

The Effect of Blockholders on Bank Valuation

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Abstract

This paper examines the effect of blockholders on bank valuation. We use two measures of bank valuation, namely Tobin's Q and market to book ratio, and two measures of blockholders, namely number of blockholders and total ownership of all blockholders. Using a sample of publicly-traded bank holding companies in the U.S. from 1996 to 2001, we find a negative relationship between total ownership of all blockholders and bank valuation, but a positive relationship between number of blockholders and bank valuation.

Keywords: Blockholder, Concentrated Ownership, Bank Valuation.

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1. Introduction

One of the most important methods of corporate governance is concentrated ownership, which is a direct way to align the interests of management and shareholders, so concentrated ownership must be an essential factor to influence the value of firms. Previous literature indicates that generally there is a negative relationship between ownership concentration and firm value (Haw et al. 2010). These negative impacts may include lower firm value, poorer earning information credibility, lower stock returns, and weaker profitability (e.g. Claessens et al., 2002; Fan and Wong, 2002). For example, a recent research documents negative effect of concentrated ownership on banks, including poorer performance, greater return volatility, lower cost efficiency and higher insolvency risk (Haw et al, 2010). However several scholars hold a different view that concentrated ownership increases firm value, which put much weight on controlling shareholder's alleviation effect to the agency problem between managers and shareholders. More about previous literature concerning concentrated ownership to value of firms and banks in particular is discussed in section 2—Previous Literature.

This paper focuses specifically on the impact of concentrated ownership (blockholders) on value of banks because researches' discussions about role of blockholder ownership in merely banks are not sufficiently enough. Moreover, banks have additional features and problems affecting banks' governance, which gives reason to the separated investigation.

On the one hand, agency conflicts exist not only between managers and shareholders, but also between controlling shareholders and minority shareholders, and for banks, the conflicts can be more severe due to problems stemming from intrinsic properties of financial institutions (Busta et al., 2012). Firstly, banks with concentrated control usually have connections to business conglomerates, making banks an easy tool for tunneling, by adopting slack lending policies to the interest vested companies (Laeven, 2001). Secondly, opacity of bank assets, high leverage and the accordingly heavy regulation result in insider expropriation. Moreover, controlling owners may take excessive risk in decision making, due to moral hazard originating from the deposit insurance system, thus harming minority shareholders' interests (Pathan, 2009; Haw et al., 2010).

On the other hand, several features of banks make their corporate governance more complex than non-financial institutions. Firstly, banks are more highly leveraged than non-financial institutions, which give banks an incentive to shift risk. Secondly, banks opaqueness provides banks with opportunities to shift risk, thus increasing bank failure probability and systemic risk. Thirdly, a large fraction of bank's depositors are diffuse depositors. They may use deposit insurance to protect their assets, thus weakening the monitoring role of debt holders of banks. Maturity mismatch between bank's debts and assets increases liquidity risk, also contributing to depositors' needs for deposit insurance. In addition, as banks are large creditors to real economy, governance of bank may have substantial effect on real economy's capital allocation. Finally, deposit insurance that banks are exclusively subjected to and prudential regulations may alter the traditional channels of

banks' corporate governance. Due to above brief analysis, it is necessary to examine particularly the impact of ownership concentration to bank value. (Details are discussed in "What's different about banks" in the appendix.)

The empirical part of this paper makes use of a panel data set of publicly-traded bank holding companies in the U.S. from 1996 to 2001. The empirical model is a multiple linear regression model, with Tobin's Q and Market to Book Ratio to represent bank value, and two major explanatory variables—number of blockholders and total percentage of shares held by blockholders in a bank to represent blockholder ownership in a bank. The results show a negative effect of concentrated ownership on bank valuation, as indicated by the fact that the more total shares held by blockholders is, the less the value of bank would be. One possible explanation for this result could be that the presence of a large outside shareholder reduces managerial incentive to search for new investment projects. We also find that there is a positive relationship between number of blockholders and bank valuation, which may be explained by blockholder's impacts concerning "voice" and "exit" theory and the fact that multiple blockholders have a monitor function to the largest blockholder, thus preventing the largest shareholder from only concerning his private interest on the cost of the well-being of the bank and other shareholders. (Detailed discussion please see results and conclusion part.)

The remainder of this paper is organized as follows. Section 2 reviews the theoretical literature of blockholder and firm valuation. In section 3, data, variables and empirical model

are described. Section 4 reports and explains empirical results, then gives robustness checks.

Finally, section 5 gives conclusion.

2. Literature review

2.1 Dispersion of ownership and blockholder

During the past few decades researchers point out that the managers might have inadequate incentives to maximize a company's value as they are not the owners. Naturally, people realize that this may give rise to unexpected erosion in shareholder's interest. As a result, increasing attention to such agency issues, also referred to as a separation of ownership and control, can be found around 1930s.

A study by Berle and Means (1932) reveals that the company tends to be in small groups (e.g. between families and friends) where the owner is also the manager at the beginning of Industrial Revolution period. However, the ownership starts to diffuse with the rapid development of science and technology since it is hard for individuals or small groups to raise adequate fund to support such expansion. Berle and Means not only discuss separation of ownership and control, but also provide data analysis on the management ownership issue among a vast number of companies in US. They warn that this diffuse of ownership would threaten the existing economic order and how the conflict between shareholders and managers would happen. Two years later, a legal document is published and therefore, by

law the interest of diffuse stockholders is protected against the professional managers.

