

# The impact of the manager–shareholder conflict on acquiring bank returns

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## Abstract

This paper examines whether shareholder value-maximizing corporate governance mechanisms assist in reducing the managerial incentive to enter value-destroying bank acquisitions. We find that diversifying bank acquisitions earn significantly negative announcement period abnormal returns (AR) for bidder banks whereas focusing acquisitions earn zero AR. We then find that corporate governance variables (such as CEO share and option ownership and a smaller board size) in the bidding bank are less effective in diversifying acquisitions than in focusing acquisitions. These results are robust to the inclusion of the usual control variables. © 2002 Elsevier Science B.V. All rights reserved.

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## 1. Introduction

Several empirical studies have documented a negative relation between firm performance and the level of diversification in a firm's lines of business in the 1980s (see

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for example, Morck et al., 1990; Lang and Stulz, 1994; John and Ofek, 1995). A possible argument for lower returns from firm-level diversification is the managerial agency argument that CEOs cannot operate unrelated lines of business as efficiently as single or related business segments. Companies therefore do not create value from firm-level diversification when investors can do so more cheaply through portfolio diversification in the financial markets. According to this agency view, value-destroying managerial activities (such as firm-level diversification) can be reduced by designing effective corporate governance mechanisms.

In the industrial firm literature, bidders' announcement period abnormal returns (AR) have been found to be positively related to insider share ownership in the year before the takeover (Lewellen et al., 1985; You et al., 1986). However, the CEO pay-performance studies (e.g., Jensen and Murphy, 1990a,b; Hall and Liebman, 1987) and the board of director literature (e.g., Jensen, 1993; Yermack, 1996) have found other corporate governance variables to have a statistically significant effect on firm value. In this paper, we examine a comprehensive set of corporate governance variables and find many of them to have a significant impact on bidder AR around the announcement of both diversifying and focusing bank acquisitions. We then examine whether these corporate governance mechanisms assist in reducing the managerial incentive to enter value-destroying bank acquisitions.

Our results suggest that acquisition announcements for diversifying acquisitions (geographic and activity diversification) produce significantly smaller AR for bidder banks than focusing acquisitions. Specifically, we find that bidder AR are significantly negative in interstate and activity diversifying bank acquisitions and are not significantly different from zero in intrastate and activity focusing bank acquisitions. Importantly we find a differential impact of corporate governance variables on diversifying versus focusing acquisitions. We find that corporate governance variables (such as CEO share and option ownership and a smaller board size) are less significant in diversifying acquisitions than in focusing acquisitions. This might help explain why diversifying acquisitions earn negative AR.

We look at diversification along two dimensions; geography and activity. Unlike other industries, the banking industry allows us to examine focusing and diversifying events that are easily observable to the external capital markets. Most previous studies have used SIC codes to classify whether mergers are diversifying or focusing. However, recent research has shown SIC codes to have significant classification issues. For example, Kahle and Wakling (1996) find significant differences between Compustat and Center for Research in Security Prices (CRSP) databases in 36% of the classifications at the two-digit level and nearly 80% at the four-digit level. They also find that these discrepancies are exacerbated among utilities, financial companies and conglomerates. Further, Scarfstein, 1999 shows that segments producing very related products can have very different two-digit SIC codes, as can companies that have vertical relationships (see also Matsusaka, 1993). For the banking industry SIC codes reflect regulatory structure (e.g., federal member bank or state non-member bank) rather than product lines. Thus, researchers cannot use SIC codes to determine activity diversification between two merging banks. Intrastate versus interstate bank acquisitions, however, is a transparent classification scheme to market

participants who after all generate the AR. Intrastate acquisitions (where both the bidder and target bank are headquartered in the same state) are focusing acquisitions and tend to concentrate the acquirer's existing market power or brand recognition and allow for greater cost efficiency. Interstate acquisitions (where the bidder extends its operations beyond the state in which it is headquartered by buying a bank whose headquarters are in another state) are diversifying acquisitions. A second observable measure of diversifying versus focusing acquisitions (which is not unique to the banking industry) is the correlation coefficient of daily stock returns for bidders and targets (Morck, 1990; DeLong, 2001). Historical stock return movements that are highly correlated indicate that the bidding and target banks are engaged in similar types of risk and therefore similar types of activities. A merger or acquisition of such banks is activity focusing. Low correlation coefficients of returns indicate that the two banks engage in different types of risks and therefore, activities. A merger or acquisition of such banks would be activity diversifying.

DeLong (1999, 2001) examines bank mergers that focus geographically and by activity and finds that these mergers create value upon announcement. Further, bank mergers that diversify either geographically or by activity do not create value. In this paper we extend DeLong's work by examining abnormal announcement period returns in bank acquisitions that focus operations (geographically or by activity) versus acquisitions that diversify, and relate these AR to a comprehensive set of corporate governance mechanisms that have been shown (in other contexts) to reduce the manager–shareholder conflict. Accordingly, we examine whether focusing/diversifying acquisitions might affect announcement period AR differentially, and how corporate governance mechanisms affect these AR. As Shleifer and Vishny (1988, p. 15) state: “In our interpretation of the acquisition process, non-value-maximizing behavior of bidders plays a central role. . . . before stressing the role of takeovers in eliminating non-value-maximizing behavior by managers of target companies, it is important to remember the managers of bidding firms. For them, the purchase of other companies at inflated prices may be the grandest deviation from value maximization.”

The remainder of the paper is organized as follows. In Section 2 we identify the different corporate governance mechanisms that have been suggested in the literature to reduce the manager–shareholder conflict. Sections 3 and 4 describe the control variables, data and methodology used. Our results are presented in Section 5. Finally, Section 6 concludes the paper.

## **2. Corporate governance mechanisms**

Current research on the principal-agent problem in the modern corporation has focused on the ability of corporate governance mechanisms to reduce the manager–shareholder conflict. The corporate governance mechanisms that have been examined (in other contexts) include the CEO's pay–performance sensitivity, board of director characteristics, the CEO's age and equity ownership by blockholders. We explain them in detail below.

### *2.1. CEO's pay–performance sensitivity*

The relation between managerial compensation and shareholder wealth has been well documented in the finance literature. For example, Jensen and Murphy (1990a) find that CEO wealth increases by \$3.25 per \$1000 increase in shareholder wealth. Jensen and Murphy (1990b) suggest that the level of pay alone is not important in resolving the agency issues between the CEO and the firm's shareholders. Rather, what is crucial is the strength of the pay–performance relationship. That is, in order to induce CEOs to maximize shareholder wealth, boards should construct compensation contracts that are performance or stock price oriented. In an interesting case study of nine bank mergers Calomiris and Karceski (1998) show that sometimes management does not act in the interests of shareholders. For example, Boulevard in Chicago underperformed its peers for many years before the merger based on any performance measure. Management created valuable golden parachutes for themselves two months before it was sold to First Bank, wherein their shareholders got only a small acquisition premium.

There are many mechanisms by which compensation policy can provide value-increasing incentives to improve a CEO's performance. These mechanisms can be classified into bonus and salary, stock options and performance-based dismissal actions.<sup>1</sup> Accordingly, we define one measure of CEO's incentive-based pay to include the ratio of the dollar value of stock options granted to the dollar value of a CEO's salary and bonus in the year before the merger announcement. This definition of incentive-compatible compensation implicitly assumes that the sensitivity of the value of options granted to shareholder wealth increases is much greater than the sensitivity of salary and bonus to increases in shareholder wealth. Both Jensen and Murphy (1990a) and Hubbard and Palia (1995a) find evidence supporting this.

