that a blockholder would never monitor management, regardless of the ownership structure of the rival bank.

When shareholding rules are non-restrictive, blockholders that subsequently monitor management form at both banks. When shareholding rules are moderately restrictive, blockholders form at both banks, but neither monitors management; hence, industry outcomes are the same as if both banks were widely held. Finally, when shareholding rules are highly restrictive, investors are dissuaded from acquiring blockholdings, and both banks have dispersed ownership.

Implications

Our analysis suggests that legal restrictions on the concentration of ownership can affect the value of bank shares, as well as competition in the loans market. Shareholding restrictions affect banking competition through the capital structure of the bank. Our model does not, however, consider regulatory capital requirements that may affect the decisions of either blockholders or managers regarding capital structure. Marginally relaxing the shareholding restriction will affect competition only in cases where the restriction has not prevented blockholding and monitoring from occurring. If ownership restrictions are severe enough to prevent blockholding or monitoring (even if blockholdings form), then a marginal increase in the maximum shareholding will, generally, not affect bank value or competition in the loans market. For a relaxation of restrictions on bank

shareholding to be beneficial, the increase in maximum shareholding may need to be substantial.

Our model also abstracts from other conflicts of interest between equity holders and debt holders (risk shifting) and between blockholders and minority shareholders (self-dealing). While the problem of risk shifting is particularly relevant to highly leveraged institutions, such as banks, capital requirements and positive franchise values mitigate the problem. Moreover, risk shifting is associated with leverage and not with ownership concentration.

Restrictions on bank shareholding date back to the 1960s in some countries. There have since been two important developments. First, corporate governance in the general corporate sector and in the banking sector improved significantly in the 1980s and 1990s. This included changes such as an increased emphasis on outside directors, new rules for electing boards, and more internal oversight. Second, since the implementation of Basel I in 1992, the supervision of banks has increased, particularly that of large, multinational banks. Taken together, these changes vastly reduce the scope for self-dealing by the holders of large blocks of shares. The prevention of self-dealing as a justification for limited concentration, while fairly valid in the 1960s, is, therefore, less important today in most industrialized countries. We believe that it is relevant to consider the potential costs of this regulation, and we have modelled one such cost.

In almost all of our simulations, a rule restricting ownership concentration to no more than 20 per cent leads to two outcomes.[5] In the first, blockholders never exist; in the second, blockholders exist but do not monitor and never gain control. Since we do not calibrate the model (this would require good estimates of the demand for loans, agency costs, and monitoring costs), it is difficult to say whether restricting ownership to 20 per cent is excessive. But our results indicate that restrictions on bank shareholding can discourage monitoring, thus reducing competitiveness in the loans market.

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4. This is the case for almost all of the parameterizations in our numerical examples.

5. The median and modal restriction among countries in the World Bank database (Barth, Caprio, and Levine 2001) is 20 per cent.

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