Since it has been said that the managers don't have adequate stake in the company, the function and benefit of large blockholders start to raise people's interest in the academic field. Researchers are eager to find out whether the existence of blockholder in a company's ownership structure would have impact on the firm value.

2.2 Theories that blockholders can increase firm value

2.2.1 "Voice" theory of blockholder

Hirschman (1970) first introduces two concepts of corporate governance that blockholders could adopt within the firm. The first one "voice" is for large shareholders to exert direct intervention to the firm, such as giving different investment plans, voting against others. The other one, "exit" (also known as "Wall Street Rule") is for large shareholders to sell shares against the chance that managers do harm to the firm value. Blockholders could improve the firm value through these two approaches of governance.

Shleifer and Vishny (1986) point out that blockholder would increase firm value by three approaches of intervention of investing strategy. The first method is to pay for the takeover of small shareholders and get majority control of the company. The paper shows that if the blockholder begins with higher value of initial stake, the restructuring gain would increase.

Small shareholders sell their shares for lower price because that they desire less restructuring gain. As a result, this lower cost of takeover would, on the other hand, benefits the blockholder's control. Second, the blockholder could impose his will by changing his favorite directors. In this way, the blockholder is likely to have better investing result which could offset the cost of changing directors and asking for votes from other investors. The third way involves informal negotiations with the company in the form of writing letters or emails, for example. Shleifer and Vishny then concluded that ownership concentration, to some extent, improves the management control and as a result, the existence of blockholder would increase the firm value.

Jarrell and Poulsen (1987) discover that managers can entrench themselves by using anti-takeover provisions instead of stock ownership. Among 551 sample data from US firms between 1979 and 1985, it is found that well-informed institutional owners have greater incentives to vote for their interest more consistently.

Besides the prevalent finding of more hard-working managers, there are other possible suggestions within the relationship between blockholder and firm value. One of these explanations is considered as reverse-causation problem. It lies in the fact that the blockholder himself accumulates more private profit through stronger control over the firm. This finding is revealed by Barclay and Holderness (1989). They first realize that the stock price of some companies with blockholders trades at premium. Then they explain it is because a number of such owners with large block have private benefits of corporate

governance. Two years later, they published their further study about the ownership. Barclay and Holderness (1991) adopt event study to show that blockholder ownership can achieve significant positive investment performance only when takeover or other restructure follows. They also confirm that the investors with acquisition of a large equity position have incentives to enlarge their size as time being and this may enhance the blockholder's impact on the company.

Huddart (1993) analyzes the benefits of large shareholders by concentrating share ownership. He states that blockholders can gain precise and expensive information about the manager's effect to make investment decisions and to modify the compensation contract. As blockholders have stronger incentives to monitor, better output would be met and this will enhance the firm value ultimately.

Similarly, Admati, Anat and Pfleiderer (1994) build a model to demonstrate that a blockholder would increase a company's profit by costly monitoring. In addition, the free-rider issue is discussed: most small shareholders incur no cost since they can enjoy the benefit provided by the large investors who are willing to intervene. Since this model only dealt with one large shareholder in a firm, they conclude that under the equilibrium in the model, all shareholders, big or small, passive or active, hold the market portfolio of risky asset. Otherwise, they argue that a potential loss can be met in risk-sharing when the concentrated ownership is diffuse.

Winton (1993) demonstrate that the concentration of the ownership, such as the size of blockholders, would have influence on the firm value. It is not hard to imagine that bigger size of the large shareholders has direct link to stronger incentive to intervene. Size matters with respect to the effect of “voice” in corporate governance.

The effectiveness of “voice” not only depends on block size as mentioned above, but also on liquidity. Holmstrom and Tirole (1993) explain that once a firm’s shares are traded in public, the stock price would mostly reflect the company’s performance. The degree of liquidity in the stock market determines the amount of information revealed from the stock price. As a result, the manager would have stronger incentives to enhance better performance of the firm. However, here it involves a cost that shareholders would need to pay for trading with new investors. In order to offset possible loss of money mentioned above, the shareholders are allowed to pay less to buy shares. As a whole, the trade-off improves the performance monitoring and promotes better managerial effort within the firm.

Based on previous study, Maug (1998) further investigates the trade-off issue between liquidity and governance when the large shareholders are monitors. His finding is based on the hypothesis that liquid stock markets allow investors giving up their equity shares more easily and it reduces the blockholder’s incentives to intervene. However, he point out that the more liquid a stock market, the easier to repurchase other shares for the large investors. Thus, when liquidity satisfies, the existence of a blockholder enables the governance more effective.

Faure-Grimaud and Gromb (2004) study the relation between public trading and the blockholder's private incentives who can influence the firm value. Since a blockholder is an "insider" who can make investment decisions to add value to a firm value. They discover that if a large shareholder liquidates his stake before the public awareness of his incentives to take part in adding-value activities, the blockholder would benefit from this behavior. The public trading information makes the blockholder's stake value more relevant to his incentives.

However, not all the blockholders expertize at giving investing strategy. Some may be good at analyzing historical data to evaluate a company's current value. In addition, the interference mentioned above is not always easy to undertake such as the takeover of small shareholders.