Equity holdings in the bank can be bought by the CEO independent of the direct shares received in accordance with the compensation committee. Equity ownership aligns incentives between CEOs and their shareholders (Jensen and Murphy, 1990a,b; Palia, 2000; Brown and Maloney, 1998). This congruence of interests allows us to create a second definition of CEO compensation that relates pay to performance: the percentage of equity held by the CEO in the firm.<sup>2</sup>

Given that the actions of CEOs are based on their private information (and these agents are employed to manage the principal's company), a bank that better aligns the CEO's interests with shareholder interests through a higher pay–performance re-

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<sup>1</sup> Regarding performance-based dismissal actions, studies such as Coughlan and Schmidt (1985), Warner et al. (1988), Weisbach (1988), Jensen and Murphy (1990a) and Murphy and Zimmerman (1991) have found a negative relationship between net-of-market firm performance and the probability of managerial turnover. These findings suggest that managers are more likely to leave after bad years than after good years and are disciplined by the credible threat of dismissal. As this issue is not the focus of our study, we do not include the threat of dismissal in our definition of incentive-based pay.

<sup>2</sup> Given that CEO equity ownership is not completely under the direct control of the compensation committee, we include it separately.

relationship (either through shares or options owned) should see higher AR associated with an acquisition.

## 2.2. *Board of directors*

There is considerable disagreement in the finance literature regarding the effect of the composition of the board of directors (i.e., inside versus outside directors). Those who consider the board as an important element of corporate governance argue that boards dominated by outsiders are in a better position to monitor and control managers (Dunn, 1987). Outside directors are not only independent from the firm's managers, but also bring a greater breadth of experience to the firm (Firstenberg and Malkiel, 1980; Vance, 1983). Weisbach (1988), Byrd and Hickman (1991) and Bhagat et al. (1994) show that outside dominated boards are, in fact, more likely than inside-dominated boards to respond to poor performance by replacing the CEO. A number of studies have linked the proportion of outside directors to financial performance and shareholder wealth (Brickley et al., 1994; Byrd and Hickman, 1991; Subrahmanyam et al., 1997; Rosenstein and Wyatt, 1990). These studies consistently find stock returns to be superior when outside directors hold a significant percentage of board seats.

Critics of the current-day configuration of boards of directors argue that management compensation contracts and external forces in capital markets effectively monitor managers. Thus, these critics argue that there is no need for a board of directors, and particularly outside members to duplicate this monitoring process (Mace, 1986; Demsetz, 1985). Accordingly, Hermalin and Weisbach (1991) find no significant impact of the composition of the board on firm value. In some studies (e.g., Agrawal and Knoeber, 1995; Yermack, 1996; Bhagat and Black, 1996), a higher percentage of outsiders on the board has a significant negative impact on firm value. Given the conflicting evidence on board composition and firm value, we cannot, a priori, predict the sign of the relationship between board composition and AR at the announcement of a bank acquisition.

Previous research has suggested that the size of the board of directors has a statistically significant impact on firm value. Jensen (1993) suggests that small boards are more effective in monitoring a CEO's actions, as large boards have a greater emphasis on "politeness and courtesy" and are therefore easier for the CEO to control. Yermack (1996) finds an inverse relationship between board size and Tobin's Q in a sample of industrial companies, and concludes that large boards are less effective than small boards. Accordingly, we expect the size of the bidding bank's board to be inversely related to the announcement period AR.

## 2.3. *Age of CEO*

The age of the CEO may determine his/her effectiveness in managing the firm. Research suggests that top officials in the firm with little experience have limited effectiveness because it takes time to gain an adequate understanding of the company (Bacon and Brown, 1973; Alderfer, 1986). In fact, increased experience has been linked to resistance to paying greenmail (Kosnik, 1987, 1990) and to financial performance

(Brown and Maloney, 1998). These articles suggest that the older the bank's CEO, the greater the understanding of the bank and banking industry, and the greater the ability to negotiate successfully on behalf of the bank's shareholders during an acquisition.

#### 2.4. Equity ownership by blockholders

Shleifer and Vishny (1986) find that large shareholders (with large amounts of wealth at stake) may have a greater incentive to monitor managers than the board of directors who may have little wealth invested in the firm. McConnell and Servaes (1990) find evidence consistent with this hypothesis. Thus, the existence of large blockholders who actively monitor managers' actions would reduce the need for pay-performance based compensation contracts. However, Hubbard and Palia (1995b) find that block ownership of the bidders' common stock had no effect on announcement period AR for manufacturing industry acquisitions. Further, the inclusion of this variable did not change the impact of managerial ownership on AR.

It needs to be noted that optimal governance mechanisms can vary across firms and over time. For example, while Jensen and Murphy (1990b) assert that high pay-for-performance is good, others (e.g., Haubrich, 1994) have demonstrated that observed sensitivities are consistent with the basic principal-agent models. As another example, banks tend to have very large boards: directors often play an important role relative to manufacturing firms. Thus, while previous literature has documented general trends for the governance mechanisms, it is possible that optimal (value-maximizing) trends will vary for the banking industry over the period of time examined.

### 3. Control variables

#### 3.1. Diversifying versus focusing acquisitions

In this paper we examine diversifying versus focusing acquisitions in two ways: geographic diversification and activity diversification. Study of the banking industry allows for a unique opportunity in examining diversifying versus focusing acquisitions, and how the manager-shareholder conflict plays out. That is, unlike other industries, interstate versus intrastate bank acquisitions is a transparent geographic diversification classification scheme that allows market participants to observe the diversifying versus focusing nature of managerial decisions.<sup>3</sup> Interstate acquisitions

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<sup>3</sup> In a related paper, Liang and Rhoads (1988) look at the impact of geographic diversification on bank risk. They find that overall risk of banks is lower in geographically diversified banks. Houston et al. (1999) find that mergers that involve a high degree of geographic overlap result in substantial opportunities for cost savings and thus higher bank values relative to mergers that involve a low degree of overlap. Bodnar et al. (1998) examine international diversification. They find that the value of a firm with international operations is, on average, higher than that of a comparable single-activity domestic firm.

are diversifying in nature. The bidder extends its operations, allowing it to diversify away some of its overall risk, yet requiring the bank to devote additional resources beyond the state in which it is headquartered. Intrastate acquisitions, on the other hand, are focusing in nature. These acquisitions tend to concentrate the acquirer's existing market power or brand recognition and allow for greater cost efficiency.

Historically, most states did not allow acquisitions across state lines, and the McFadden Act of 1927 required national banks to conform to state branching restrictions. Over time, and in a piecemeal fashion, states legalized their restrictions on intrastate acquisitions; by 1990 all states allowed intrastate branching. Interstate banking, on the other hand, was initially legitimized in June 1985, with the Supreme Court ruling in *Northeast Bancorp v. Board of Governors* (105 S. Circuit 2545, 1985). Subsequently, many states passed interstate banking laws that allowed out of state banks to acquire their banks. However, most of these limited acquisitions to banks located in contiguous states. In 1994, Congress passed the Riegle–Neal Interstate Banking and Branching Efficiency Act that allowed nationwide banking via both interstate acquisition and branching. Riegle–Neal, therefore, legitimized full nationwide banking. (While the effective date was stated in the bill as June 1997, most states opened their doors to full interstate banking and branching shortly after Riegle–Neal was passed and many states were implementing nationwide banking before final passage.) Thus, while intrastate expansion was legal throughout the period analyzed in this study (1988–1995), only with the deliberation and passage of Riegle–Neal in 1994 was full interstate banking legitimized.