2.2.2 "Exit" theory of blockholder

When the blockholder fail to exert his governance through "voice", he may turn to "exit". From the perspective of blockholder trading and market efficiency, Edmans (2009) gives detail analysis about how the blockholders can encourage better investment decisions for long term. He argues that the blockholders have stronger incentives to enhance the fundamental value of the firm than other small shareholders. Based on "Wall Street Rule" trading on private information, the will of blockholders is inclined to represent the intrinsic value instead of the current stock price. Thus the existence of the blockholder would be beneficial to the firm in the long run.

Admati and Pfleiderer (2009) put it in a similar way: large shareholders can ease the contraction between managers and other shareholders by the threat of “exit” from private information. They develop a model to show that the threat of “exit” does decline the agency cost and it can impact managerial decisions successfully.

Similar to “voice” theory, the liquidity also exerts peculiar effect. Edmans (2009) demonstrates that blockholders tend to trade more aggressively with the private information. And it also allows them to sell more from the negative information. As a result, the blockholders gain larger initial shares. On the whole, liquidity enhance the manager’s incentives to pursue higher market value of the company.

2.3 Theories that blockholders can reduce firm value

On the other hand, some other researches take the position that the existence of a blockholder can reduce a firm’s market value. Shleifer and Vishny (1997) state that though blockholders with concentrated ownership may act very efficiently for their interest, they can be ineffective in redistributing wealth from other shareholders. They argue that managerial opportunism, either in the form of expropriation of the shareholders or of misallocation of the investment funds, reduces firm’s profit. They discuss the case that large, controlling owner can expropriate minority shareholders.

Bukart, Gromb, and Panunzi (1997) challenge the idea that the large outside shareholder is always advantageous to the firm by reducing managerial discretion. They reveal that the presence of large outside shareholder would reduce the managerial initiative and noncontractible investments. Their model implies that a negative relationship between blockholder ownership and firm valuation is possible.

Bhojraj and Sengupta (2003) discover that the company with larger institutional ownership or large stake shareholders would have lower bond yields and better debt rating. However, they argue that the controlling owners might focus on their own benefit without considering other small shareholders when they have stronger control over the firm.

Similar result is shown by Dyck and Zingales (2004) that blockholder can destroy the firm value by its over-control. Aghion and Tireole (1997) highlight the difference of formal and real authority: in the formal case, managers should be responsible for making investment decisions, but in the real world, it can be assigned to their subordinates; managers can miss out some expensive but real good deals under the excess pressure of blockholders.

Bolton and Von Thadden (1998), focusing on the liquidity issue, develop a simple model of ownership structure and compares benefits in the firm with different ownership concentration. They point out that the existence of a controlling block in a firm would destroy the company's market capitalization because this would limit the number of shareholders participating in the trading of the stock and therefore, poses a negative

influence on liquidity of the stock market. Dyck and Wruck (1998) reveal from their sample that some blockholders give permission to the managers to dilute the stock price from other small shareholders.

2.4 Single blockholder vs. multiple blockholders

Following the finding that the existence of blockholder adds value to the firm's market value, the theoretical papers cannot draw a conclusion to determine the number of blockholder which adds the best possible profit to a firm. (See an overview by Becht et al. (2003))

A number of empirical studies have been conducted on this issue. Kyle (1985) proposes seminal insider trading and builds a model to show that a single blockholder would limit his possible profit from the trade in order to hide his private information. Holden and Subrahmanyam (1992) then argue that multiple blockholders would trade more aggressively. La Porta et al (1999) attempt to identify the ultimate blockholder within large companies among 27 affluent countries. They reveal that only few of these corporations are widely held, which is different from Berle and Mean's finding of ownership structure. And thus, it is inappropriate to apply any empirical finding from one country to another. Holderness (2009) reviews this topic "The Myth of Diffuse Ownership in the United States" and points out that the case in US should not be made an exception among other countries which have similar corporate governance and blockholder structure.

Before Holderness (2009), there are indeed some empirical papers in favor of this point of view. Lehmann and Weigand (2000) use the data of 361 stock-market listed and unquoted companies in Germany over the period of 1991 and 1996. They find that controlling ownership by families would have a negative impact on the firm's return on assets and by contrast, the controlling ownership by banks or institutes would pose a positive effect on the firm value. They claim that the presence of a single blockholder is not linked directly to the profit of the firm but adding one more blockholder is shown to have obvious benefits to the firm. Faccio et al. (2001) reveals that the presence of multiple large share ownership in Europe would enlarge the company's dividend payout and the case in Asian is exactly the opposite. Gugler (2003) continues La Porta et al (2000) and Faccio et al. (2001)'s study, he also tests the dividend pay-out ratios for a panel of firms and find that the presence of one blockholder leads to significant lower pay-out ratios and the presence of multiple large shareholders would hinder such influence due to the fact that other investors with large shares would have a monitor function on the largest blockholder. Volpin (2002) use a sample of Italian companies and show that multiple blockholders enhance better market value of a firm than those with only one large shareholder.

Maury and Pajuste (2005) reveal that with one more equal size of votes among the large shareholders, it would pose a significant positive effect on the firm value from a sample of Finland public-traded listed firms. This finding is particular significant when the controlling shares are by families. They explain that families tend to have similar private benefits. Thus, they conclude that the identity of the controlling shares determines the relationship

between the multiple blockholders and the firm value. Andres (2008) makes a similar discovery that the controlling ownership by families perform better than other firm with other type of controlling ownership. They use a sample of 275 public-traded listed companies.