Carow and Heron (1998) examine events leading to the passage of Riegle–Neal. They find that across the seven events that led to the passage of Riegle–Neal, banks with an existing interstate presence experienced significant negative abnormal stock returns relative to banks without an existing interstate presence. They attribute this result to the more likely aggressive interstate policies of these banks; “. . . a bank's existing interstate presence is indicative of an increased propensity to engage in future acquisitions . . .”. They have established their presence through acquisitions and are less likely to themselves become a target. Examining AR associated with interstate and intrastate acquisition announcements, Sushka and Bendeck (1988) show that external bank acquisitions (in which the bidder has less knowledge of the target's operations, e.g., an interstate acquisition) produce negative AR and internal acquisitions (where the bidder is familiar with the operations of the target, e.g., an intrastate acquisition) produce normal announcement period returns.<sup>4</sup>

Activity diversification considers the degree to which the bidder and target banks are involved in related versus unrelated activities. Similar to Morck et al. (1990) and DeLong (2001), we use the correlation coefficient of stock returns between the bidder and target bank prior to the acquisition to distinguish activity diversification. When the target bank has business lines that are not common to those of the bidder (i.e., the

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<sup>4</sup> Some studies find that acquirers involved in interstate mergers earn insignificant AR (Cornett and Tehranian, 1992; Trifts and Scanlon, 1987), others find positive AR (Cornett and De, 1991a,b) and one study finds negative AR (Baradwaj et al., 1991). Intrastate mergers are examined in Cornett and Tehranian (1992) and Baradwaj et al. (1991) and are found to earn negative AR.

correlation coefficient of returns is low), the banks are engaged in different types of risk and therefore different types of activities. The acquisition is thus diversifying in nature. When the target and bidder banks are engaged in lines of business that are similar (i.e., the correlation coefficient of returns is high) the banks are engaged in similar types of risks and thus, activities before the acquisition. The acquisition is focusing in nature.

DeLong (1999, 2001) examines bank mergers according to whether they are focusing (where the two partners engage in similar activities) or diversifying (where the two partners engage in different activities). DeLong finds that focusing mergers produce positive abnormal announcement period returns while diversifying mergers earn negative AR. Using an alternate measure of activity diversification, Houston and Ryngaert (1994) find bank acquisitions in which operations of the bidder and target overlap experience significantly larger AR than bank acquisitions in which operations do not overlap.

In this paper we examine AR associated with diversifying versus focusing acquisitions. Further, we explore whether any AR associated with geographic and/or activity diversifying acquisitions are related to the corporate governance mechanisms in place prior to the acquisition.<sup>5</sup>

### 3.2. *Medium of payment*

Several hypotheses regarding a predictable relation between the medium of payment and bidder returns have been explicitly suggested in the existing literature: the bidder overvaluation hypothesis (Myers and Majluf, 1984; Krasker, 1986); the wealth distribution hypothesis (Galai and Masulis, 1976; Travlos, 1987); and the tax implications hypothesis (Hansen, 1987; Travlos, 1987). Each of these lead to the conclusion that acquisition announcement AR should be higher for cash than stock offers.

Alternatively, Jensen's (1986) free cash flow hypothesis argues that, rather than pay higher dividends to a firm's stockholders, insiders will often prefer to use cash to finance investment projects that expand firm size but simultaneously reduce firm value (when all positive net present value projects have been exhausted). The agency

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<sup>5</sup> Palia (1993) finds merger premiums (defined as the price paid to book value of the target bank) to be related to the separation of ownership and control in acquirer banks. He finds that merger premiums initially decline as managerial ownership increases, but as managerial ownership increases above 5.9% merger premiums are positively related to managerial ownership. Whereas Palia examines the accounting variable (price paid to book value of the target bank), this paper uses the bidder's stock price, or more specifically, the bidder's AR on the announcement of the merger. Subrahmanyam et al. (1997) examine AR to bank acquisitions. They find a negative relation between AR and the proportion of outside directors and a positive relation between AR and the number of outsiders on the board and outside board member stock ownership. Further, Edwards (1977) and Smirlock and Marshall (1983) have studied the effect of the manager-shareholder conflict in the context of excessive consumption of managerial "perquisites". They find that bank managers indulge in some form of expense-preference behavior (by maximizing staff expenditures for which managers have a positive reference) and do not profit maximize.

costs associated with the use of these free cash flows leads to the conclusion that cash financed acquisition announcement returns may be lower than stock financed announcement returns.

Specific to banking, Cornett and De (1991a,b) examine a sample of interstate bank mergers and find no statistically significant difference in the excess announcement period returns earned in mergers involving cash offers versus stock offers. However, Baradwaj et al. (1991) examine a sample of interstate and intra-state mergers and find that cash-financed mergers earned higher excess returns. Given the evidence on the difference between announcement period AR and the method of financing an acquisition, we control for this variable in our empirical tests.

### *3.3. Size of bidder bank*

CEO equity holdings in the firm are likely to be negatively related to firm size. To control for any possible impact that absolute bank size might have on CEO equity holdings, and thus on announcement period returns, we use the natural logarithm of the book value of total assets (in the year prior to the acquisition announcement) of the bidder bank as a control variable.

### *3.4. Capital*

Unlike other industries, regulation requires banks to keep a minimum amount of capital as collateral against risk-taking activities. Whereas the above agency conflict is between bank managers and their stockholders, the banking industry has a conflict between regulators and stockholders that arises due to federally provided deposit insurance. Since regulators are responsible for ensuring public confidence in the banking system as a whole, they want to ensure that banks be given incentives to maintain the institution's financial soundness. Capital standards are one way of providing these incentives. Given the ability of the bank to use excess capital to fund risky investments (such as acquisitions), we include the bank holding company's primary capital ratio (derived from FDIC Call Reports the year prior to the initial announcement) as a control variable.

It should be noted that the primary capital ratio used here is a book value-based ratio, while the abnormal return we evaluate is a market value-based number. Book values and market values can differ for banks due to many factors, particularly to credit risk from the banks' on- and off-balance-sheet assets. Specifically, a bank may resist writing down the value of bad assets as long as possible to try to present a more favorable picture of the bank's financial condition to stockholders, depositors and regulators. Effective in 1994 banks were required to hold capital based on new (credit) risk-based capital ratios and regulators must now take specific actions based on these risk-based ratios. Thus, under the new regulation capital ratios better (although not perfectly) reflect market values.

## 4. Data and methodology

### 4.1. Sample selection and statistics

The sample of bank acquisitions examined in this study covers the period 1988–1995. The initial list of completed bank acquisitions was obtained from the Federal Reserve Board of Governors. Initial announcement dates were identified by reviewing the Wall Street Journal Index (WSJ) and the LEXIS/NEXIS<sup>6</sup> database. We used the date on which the acquirer's bid was first announced in either source as the initial announcement or event date. A total of 474 bank acquisition announcement dates were initially identified. To be included in the sample, we required that the bidding bank involved in each acquisition be traded on the New York Stock Exchange (NYSE), the American Stock Exchange (ASE) or in the Over-the-Counter (OTC) market. Daily return data were collected from the CRSP data tapes. Fifteen observations were deleted from the initial sample because the bidding bank's common stock prices were not available on the CRSP tapes for the entire period of analysis. In order to avoid any bias from multiple acquisition bids we also eliminated 36 transactions in which the acquiring bank had more than one acquisition within a period of 135 trading days preceding the initial announcement date.