Busta et al. (2012) based on a sample of commercial banks among 17 wealthy countries between 1993 and 2005 and have different observation with La Porta et al. (1998). Their discovery remains the same about the negative effect between multiple blockholders and the bank value within Germany. However, it poses positive effect in Scandinavian countries. It is explained that these differences are due to the diverse shareholder protection policies between controlling holdings by families and institutional companies. For example, Germany has lower protection on shareholders and thus negative influence on the market value can be observed.

3. Sample, variables and model

3.1 Sample and variables

This paper makes use of a panel data set of publicly-traded bank holding companies in the U.S. from 1996 to 2001, obtained from banking research datasets of the Federal Reserve Bank of New York. We go to WRDS Database to download CRSP Monthly Stock File from 1996 to 2001, filtering to only leave December data. This is for calculating market value of equity for all the listed banks. For other variables in our model, we obtain year-end

accounting data from the Federal Reserve's Y-9C database.

Our sample consists of 370 observations of the listed banks from 1996-2001. As indicated by table 1, there are 55 to 68 banks per year from 1990 to 2006. The changes of number of annual sample size may be due to mergers and acquisitions, new entry, and failure during the sample period.

Table 2 reports the distribution of the number of blockholders across all the 370 bank-year observations. There are 240 observations in our sample that have 1 to 4 blockholders, which stands for relatively concentrated ownership, while there are 126 observations associated with no blockholder, which stands for diffused ownership. Thus, banks in our sample vary widely regarding the number of blockholders.

Table 3 gives brief definition of variables used in our model. Below is detailed explanation of the variables used.

Tobin's Q is primarily used as an indicator of bank value in our empirical analysis. As shown in table 3, Tobin's Q is calculated as the sum of the market value of equity plus the book value of total debt divided by the book value of total assets. It is designed to measure how much the present value of future cash flows comprises the replacement cost of tangible assets, which brings out one advantage of using q that there is no theoretical reason to account for risk or leverage when using q to compare firms (Laeven and Levine, 2007). However, there

are two concerns often brought up when using q to estimate bank value. First, banks are extremely highly leveraged. Second, when financial assets constitute a large fraction of bank's tangible assets, market value and replacement cost are identical for the large part of assets (Brook et al., 1998).

We follow Caprio et al. (2007) and use Market to Book ratio as an alternative way to measure bank valuation. It is the ratio of the market value of equity to the book value of equity. It is designed to compare what investors are willing to pay at present to a conservative measure of the value of the firm. Market value is determined in the stock market through its market capitalization. Book value is calculated by looking at the firm's historical cost, or accounting value.

Numblks and Sumblks, which represent number of blockholders and total fraction of shares held by blockholders, are used as major explanatory variables, indicating the degree of ownership concentration in a bank. The rest five variables: Size, Capital, Loans, Asset Diversity, and Deposits are control variables in our model.

Firstly, we control for bank size, calculated as the natural logarithm of total assets. We use natural logarithm of total operating income as an alternative to measure bank size in robustness check. Size is an important determinant of profitability. On the one hand, large banks may have economies of scale and scope, thus having higher profitability. Moreover, large banks are better diversified and hence tend to have lower firm specific risk and be

better able to invest in high-risk, high-return projects. On the other hand, it is possible for large banks to have diseconomies of scale and scope, therefore having lower profitability (Berger, Hanweck, and Humphrey, 1987). Based on above discussion, the relationship between bank size and bank valuation is indeterminate.

Capital ratio, defined as book value of equity divided by total assets, also affect the value of a bank, because firstly, capital could absorb loss against unexpected shocks, and secondly, shareholders have an incentive to reduce risk taking in decision making considering the capital they hold (Hellmann et al., 2000). Thus, we expect a positive relation between capital ratio and bank valuation.

We calculate Loan to Asset ratio by dividing the amount of loans by the amount of total earning assets. This ratio measures the composition of a bank's earning assets. Because the yields on bank loans are usually higher than those on investment securities, we expect a positive impact of loan to asset ratio on bank valuation.

We use Asset Diversity ratio to control for diversification of a bank. It is a measure of diversification across different types of assets, and calculated as follows:

$$1 - \left| \frac{\text{net loans} - \text{other earning assets}}{\text{total earning assets}} \right|$$

where other earning assets include securities and investments, total earning assets is the

sum of net loans and other earning assets. The value of asset diversity ranges from 0 to 1, the higher the value is, the more diversified the bank is.

Deposit to Asset ratio is a leverage ratio that defines the total amount of deposits (debt) relative to assets. The higher this ratio is, the higher the leverage. Higher leverage gives incentive for risk shifting: owners of the highly leveraged banks tend to take more risk once debt has been sold than the depositors expected when they bought the debt, which can increase banks' riskiness and the probability of bank failure, and bring about the threat of systemic risk. Based on the above analysis, we expect a negative relation between Deposit to Asset ratio and bank value.

3.2 Empirical model

To examine the relation between value of bank and ownership concentration, indicated by number of blockholders, and total percentage of shares held by blockholders, we estimate the following multiple linear regression model:

$$\begin{aligned} \text{Tobin's } Q_{i,t} = & \beta_0 + \beta_1 * \text{numblks}_{i,t} + \beta_2 * \text{sumblks}_{i,t} + \beta_3 * \text{size}_{i,t} + \beta_4 * \text{capital}_{i,t} \\ & + \beta_5 * \text{loans}_{i,t} + \beta_6 * \text{asset diversity}_{i,t} + \beta_7 * \text{deposits}_{i,t} + \theta_t + \varepsilon_{i,t} \end{aligned}$$

$$\begin{aligned}
& \text{Market} - \text{to} - \text{book}_{i,t} \\
& = \beta_0 + \beta_1 * \text{numblks}_{i,t} + \beta_2 * \text{sumblks}_{i,t} + \beta_3 * \text{size}_{i,t} + \beta_4 * \text{capital}_{i,t} \\
& + \beta_5 * \text{loans}_{i,t} + \beta_6 * \text{asset diversity}_{i,t} + \beta_7 * \text{deposits}_{i,t} + \theta_t + \varepsilon_{i,t}
\end{aligned}$$

where i denotes a bank in our sample, t denotes a year over the sample period, θ_t are year fixed effects, and $\varepsilon_{i,t}$ is the error term. *Tobin's Q* _{i,t} and *Market – to – book* _{i,t} are two ways of measuring the value of a bank. They represent values of publicly traded banks in our sample, and are used in two different equations to make the result rigorous.

In order to make the model sound, the year fixed effects θ_t are used to control for possible structural changes in the banking industry over time, or in other words, to control for some macro factors which would affect valuation of all the banks in our sample in a particular year. To ensure that our results are not driven by outliers, we winsorize both Tobin's Q and the market to book ratio at the 1% and 99%.

In robustness checks, we use an alternative measure of bank size, log (total operating income), to replace the original one: log (total assets). We also add two more control variables, Growth in Assets and Growth in Loans, to control for growth opportunities. And to control for mergers and acquisition, we exclude bank-year observations in which the total assets of the bank increases by more than 50% (as in Laeven and Levine, 2007).

4. Empirical results and robustness checks

4.1 Summary statistics and correlation matrix

Table 4 presents the summary statistics. The Tobin's Q and Market-to-book for an average public traded bank in our sample are 1.176 and 2.827 respectively. As two comparable bank valuation variables, they both have 370 observations and have some variation as indicated by the standard deviations of 0.296 and 1.359 respectively. The average Tobin's Q is slightly bigger than the one reported in Laeven (2007), which is 1.06. The number of blockholders for an average bank in the sample is 1.181. The banks with 2 blockholders lie in the upper quartile of our sample and the median of number of blockholders is 1. As also shown in Table 2, among 370 observations, 112 publicly-traded banks in our sample only have a single blockholder while 126 of them have no blockholders and others have multiple blockholders. The mean of percentage of shares held by all blockholders is 11.379 with a standard deviation of 13.830 which is relatively large. The average bank size is 16.967 and the average book value of capitalization is 0.091. The ratio of loans to total earning assets has a mean of 0.741 and this number is larger than the 0.66 in Laeven (2007). The asset diversity has a mean of 0.447, which is smaller than the 0.58 in Laeven (2007). Since the asset diversity takes value between zero and one, the bank with bigger value of asset diversity has more thorough diversification between lending and non-lending activities. The ratio of deposits to total assets has a mean of 0.694 and a standard deviation of 19.9%.

Table 5 presents the detailed pair-wise correlations among our variables and we have the following observations. First, the size of a bank is negatively correlated with the both the number of blockholders and the percentage of shares held by all blockholders, implying that blockholders tend to hold smaller ownership at larger banks. It can be explained that it is difficult for any investors to hold a large ownership at a large bank. Second, the number of blockholders is positively correlated with the book value capitalization of the bank (equity/assets) suggesting that the presence of multiple blockholder helps a bank to become well-capitalized. Third, the negative (although not significant) association between the number of blockholders and the ratio of loans to total earning assets suggests that the banks tend to engage in more diversified financial activities with one or more blockholders.

A number of correlations between other variables are worth noting. First, the size has a negative association with the book value capitalization of the bank (equity/assets). This is consistent with Demsetz and Strahan (1997)'s conclusion that larger banks are more likely to maintain lower capital ratios. Second, size is positively correlated with the ratio of loans to total earning assets. A possible reason lies on the fact that large banks tend to gather more subsidized funding easily. Third, the negative correlation between deposit and the size is expected. The reason lies on the fact that larger banks have the privilege to borrow more funds, such as commercial paper, while smaller banks tend to rely on deposit.

4.2 Regression results

Table 6 reports regression results with dependant variables Tobin's Q and the ratio of market value of equity to book value of equity respectively. As shown in the table, in these two regression models, the coefficients on the number of blockholders and the capitalizations are positive and significant while the coefficients on the percentage of shares held by all blockholders, the bank size, the ratio of loans to total earning assets, asset diversity and the ratio of deposits to total assets are negative and significant.

The coefficient on the number of blockholders is positive and significant suggesting that the presence of more blockholders would enhance the firm value. Possible explanations could have been told by Hirschman (1970) that blockholders can exert direct intervention to the firm in order to enhance better investment project ("voice " theory) or they can sell shares in case that managers would harm the firm value ("exit" theory). This empirical result is consistent with previous papers of Lehmann and Weigand (2000) with a sample of 361 stock-market unquoted companies in Germany between 1991 and 1996, Faccio et al. (2001) with a sample of firms from Europe, Volpin (2002) with a sample of Italian companies and Busta et al. (2012) with a sample of commercial banks over 17 wealthy countries between 1993 and 2005.