The final sample contains 423 acquisition announcements made by 177 bidding banks during the period 1988–1995. Table 1 lists the distribution of the sample of acquisitions by year of initial announcement, the number of intrastate (geographic focusing) versus interstate (geographic diversifying) acquisitions, activity focusing versus activity diversifying acquisitions, and cash financed versus stock financed acquisitions. As can be seen in Table 1, the majority of the sample comes from the last three years (1993–1995) of the eight-year period examined. The first five years in the sample period (1988–1992) were years in which the economy was recessionary and bank failures were numerous.<sup>7</sup> Those banks healthy enough to expand could do so through federal government assisted purchases of failed banks (often at prices below fair market value) rather than through the acquisition of another healthy bank. As a result, the number of acquisitions of non-failing banks was relatively small. In 1992, the economy recovered, interest rates fell sharply and bank profits began to soar. Additionally, interstate banking restrictions continued to fall. Along with increased profits, the search for cost cutting, and access to new markets came a dramatic increase in the number of bank acquisitions, particularly in 1994 and 1995 after the passage of the Riegle–Neal Interstate Banking and Branching Efficiency Act in 1994. Indeed, 62.2% of our sample comes from the period 1993–1995.

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<sup>6</sup> The LEXIS/NEXIS database contains full-text articles from several periodicals. We supplement our search of the WSJ with the LEXIS/NEXIS database to ensure that we have the first announcement of the acquisitions.

<sup>7</sup> For example, the number of bank failures during the 5 years 1988–1992 were 221, 207, 169, 127 and 122, respectively. The number of bank failures in 1993–1995, on the other hand, were 41, 13 and 6, respectively (see FDIC, Failed Bank Cost Study, 1996).

Table 1  
Distribution of bank acquisitions announced between 1988 and 1995

Year	Full sample	% of Full sample	Intrastate	Interstate	Activity focusing	Activity diversifying	Cash financed	Stock financed
1988	41	9.7	22	19	18	23	14	20
1989	31	7.3	17	14	15	16	12	14
1990	21	5.0	13	8	11	10	1	11
1991	27	6.4	16	11	15	12	11	8
1992	40	9.4	24	16	25	15	7	25
1993	78	18.4	41	37	42	36	14	42
1994	105	25.0	55	50	57	48	8	53
1995	80	18.8	39	41	28	51	9	53
Total	423	100.0	227	196	211	211	76	226

Acquisitions were provided by Federal Reserve Board of Governors. Announcement dates are either *Wall Street Journal* or LEXIS/NEXIS initial announcement dates. Information on interstate/intrastate and cash/stock financed acquisition was obtained from various press releases. Activity focusing (diversifying) acquisitions are those with preannouncement correlation coefficients of bidder and target returns greater (less) than the sample median, 0.386.

As mentioned earlier, previous research has found that announcement period AR for bank acquisitions differ for intrastate (geographic focusing) versus interstate (geographic diversifying) acquisitions and for cash versus stock financed acquisitions. Accordingly, we searched the LEXIS/NEXIS database to identify these statistics for the sample. We found that the sample consists of 227 intrastate and 196 interstate acquisitions. Also, 226 acquisitions were financed completely with stock, while 76 acquisitions were financed completely with cash. The difference is particularly large in the years 1992–1995, which coincides with the start of the tremendous stock market rise of the 1990s. Twenty-seven acquisitions involved a combination of cash and stock; information on the method of financing for the remaining 94 acquisitions was not identified.

Previous research has also found that activity diversification affects announcement period AR. One measure of activity diversification (used by Morck et al. (1990) and DeLong (2001)) utilizes the correlation coefficient of stock returns for the acquisition partners. Following Morck, Shleifer and Vishny, we calculate the correlation coefficient of daily stock returns for the bidder and target banks involved in bank acquisitions in the 120-day period from  $t = -136$  to  $t = -16$  days prior to the acquisition announcement. The sample's median correlation coefficient in pre-announcement returns of the bidder and target banks is 0.386. We classify acquisitions with a preannouncement correlation coefficient of bidder and target returns less than this median value ( $n = 211$ ) as activity diversifying acquisitions. Those with a correlation coefficient of returns greater than the median value ( $n = 211$ ) are classified as activity focusing. Table 1 reports this split of the sample by year of acquisition announcement.

Our two measures of diversification (geographic and activity) result in similar cuts of the sample. That is, the mean correlation coefficient in preannouncement returns of bidder and target banks for the intrastate acquisitions is 0.626, and for

the interstate acquisitions is  $-0.107$ . The difference in the correlation coefficients,  $0.733$ , is significant at the 1% level ( $t$ -statistic =  $3.97$ ).<sup>8</sup> Thus, the intrastate acquisitions appear to be combinations of firms that are also activity related, whereas the interstate acquisitions are not activity related.

To identify diversifying versus focusing acquisitions more strictly, we split the sample to include only those acquisitions that are diversifying according to both geographic and activity measures. Following DeLong (2001), we first separate the sample by geographic diversification (interstate versus intrastate acquisitions). We then analyze the groups separately, calculating the preannouncement correlation coefficient of bidder and target returns for each group. The correlation coefficients for the two groups are  $-0.024$  for the interstate acquisitions and  $0.548$  for intrastate acquisitions. Interstate acquisitions with correlation coefficients  $\leq -0.024$  ( $n = 98$ ) are then classified as diversifying by both measures. Intrastate acquisitions with correlation coefficients  $>0.548$  ( $n = 113$ ) are classified as focusing by both measures.

Table 2 presents descriptive statistics (mean, standard deviation, minimum and maximum) for the sample of 423 bank acquisitions. The values of the transactions are identified from the WSJ or LEXIS/NEXIS articles for 394 of the 423 acquisitions. Book values of assets for the bidders and targets are identified from LEXIS/NEXIS sources. The percentage of equity owned by the CEOs were identified for 420 of the transactions from proxy statements issued before the initial acquisition announcement and is defined as number of shares owned (outright or beneficially) by the CEO divided by the total shares outstanding at the beginning of the announcement year. CEO salaries, CEO bonuses, CEO ages, total number of directors on the board, percentage of outside directors on the board and percentage of equity owned by blockholders (shareholders with more than 5% ownership) are also taken from the proxy statements. Outside directors are defined as those directors having no affiliation with the firm other than their directorship (Baysinger and Butler, 1985; Byrd and Hickman, 1991).<sup>9</sup> Financial data required for option valuation were identified for 410 of the transactions from COMPUSTAT data tapes. Market value of equity is based on year-end prices just prior to the acquisition announcement. Finally, primary capital ratios are calculated for the bank holding companies of all 423 transactions using data from the FDIC Call Report tapes.

As shown in Table 2, the average value of the bank acquisitions is \$216.01 million. The mean book value of the acquiring banks is \$17,802.27 million and of the targets is \$1,292.53 million. The relative size of the target bank to bidder bank book values averages 7.26%. Although not reported in Table 2, the bidders and targets in interstate acquisitions are much larger than those in intrastate acquisitions. The mean asset value is \$24,795.57 million for interstate bidders and \$11,764.43 million for

<sup>8</sup> The median correlation coefficient in the preannouncement returns of bidder and target banks for intrastate acquisitions is  $0.548$  and for interstate acquisitions is  $-0.024$ .