Second, the coefficient on percentage of shares held by all blockholders is negative and significant, which suggests that the more shares owned by the large investors, the lower

value of the firm would occur. This can be explained by Burkart et al. (1997) that larger percentage of ownership by a blockholder can kill managerial incentives to search for new investment opportunities.

Third, both Tobin's Q and the ratio of market value of equity to book value of equity are negatively correlated with the bank's size. As widely acknowledged that size may have certain influence on the company's performance and valuation, we discover that larger bank size would lead to lower market value of the bank itself, which is similar to Demsetz and Strahan (1997)'s observation that larger banks bear riskier lending activities due to its better diversified advantage however it may lower its firm value at the same time. This finding differs from Laeven (2007), who reveals that bigger banks would have higher value.

Fourth, the positive and significant coefficient on the book value capitalization of the bank (equity/ assets) confirms that a well-capitalized bank may lower their incentives to get involved in superlative risk-taking activities (Laeven, 2007).

The negative (although not significant) coefficient on the loans / total earning assets indicates that banks with more traditional fundamental activities, such as activities specialized with making loans, would have lower valuation. The negative coefficient on asset diversity variable further confirms the conclusion of Laeven (2007) that the specialization of the bank has profound influence on the valuation. In addition, the ratio of deposits to total assets has a negative association with the bank valuation, suggesting that banks with higher

percentage of deposits would have lower market value.

4.3 Robustness checks

To gauge the robustness of our results, we run several additional tests. The results are reported in Table 7. First, in Regression (1), we obtain similar result as the original regression model, except that this regression adopts an alternative measure of size, the log of total operating income. Second, we control for the past performance of the bank by including the growth in total assets and growth in loans respectively in Regression (2) and (3). We find that even if we include the growth rate in assets and in loans respectively, the results still show that the number of blockholders has positive and significant influence on the bank valuation while the percentages of shares of blockholders has negative and significant effect. In Regression (2) and (3), the impact of other control variables remains the same as the original regression model. Next, in the fourth regression model we leave out the observations where the asset of a bank grows by more than 50% within a year. Our main results continue to hold. All the regressions above, we include both the number of blockholders and the total ownership of all blockholders as indicators of blockholder. If we remain the same control variables and only include the number of blockholder or the total ownership of all blockholders in the regression respectively, the result is no longer statistically significant. This may further confirm Edman and Manso (2011)'s finding that both blockholder variables affect the valuation as a whole and it is important to include both of them in the regression model.

5. Conclusion

Since the Financial Crisis of 2007-2009, investors have been searching every possible approach to improve bank valuation. One important question is whether blockholder ownership helps. Our findings shed some light on this question. This paper identifies how blockholders affect the bank valuation with a sample of US publicly-traded banks between 1996 and 2001. We employ a number of control variables that may affect the valuation, such as bank's size, asset diversity, ratio of loans to total earning assets, and the ratio of deposits to total assets. Through a series of robustness checks, we observe a positive correlation between the number of blockholders and the bank value. Some explanations of this result are as followed: multiple blockholders tend to trade aggressively, which helps the bank raise money from the financial activities (Subrahmanyam, 1992); the presence of multiple large shareholders would have a monitor function on the largest blockholder, which could prevent the largest shareholder from only concerning his private interest (Gugler, 2003); multiple blockholders strengthen the discipline of managers through competitive trading which would promote higher managerial effect in the firm (Edmans and Manso, 2011). We also find that higher percentage of shares held by all blockholders would reduce the bank value. A possible explanation is by Burkart et al. (1997) that larger percentage of ownership by a blockholder can do harm to managerial incentives to search for new investment opportunities.

Appendix: What's different about banks

This paper focuses on the impact of concentrated ownership on valuation of banks rather than firms in other industries. We do so because banks are different from firms in other industries in at least six aspects (Laeven, 2013). Thus corporate governance in banks is more complicated than in nonfinancial firms.

The six aspects that make banks different from nonfinancial firms are:

1. Banks have much higher leverage ratio.
2. Loan quality makes banks more opaque.
3. Banks have diffuse debt (depositors).
4. There is maturity mismatch between banks' assets and liabilities.
5. Banks are large creditors to the real economy.
6. Banks are systemically important and heavily regulated.

Firstly, banks have much higher leverage ratio, which is approximately 10, than most nonfinancial firms. Flannery (1994) documents in his paper that, in nonfinancial firms, the average leverage ratio is approximately 1 at the end of 1990. Because it is creditors who bear more of the downside risk in case of leverage, higher leverage induces more risk-taking. Also, high leverage induces bank owner's risk-shifting behavior: owners of the highly leveraged banks tend to take more risk once debt has been sold than the depositors expected when they bought the debt, which, with no doubt, increases the riskiness of the bank. Moreover, as banks tend to conceal their incentive of risk-shifting behavior, it is harder to identify banks' risk level. One particular regulatory instrument to prevent banks from taking excessive leverage is capital requirements. However, in some circumstances, banks are able to circumvent leverage rules through regulatory arbitrage. Also, minimum capital requirements are doubted to be set too low (e.g., Admati et al., 2010). To conclude, the implication of high leverage increases the bank failure probability and the threat of systemic risk, which makes the governance of banking industry more complex than nonfinancial firms.

Secondly, due to large informational asymmetries of loan quality, banks are judged to be more opaque than firms in other industries. On the one hand, opaqueness adds to banks' riskiness. Only banks themselves possess detailed information about their borrowers' credit condition and banks' degree of monitoring borrowers' credit. Given this information asymmetries of banks' loan quality, banks can decide by themselves how much idiosyncratic risk to take in their loan portfolios without informing their creditors. So the easiness of outsiders' judgment of the riskiness of a bank's portfolio is mostly depend on banks' own strategy towards loan portfolio.

On the other hand, this opaqueness of banks' asset quality provides opportunity to bank owners' risk-shifting behavior. At the same time, the feature of high leverage gives banks incentives to shift risk. The resulting risk-shifting behavior not only conflicts with interests of banks' debt holders but also harms the benefits of shareholders. Bank managers may gain private benefits from risk-shifting behavior. Such private benefits may include empire-building considerations (Jensen, 1986), short-term gains associated with executive compensation contracts, fraud and outright looting (Akerlof & Romer, 1993), and lending to related parties (Laeven, 2001; La Porta, López-de-Silanes and Zamarripa, 2003).

However, opaque asset quality is not unique to the banking industry. R&D-intensive industries can also be opaque. Take pharmaceutical industry as an example, it requires substantial investments to develop a new product, and these investments should withstand highly uncertain outcome and long gestation period, which presents the opaqueness about

the input and return of this industry. Nonetheless, the opaqueness of banks is still different from nonfinancial firms, because as mentioned above, by the combination of high leverage and opaque asset quality, banks has both the opportunity and strong incentives to take excessive risk. Further, trading activities of banks may also contribute to banks' opaqueness. Trading activities in financial system including complex financial instruments are harder to measure and verify. Associated risk profiles and trading positions can be easily changed in real time, thus additional risk is created, harder to measure than nonfinancial firms.

Thirdly, the debts of a bank contain a large fraction of deposits taken from numerous diffuse depositors. Generally, these diffuse deposits are from household savings, which could not bear much risk. So these risk-averse debt holders would seek deposit insurance to protect their deposits when their assets seem to be confronted with probable risk, i.e. liquidity risk.

Fourthly, maturity mismatch is also a specific feature of banks. Usually, a large part of debts sold by banks are short-term, while their assets tend to be longer term. Diamond and Dybvig (1983) argue that such debt-asset maturity mismatch increases banks' liquidity risk and bank runs.

Together, the risk concern of diffuse depositors and liquidity risk created by banks' debt-asset mismatch give the rationale for deposit insurance. Small depositors who exert deposit insurance can impair the monitoring incentive of creditors to banks, thus weaken the monitoring role in contrast to nonfinancial firms. In turn, weak corporate governance can

lead to poor liquidity risk management, increasing the probability for financial fragility. For example, as documented by Diamond and Rajan (2012), banks may make excessive liquidity commitments to creditors to finance illiquid assets when facing fierce competition.

The fifth feature of banks is that they are large creditors to the real economy. For example, banks play the roles of major investors in countries such as Germany and Japan, therefore they have major incentive and responsibility to conduct corporate governance to the broader economy. Based on this, corporate governance of banks can have extensive influence on the real economy. If banks play poor corporate governance themselves, it is unlikely that banks would promote sound corporate governance in the firms they have partial ownerships in, which, in a broader sense, means allocation of capital will not be optimized.

What really makes banks distinguished from other companies is the sixth feature: banks are subject to deposit insurance and heavy regulation, for example: ownership, capital requirement, and activity and entry restrictions. Deposit insurance and financial regulations can negatively affect the traditional governance mechanisms of banks.

Depositor insurance, in need by diffuse depositors to protect their assets, can damage the incentives of depositors to monitor banks and displace market discipline, potentially impeding corporate governance. Further, although deposit insurance is effective in preventing bank runs, aiming at banks that transform short-term debts into long-term claims, the moral hazard stemming from it gives managers and shareholders an incentive to take

excessive risks, thus displacing market discipline to some extent. As Macey and O'Hara (2003) point out, the moral hazard comes this way: Deposit insurance allows banks to shift risks and associated losses to other banks, and possibly it could be taxpayers who pay off debts of failed banks at last. Also, the fact that underpriced deposit insurance premiums are unrelated to an individual bank's contribution to systemic risk adds to the motivation of managers and shareholders' risk shifting.

Because of the displacement of market discipline caused by the presence of deposit insurance, prudential regulations take place to monitor the behavior of managers and shareholders of banks, originally intended to safeguard financial stability (Bhattacharya, Boot and Thakor, 1998). However, the prudential regulations may create new distortions and bring negative influence to financial stability, and as for banks, the ability of investors' control may be weakened and bank valuation could be reduced (Laeven and Levine, 2009). To extend, natural forms of bank governance may be prevented and traditional governance channels may turn ineffective because of restrictions imposed by prudential regulations. For example, the takeover restrictions and activity restrictions from prudential regulations may cause the market for corporate control being less effective.

In conclusion, high leverage gives incentive for risk-shifting, while opaqueness provide opportunities to shift risk, together adding to banks' riskiness and increasing the bank failure probability and the threat of systemic risk. Moreover, maturity mismatch increases banks' liquidity risk and bank runs, and the resulting behavior of exerting deposit insurance by

diffuse depositors would weaken the monitoring role of debt holders of banks. In addition, deposit insurance and prudential regulations alter the traditional channels of banks' corporate governance. All above increase the complexity and uniqueness of banks' governance. And this gives reason to the significance of our research in the impact of concentrated ownership, as one of the most effective bank governance mechanisms, on valuation of banks in particular.