<sup>9</sup> Specifically, outsiders are directors who are listed in proxy statements as managers in an unaffiliated non-financial firm, managers of an unaffiliated bank or insurance company, retired managers of another company, major non-manager blockholders in the firm, lawyers unaffiliated with the firm and academics unaffiliated with the firm. All other board members are classified as insiders.

Table 2  
Descriptive statistics for the sample of 423 bank acquisitions announced during the period 1988–1995

	Mean	Standard deviation	Minimum	Maximum	Number of observations
Value of transaction (millions of dollars)	216.01	806.57	1.50	10,600.00	394
Book value of assets (millions of dollars)					
Acquiring bank	17,802.27	29,106.48	34.00	215,475.00	423
Target bank	1,292.53	5,559.17	4.70	65,015.00	423
Percentage of equity owned by the CEO (CEOEQ)	1.25%	2.36%	0.01%	17.98%	420
Market value of options granted to the CEO to the total market value of equity (OPTEQ)	3.26%	4.02%	0.00%	32.13%	410
Market value of options granted to the CEO to the CEO's salary and bonus (OPTSB)	69.11%	82.14%	0.00%	473.64%	410
CEO's age (AGE)	53.15	6.12	35.0	67.0	420
Total number of directors on the board (TDR)	16.80	6.20	3.0	50.0	420
Percentage of outside directors on board (PEROUT)	69.27%	70.12%	0.00%	93.33%	420
Percentage of equity owned by blockholders (BLKEQ)	9.15%	11.72%	0.00%	50.86%	415
Capital (CAP)	7.45%	1.04%	4.22%	11.21%	423
Percentage of sample that are intrastate acquisitions	53.66%				
Percentage of sample that are interstate acquisitions	46.34%				
Percentage of sample that are all stock financed	53.43%				
Percentage of sample that are all cash financed	17.97%				

Information for transaction values is taken from *Mergers and Acquisitions* or other LEXIS/NEXIS data sources. Variables summarizing board of director characteristics are obtained from proxy statements issued the year before the *Wall Street Journal* or LEXIS/NEXIS announcement date. Market value of options granted to the CEO are taken from the COMPUSTAT database the year prior to the initial announcement. The primary capital ratio is derived from FDIC Call Reports the year prior to the initial announcement.

intrastate bidders. The difference in these values is significant at better than the 5% level. Interstate and intrastate targets have average asset values equal to \$1,825.12 and \$832.62 million, respectively. The difference is significant at better than the

5% level. On average CEOs own 1.25% of the bidding bank's stock. This variable also varies for intrastate versus interstate acquisitions. CEOs of intrastate bidders, on average, own 1.78% of their banks, while CEOs of interstate bidders hold only 0.63% of their bank's stock. The difference is significant at better than the 5% level.

#### 4.2. Valuation of options granted

Stock options granted to CEOs are valued using the Black and Scholes (1973) option valuation model assuming continuously paid dividends (Noreen and Wolfson, 1981; Murphy, 1985; Jensen and Murphy, 1990a). The dollar value of the options is calculated as

$$N[S^* \phi(Z^*) - X e^{-rT} \phi(Z^* - \sigma\sqrt{T})],$$

where

$$S^* = S - De^{-rT}, \quad (1)$$

and

$$Z^* = \frac{\ln(S^*/X) + (r + \sigma^2/2)t}{\sigma\sqrt{T}},$$

where  $N$  is the number of options granted in the current year at exercise price  $X$ . We assume that each option has a ten-year maturity (as in Houston and James (1996)).  $S^*$  is the year-end stock price prior to the acquisition announcement net of the present value of dividends paid and  $D$  is the annual dividend paid.<sup>10</sup> When that date was available from the firm's proxy statements, we also calculated  $S^*$  using stock prices on the date the options were granted. There were no significant differences in our empirical results from the alternate calculations. We estimate the standard deviation of stock returns,  $\sigma$ , in the previous 12-month period using CRSP daily stock returns. Variance of each bank's stock return is calculated as  $\sum_{i=1}^M r_i^2$ , where  $r_i$  is the daily return for day  $i$  and  $M$  is the number of trading days during the year:  $\sigma = [253/M \sum_{i=1}^M r_i^2]^{1/2}$  is the volatility measure used in the calculations. The variable  $r$  is proxied by the 10-year Treasury bond rate which is obtained from the Fx daily database on Ingres. We use the interest rates on the constant-maturity 10-year Treasury bonds in year  $t$  as the relevant risk-free rate.  $\phi(\cdot)$  is the cumulative standard normal distribution function.

#### 4.3. Methodology

We begin by using the standard event-study methodology described in detail in Dodd and Warner (1983). The estimation period is from  $t = -136$  to  $t = -16$  rela-

<sup>10</sup> Compustat item 026 is used for the dividend and item 024 (price close) is used for the year-end stock price.

tive to the initial date of announcement, day  $t = 0$ . AR,  $AR_i$ , are calculated for each security over the interval  $t = T1$  to  $T2$ .<sup>11</sup>

## 5. Empirical results

Panel A of Table 3 presents the average abnormal portfolio returns and cumulative average AR around the announcement of acquisitions for the entire sample of 423 bank acquisitions. For each portfolio return, the corresponding Z-statistic and the percentage of positive AR are also reported. Panel B presents the average AR and cumulative average AR when we split the sample into interstate ( $n = 196$ ) and intrastate acquisitions ( $n = 227$ ). Panel C separates the sample into activity diversifying ( $n = 211$ ) versus activity focusing ( $n = 211$ ) acquisitions. Panel D separates the sample into those acquisitions that are diversifying according to both measures (i.e., interstate and activity diversifying) versus those that are focusing according to both measures (i.e., intrastate and activity focusing). Panel E presents the same information when we split the full sample of acquiring banks into subsamples based on the method of financing (100% cash financed = 76, 100% stock financed = 226).

### 5.1. Common stock returns: Full sample

From Panel A of Table 3 we find that the full sample of acquiring banks generally experiences significant and negative average AR at the initial acquisition announcement. For example, the three-day  $CAR_{-1,+1}$  is  $-0.74\%$  ( $Z$ -statistic =  $-2.41$ , significant at the 5% level). For each of the ARs and CARs, we perform a Wilcoxon signed rank test on the percent of positive returns to determine significance. The low statistically significant percentage of positive returns reported in Panel A leads to the conclusion that the negative AR are not driven by outliers. From the results, it appears that, on average, acquirers involved in bank acquisitions experience small but statistically significant decreases in share value.

### 5.2. Common stock returns: Diversifying versus focusing acquisitions

Panels B–D of Table 3 contain results for subsamples of bank acquisitions based on various measures of diversifying/focusing. The conclusions from each of the panels are identical. In Panel B, we see that interstate bank acquisitions generally experience significant negative average announcement period abnormal stock returns. For example,  $CAR_{-1,0}$  is  $-0.97\%$  ( $Z = -2.99$ , significant at the 1% level) and  $CAR_{-1,+1}$  is  $-1.06\%$  ( $Z = -2.38$ , significant at the 5% level). Using a Wilcoxon signed rank-test, the percent of positive returns for each of the significant returns indicates that the

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<sup>11</sup> Standard event-study methodology is used to obtain abnormal returns (AR), cumulative abnormal returns (CAR), average standardized abnormal returns (ASAR) and the Z-statistics reported in the next section.

Table 3

Bidder AR and CAR for a sample of 423 bank acquisitions announced during the period 1988–1995

Interval of trading days <sup>a</sup>	Full sample ( $n = 423$ )							
	Mean (%)	Z-statistics	% Positive					
<i>Panel A: Average daily abnormal returns and cumulative abnormal returns for the full sample of bidder banks</i>								
AR <sub>-1</sub>	-0.47	-2.67 <sup>b</sup>	38.8 <sup>d</sup>					
AR <sub>0</sub>	-0.23	-1.45	42.5 <sup>d</sup>					
AR <sub>+1</sub>	-0.04	-0.12	46.8 <sup>e</sup>					
CAR <sub>-1,0</sub>	-0.70	-2.49 <sup>c</sup>	40.0 <sup>d</sup>					
CAR <sub>-1,+1</sub>	-0.74	-2.41 <sup>c</sup>	40.1 <sup>d</sup>					
	Interstate acquisitions ( $n = 196$ )			Intrastate acquisitions ( $n = 227$ )			Difference in abnormal returns	
	Mean (%)	Z-statistic	% Positive	Mean (%)	Z-statistic	% Positive	Mean (%)	Z-statistic
<i>Panel B: Average daily abnormal returns and cumulative abnormal returns for interstate and intrastate acquisitions</i>								
AR <sub>-1</sub>	-0.64	-2.87 <sup>b</sup>	36.1 <sup>d</sup>	-0.27	-0.33	49.0	-0.37	-2.07 <sup>c</sup>
AR <sub>0</sub>	-0.33	-1.37	39.6 <sup>d</sup>	-0.11	-0.14	50.5	-0.22	-0.98
AR <sub>+1</sub>	-0.09	-0.17	40.5 <sup>d</sup>	-0.02	-0.07	53.1	-0.07	-0.08
CAR <sub>-1,0</sub>	-0.97	-2.99 <sup>b</sup>	37.0 <sup>d</sup>	-0.38	-0.31	50.0	-0.59	-2.24 <sup>c</sup>
CAR <sub>-1,+1</sub>	-1.06	-2.38 <sup>c</sup>	37.0 <sup>d</sup>	-0.40	-0.30	50.5	-0.66	-2.02 <sup>c</sup>
	Activity diversifying ( $n = 211$ )			Activity focusing ( $n = 211$ )				
	Mean (%)	Z-statistic	% Positive	Mean (%)	Z-statistic	% Positive		
<i>Panel C: Average daily abnormal returns and cumulative abnormal returns for activity diversifying and activity focusing acquisitions</i>								
AR <sub>-1</sub>	-0.81	-3.21 <sup>b</sup>	35.5 <sup>d</sup>	-0.13	-0.18	50.2	-0.68	-2.15 <sup>c</sup>
AR <sub>0</sub>	-0.41	-1.62	41.7 <sup>d</sup>	-0.06	-0.10	49.0	-0.34	-0.88
AR <sub>+1</sub>	-0.10	-0.71	42.7 <sup>e</sup>	0.02	0.08	52.1	-0.12	-0.58
CAR <sub>-1,0</sub>	-1.21	-3.42 <sup>b</sup>	37.0 <sup>d</sup>	-0.19	-0.39	50.0	-1.02	-2.14 <sup>c</sup>
CAR <sub>-1,+1</sub>	-1.31	-3.21 <sup>b</sup>	38.1 <sup>d</sup>	-0.17	-0.27	51.2	-1.14	-2.08 <sup>c</sup>
	Diversifying ( $n = 98$ )			Focusing ( $n = 113$ )				
	Mean (%)	Z-statistic	% Positive	Mean (%)	Z-statistic	% Positive		
<i>Panel D: Average daily abnormal returns and cumulative abnormal returns for interstate/activity diversifying and intrastate/activity focusing acquisitions</i>								
AR <sub>-1</sub>	-1.01	-3.95 <sup>b</sup>	19.3 <sup>d</sup>	0.07	0.65	56.6	-1.08	-2.49 <sup>c</sup>
AR <sub>0</sub>	-0.49	-2.11 <sup>c</sup>	25.5 <sup>d</sup>	0.11	0.75	57.5	-0.60	-1.04
AR <sub>+1</sub>	-0.15	-1.40	35.7 <sup>d</sup>	0.19	0.79	60.2 <sup>e</sup>	-0.34	-0.48
CAR <sub>-1,0</sub>	-1.50	-4.28 <sup>b</sup>	21.2 <sup>d</sup>	0.18	0.68	57.5	-1.68	-2.48 <sup>c</sup>
CAR <sub>-1,+1</sub>	-1.65	-4.24 <sup>b</sup>	25.5 <sup>d</sup>	0.37	1.24	61.9 <sup>e</sup>	-2.02	-2.31 <sup>c</sup>

Table 3 (continued)

Interval of trading days <sup>a</sup>	100% Cash acquisitions (n = 76)			100% Stock acquisitions (n = 226)				
	Mean (%)	Z-statistic	% Positive	Mean (%)	Z-statistic	% Positive		
<i>Panel E: Average daily abnormal returns and cumulative abnormal returns for 100% cash and 100% stock acquisitions</i>								
AR <sub>-1</sub>	0.52	2.46 <sup>c</sup>	59.2 <sup>c</sup>	-0.49	-2.51 <sup>c</sup>	29.2 <sup>d</sup>	1.01	3.39 <sup>b</sup>
AR <sub>0</sub>	0.03	0.11	52.6	-0.26	-1.62	33.6 <sup>d</sup>	0.29	0.91
AR <sub>+1</sub>	-0.05	-0.15	50.0	-0.10	-0.21	39.8 <sup>d</sup>	0.05	0.03
CAR <sub>-1,0</sub>	0.55	2.36 <sup>c</sup>	52.6	-0.75	-2.20 <sup>c</sup>	31.8 <sup>d</sup>	1.30	3.15 <sup>b</sup>
CAR <sub>-1,+1</sub>	0.50	2.19 <sup>c</sup>	50.0	-0.85	-2.12 <sup>c</sup>	32.7 <sup>d</sup>	1.35	2.98 <sup>b</sup>

This table reports standard event-study abnormal returns, Z-statistics and the percent of the sample with positive returns at the initial announcement of bank acquisitions. Time  $t = 0$  is the *Wall Street Journal* or LEXIS/NEXIS initial announcement date. Panel A reports returns for the full sample of bank acquisitions. Panel B separates the sample into interstate versus intrastate acquisitions. Panel C separates the sample into activity diversifying versus activity focusing acquisitions. We classify acquisitions with a preannouncement correlation coefficient of bidder and target returns less (greater) than the median as activity diversifying (focusing) acquisitions. Panel D separates the sample into those acquisitions that are diversifying according to both measures (i.e., interstate and activity diversifying) versus those that are focusing according to both measures (i.e., intrastate and activity focusing). Panel E separates the sample into cash versus stock financed acquisitions. The estimation period used for the market model is the 120-day period from  $t = -136$  to  $t = -16$  relative to the announcement date.

<sup>a</sup> Day( $t$ ) = 0 is the initial announcement day.

<sup>b,c</sup> Significant at 1% and 5% level, respectively.