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Tables

Table 1

Number of banks in our sample by year

Year	Number of banks
1996	58
1997	55
1998	62
1999	61
2000	68
2001	66

Table 2

Number of blockholders

Number of blockholders	Frequency
0	126
1	112
2	94
3	21
4	13
5	2
6	2

Table 3

Definition of variables

Variable	Definition
Tobin's Q	(market value of equity + book value of liabilities) / book value of assets
Market-to-book	market value of equity / book value of equity
Numblks	number of all blockholders
Sumblks	percentage of shares held by all blockholders
Size	Log(total assets)
Capital	equity / total assets
Loans	loans / total earning assets
Asset diversity	$1 - \left \frac{\text{net loans} - \text{other earning assets}}{\text{total earning assets}} \right $
Deposits	deposits / total assets

Table 4

Summary statistics

	Obs.	Mean	Std. Dev.	25th	50th	75th
Dependent variables						
Tobin's Q	370	1.176	0.296	1.075	1.121	1.190
Market-to-book	370	2.827	1.359	1.939	2.445	3.319
Blockholder variables						
Numblks	370	1.181	1.153	0.000	1.000	2.000
Sumblks	370	11.379	13.830	0.000	7.710	14.660
Control variables						
Size	370	16.967	1.264	16.006	16.823	17.702
Capital	370	0.091	0.069	0.074	0.082	0.093
Loans	369	0.741	0.133	0.709	0.760	0.814
Asset diversity	369	0.477	0.174	0.366	0.470	0.574
Deposits	370	0.694	0.199	0.639	0.735	0.830

Notes: Please see Table 2 for definition of variables.

Table 5

Correlation matrix

		(1)	(2)	(3)	(4)	(5)	(6)
(1)	Tobin's Q	1.0000					
(2)	Market-to-book	0.6945*	1.0000				
(3)	Numblks	0.1749*	0.1165	1.0000			
(4)	Sumblks	0.0984	-0.0083	0.7575*	1.0000		
(5)	Size	-0.2261*	-0.0591	-0.2274*	-0.2074*	1.0000	
(6)	Capital	0.8647*	0.3411*	0.1823*	0.1620*	-0.2908*	1.0000
(7)	Loans	-0.4294*	-0.1669*	-0.0402	-0.0557	0.2668*	-0.4615*
(8)	Asset diversity	-0.1860*	-0.1249	-0.0562	-0.0523	-0.2189*	-0.1915*
(9)	Deposits	-0.2454*	-0.1978*	0.0695	0.0632	-0.5721*	-0.1406*

		(7)	(8)	(9)
(7)	Loans	1.0000		
(8)	Asset diversity	-0.6375*	1.0000	
(9)	Deposits	0.2794*	0.0385	1.0000

Notes: This table reports the pair-wise correlations among variables in the sample. * indicates statistical significance at the 1% level. Please see Table 2 for definition of variables.

Table 6

Regression results

	(1)	(2)
	Tobin's Q	Market-to-book
Numblks	0.028*** (0.009)	0.282*** (0.084)
Sumblks	-0.003*** (0.001)	-0.025*** (0.007)
Size	-0.028** (0.013)	-0.158* (0.092)
Capital	3.302*** (0.619)	3.968* (2.350)
Loans	-0.143 (0.122)	-0.901 (1.457)
Asset diversity	-0.159* (0.081)	-1.177 (0.835)
Deposits	-0.271*** (0.083)	-1.482* (0.775)
Observations	369	369
R-squared	0.794	0.251

Notes: This table presents the main regression results. Both regressions also include year-fixed effects but their coefficients are not reported. Robust standard errors are reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Please see Table 2 for definition of variables.

Table 7

Robustness checks

	(1)	(2)	(3)	(4)
Numblks	0.031*** (0.009)	0.021** (0.008)	0.021** (0.008)	0.021** (0.009)
Sumblks	-0.003*** (0.001)	-0.002*** (0.001)	-0.002*** (0.001)	-0.002*** (0.001)
Size		-0.024*** (0.009)	-0.023*** (0.009)	-0.022** (0.010)
Log (total operating income)	-0.010 (0.011)			
Capital	3.408*** (0.605)	4.069*** (0.167)	4.079*** (0.157)	4.123*** (0.243)
Loans	-0.200 (0.123)	-0.048 (0.099)	-0.061 (0.100)	-0.030 (0.105)
Asset diversity	-0.157* (0.081)	-0.069 (0.073)	-0.072 (0.074)	-0.061 (0.075)
Deposits	-0.193** (0.078)	-0.302*** (0.064)	-0.305*** (0.064)	-0.304*** (0.069)

Growth in assets		0.055 (0.035)		
Growth in loans			0.052 (0.032)	
Observations	369	262	262	245
R-squared	0.789	0.878	0.878	0.736

Notes: This table presents additional regression results. In column (1), we use an alternative measure of bank size. In column (2) and (3), we include growth in assets and loans, respectively, to control for growth opportunities. In column (4), we exclude bank-year observations in which the bank grows its assets by more than 50% in that year. In all the regressions, the dependent variable is Tobin's Q. The results are qualitatively similar when the dependent variable is the ratio of the market value of equity to the book value equity. All regressions also include year-fixed effects but their coefficients are not reported. Robust standard errors are reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Please see Table 2 for definition of variables.