<sup>d,e</sup> Wilcoxon signed rank test statistic is significant at 1% and 5% level, respectively.

returns are not driven by outliers. The intrastate bank acquisitions experienced insignificant negative abnormal and CAR. Interestingly, the difference in the two-day CAR<sub>-1,0</sub> for interstate versus intrastate acquisitions is -0.59% ( $Z = -2.24$ , significant at the 5% level)<sup>12</sup> and the difference in the three-day CAR<sub>-1,+1</sub> is -0.66% ( $Z = -2.02$ , significant at the 5% level).<sup>13</sup>

In Panel C, we report that activity diversifying acquisitions generally experience significant negative announcement period abnormal stock returns. For example, CAR<sub>-1,0</sub> is -1.21% ( $Z = -3.42$ , significant at the 1% level) and CAR<sub>-1,+1</sub> is -1.31% ( $Z = -3.21$ , significant at the 1% level). Focusing acquisitions, on the other hand, earn insignificant AR. The difference in the two-day CAR<sub>-1,0</sub> for activity diversifying versus activity focusing acquisitions is -1.02% ( $Z = -2.14$ , significant at

<sup>12</sup> To determine whether the difference in AR is statistically significant, the following formula is used:

$$Z = \frac{ASCAR_1 - ASCAR_2}{\sqrt{\frac{T2-T1+1}{N_1} + \frac{T2-T1+1}{N_2}}}$$

where ASCAR<sub>1</sub> and ASCAR<sub>2</sub> are the average standardized CAR for interstate and intrastate acquisitions over the period  $t = T1$  to  $t = T2$ , respectively, and  $N_1$  and  $N_2$  represent the number of observations in the two portfolios, respectively.

<sup>13</sup> The difference in the AR<sub>-1</sub> for interstate versus intrastate acquisitions is also significant at the 5% level. The difference for AR<sub>-1</sub> is -0.37% ( $Z = -2.07$ ).

the 5% level) and in the three-day  $CAR_{-1,+1}$  is  $-1.14\%$  ( $Z = -2.08$ , significant at the 5% level).

Combining the two diversity measures, the results are even stronger. Panel D reports that interstate acquisitions that also diversify activities have a two-day  $CAR_{-1,0}$  of  $-1.50\%$  ( $Z = -4.28$ , significant at the 1% level) and a three-day  $CAR_{-1,+1}$  of  $-1.65\%$  ( $Z = -4.24$ , significant at the 1% level). Intrastate acquisitions that also focus activities consistently have insignificant abnormal announcement period stock returns. The difference in the two-day  $CAR_{-1,0}$  for the diversifying versus focusing acquisitions is  $-1.68\%$  ( $Z = -2.48$ , significant at the 5% level) and the difference in the three-day  $CAR_{-1,+1}$  is  $-2.02\%$  ( $Z = -2.31$ , significant at the 5% level).

Our results for diversifying versus focusing acquisitions are consistent with previous studies (e.g., Baradwaj et al. (1991), Houston and Ryngaert (1994) and DeLong (1999, 2001)). That is, bank acquisitions that diversify (geography and/or activity) produce significantly lower announcement period AR than acquisitions that focus activities.

### 5.3. Common stock returns: Cash versus stock financing

Panel E of Table 3 contains results for the subsamples of completely cash financed ( $n = 76$ ) and completely stock financed ( $n = 226$ ) bank acquisitions. For the cash financed acquisitions, AR are generally positive and significant. In contrast to these results, stock financed acquisitions produce consistently negative and significant AR. The differences in the AR for cash and stock financed acquisitions are generally significant. For instance, the difference in the three-day  $CAR_{-1,+1}$ ,  $1.35\%$ , is significant at better than the 1% level ( $Z = 2.98$ ).

### 5.4. Cross-sectional regression results

We estimate a multivariate cross-sectional regression in order to gain insight into which of the independent variables have a significant impact on bidder announcement period AR. Although ordinary least squares regression analysis has been widely used in the literature (e.g., Cornett et al. (1998)), Karafiath et al. (1991) point out that, since AR are prediction errors, each has its own variance and the standard ordinary least squares assumption of homoscedasticity may be violated. The presence of heteroscedasticity results in unbiased but inefficient coefficient estimators and biased estimators of the coefficient variances. To correct for the possibility of heteroscedasticity in the error term, we use weighted-least-squares regression analysis. Specifically, to obtain efficient estimators, we weight observations in the cross-sectional regressions using the inverse of the standard error estimate for each bank for the 120-day estimation period from the market model.

Further, some of the variables analyzed (e.g., CEO equity ownership) are highly skewed and there are large outliers. To ensure that any results and conclusions are not due to these outliers, we first conduct our tests on the full sample. Subsequently, we remove the top and bottom one percent of the sample based on the corporate governance variables discussed in Section 2 and the relative size of the target and

bidder bank. After removing these outliers the sample size is reduced to 370 observations.<sup>14</sup>

Using as independent variables the corporate governance mechanisms and control variables discussed in Sections 2 and 3 of the paper, we examine variations of the following regression:

$$\begin{aligned} \text{CAR}_{(-1,+1)i} = & a_i + b_1 I_i + b_2 \text{CEOEQ}_i + b_3 \text{OPTSB}_i + b_4 \text{AGE}_i + b_5 \text{TDIR}_i \\ & + b_6 \text{PEROUT}_i + b_7 \text{BLKEQ}_i + b_8 \text{LOGSIZE}_i + b_9 \text{CAP}_i \\ & + b_{10} D1_i + b_{11} D2_i + b_{12} D3_i + e_i \end{aligned} \quad (2)$$

where

$\text{CAR}_{(-1,+1)i}$  the three-day ( $t = -1$  to  $t = +1$ ) cumulative abnormal return for firm  $i$ <sup>15</sup>

$I_i$  dummy variable equal to 1 if diversifying acquisition and 0 otherwise

$\text{CEOEQ}_i$  the percentage of equity owned by the CEO in firm  $i$

$\text{OPTSB}_i$  the market value of options granted to the CEO divided by the CEO's salary and bonus for firm  $i$

$\text{AGE}_i$  the CEO's age for firm  $i$

$\text{TDIR}_i$  the total number of directors on the board of firm  $i$

$\text{PEROUT}_i$  the percentage of outside directors on the board of firm  $i$

$\text{BLKEQ}_i$  the percentage of equity owned by blockholders in firm  $i$

$\text{LOGSIZE}_i$  the natural log of the book value of total assets of the bidder bank<sup>16</sup>

$\text{CAP}_i$  the primary capital ratio for firm  $i$

$D1_i$  dummy variable equal to 1 if all cash financed and 0 otherwise

$D2_i$  dummy variable equal to 1 if the method of financing was not announced

$D3_i$  dummy variable equal to 1 if year is 1994–1995 and 0 if year is 1988–1993

$a_i$  intercept term, and

$b_1$ – $b_{12}$  regression coefficients on the independent variables

We analyze three variations of diversifying/focusing acquisitions. First, we set  $I$  equal to 1 for interstate acquisitions, and 0 for intrastate acquisitions. Second, we set  $I$  equal to 1 for activity diversifying acquisitions, and 0 for activity focusing acquisitions. Finally, we set  $I$  equal to 1 for interstate and diversifying acquisitions, and 0 for intrastate and focusing acquisitions. The initial results of the cross-sectional regression tests are reported in Table 4.

<sup>14</sup> In several instances the 1% outliers for the six variables include the same firms.

<sup>15</sup> We repeated the analysis for the other event window  $\text{CAR}_{-1,0}$  and the conclusions are identical.

<sup>16</sup> We also examined regression results using the natural log of the book value of the target bank divided by the book value of the bidder bank in place of  $\text{LOGSIZE}$ . In all cases the results and conclusions are the same.

Table 4 reports results for the sample using various measures of diversification. Regressions (1) and (2) examine the impact of geographic diversification ( $I$  equal 1 for an interstate acquisition, and 0 for an intrastate acquisition). Regression (1) in Table 4 includes data on the full sample ( $n = 410$ <sup>17</sup>) and regression (2) omits the outlier observations ( $n = 370$ ). Regression (3) examines activity diversification ( $I$  equal 1 for a diversifying acquisition, and 0 for an activity focusing acquisition). Finally, Regression (4) examines both measures ( $I$  equal 1 for an interstate and activity diversifying acquisition, and 0 for an intrastate and activity focusing acquisition).

Notice that in all regressions the diversification dummy variable,  $I$ , is significant in explaining the announcement period AR to bank acquisitions. Consistent with the results in Table 3, diversifying acquisitions (geographically and by activity) produce significantly smaller (and negative) announcement period returns relative to focusing acquisitions. Further, outliers do not affect these results.

The regression results also document that the incentive-based compensation variables affect the bidder's abnormal announcement period returns. The variables CE-OEQ and OPTSB are positive and statistically significant in all four regressions at the 1% and 5% level, respectively. These results suggest that the larger the CEO's stake in the firm (either through stock or options owned), the larger the abnormal return to the bidder bank's shareholders. Indeed, as the CEO holds more equity in the bank, his/her financial wealth is more directly affected by the stock market's reaction to the acquisition. Thus, the CEO has a greater incentive to undertake only value increasing acquisitions. In other words, the CEO's interests are aligned with other shareholders when he has a higher financial stake in the bank. These results lend support to Jensen and Murphy's (1990a,b) results that the pay-performance compensation contracts of CEOs are crucial in resolving the conflict of interest between managers and shareholders and maximize firm value. Further, our results suggest that the presence or omission of outliers does not affect the results.

We next examine the impact of other corporate governance and control variables. Table 4 indicates that the percentage of outside directors (PEROUT) is positively related to AR (consistent with previous research on non-bank firms). This suggests that a larger percentage of outside directors results in larger bidder bank AR. CEO age, the total number of directors on the board, and block ownership of equity do not appear to affect AR. The coefficient on  $D1$  is positive and significant suggesting that (consistent with previous research) cash financed acquisitions produce higher AR. The coefficient on  $D3$  is insignificant indicating that abnormal announcement period returns were statistically equivalent before and after passage of the Riegle-Neal Act.

The results in Table 4 suggest the existence of non-value-maximizing behavior on the part of bank managers undertaking diversifying (both geographic and activity) acquisitions. If corporate governance mechanisms used to control the shareholder-manager conflict are less effective for diversifying acquisitions than for focusing acquisitions, diversifying acquisitions are less likely to be value maximizing. Therefore,

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<sup>17</sup> We use only 410 of the 423 observations due to limited option data.

Table 4

Weighted-least-squares regressions of CAR(-1,+1) for bank acquisitions announced between 1988 and 1995

Regression	(1) Geographic diversification ( <i>n</i> = 410)	(2) Outliers removed ( <i>n</i> = 370)	(3) Activity diversification ( <i>n</i> = 410)	(4) Geographic and activity diversification ( <i>n</i> = 211)
Intercept	0.087 (0.72)	0.069 (0.81)	0.093 (0.83)	0.067 (0.69)
Diversification dummy	-0.223 (-3.64) <sup>a</sup>	-0.212 (-3.41) <sup>a</sup>	-0.295 (-4.39) <sup>a</sup>	-0.394 (-5.74) <sup>a</sup>
Equity owned by CEO	0.193 (5.07) <sup>a</sup>	0.207 (5.42) <sup>a</sup>	0.213 (4.96) <sup>a</sup>	0.215 (5.69) <sup>a</sup>
Options granted to CEO	0.111 (2.12) <sup>b</sup>	0.121 (2.23) <sup>b</sup>	0.107 (2.19) <sup>b</sup>	0.112 (2.45) <sup>b</sup>
CEO's age	0.05 (1.32)	0.033 (1.39)	0.046 (1.27)	0.060 (1.29)
Total directors on board	-0.093 (-1.49)	-0.081 (-1.42)	-0.104 (-1.54)	-0.114 (-1.51)
Percent of outside directors	0.121 (2.53) <sup>b</sup>	0.132 (2.71) <sup>a</sup>	0.142 (2.79) <sup>a</sup>	0.162 (3.02) <sup>a</sup>
Equity owned by blockholders	0.084 (1.19)	0.089 (1.18)	0.079 (1.21)	0.092 (1.24)
Book value of bidder bank	-0.007 (-1.10)	-0.009 (-1.15)	-0.006 (-1.12)	-0.010 (-1.18)
Primary capital ratio	-0.053 (-0.81)	-0.059 (-0.82)	-0.047 (-0.78)	-0.058 (-0.92)
Financing method dummy	0.171 (3.26) <sup>a</sup>	0.185 (3.34) <sup>a</sup>	0.182 (3.41) <sup>a</sup>	0.194 (3.62) <sup>a</sup>
Financing unknown dummy	-0.014 (-0.44)	-0.015 (-0.40)	-0.009 (-0.34)	-0.008 (-0.41)
Year dummy	0.019 (0.55)	0.022 (0.57)	0.027 (0.61)	0.036 (0.68)
Adj. <i>R</i> <sup>2</sup>	0.29	0.30	0.30	0.33
<i>p</i> -value for the entire model	0.0006	0.0003	0.0005	0.0002

This table reports weighted-least square regressions of three day ( $t = -1, +1$ ) CARs for bidder banks at an acquisition announcement. To obtain efficient estimators, we weight observations in the cross-sectional regressions using the inverse of the standard deviation estimate for each bank for the 120-day estimation period from the market model. Results for versions of the following regression are reported (*t*-values are reported in parentheses):

$$\text{CAR}_{(-1,+1)_i} = a_i + b_1 I_i + b_2 \text{CEOEQ}_i + b_3 \text{OPTSB}_i + b_4 \text{AGE}_i + b_5 \text{TDIR}_i + b_6 \text{PEROUT}_i \\ + b_7 \text{BLKEQ}_i + b_8 \text{LOGSIZE}_i + b_9 \text{CAP}_i + b_{10} D1_i + b_{11} D2_i + b_{12} D3_i + e_i$$

(continued on next page)

Table 4 (continued)

where  $I_i$  = dummy variable equal 1 if a diversifying acquisition and 0 otherwise,  $CEOEQ_i$  = percentage of equity owned by CEO,  $OPTSB_i$  = market value of options granted to the CEO divided by the CEO's salary and bonus,  $AGE_i$  = CEO's age,  $TDIR_i$  = total number of directors on the board,  $PEROUT_i$  = percentage of outside directors on the board,  $BLKEQ_i$  = percentage of equity owned by blockholders,  $LOGSIZE_i$  = natural log of the book value of the bidder bank,  $CAP_i$  = primary capital ratio,  $D1_i$  = dummy variable equal 1 if all cash financed and 0 otherwise,  $D2_i$  = dummy variable equal 1 if the method of financing was not announced and 0 otherwise and  $D3_i$  = dummy variable equal 1 if year is 1994–1995 and 0 if year is 1988–1993. Regression (1) uses data on the full sample of 410 banks and examines geographic diversification (i.e.,  $I = 1$  for interstate acquisition and zero for intrastate acquisition). Regression (2) omits the top and bottom 1% of the sample based on relative size of the target to bidder banks and the corporate governance variables discussed in Section 2 and uses geographic diversification. Regression (3) uses the full sample and activity diversification (i.e.,  $I = 1$  for activity diversifying acquisition and 0 for activity focusing acquisition). Regression (4) uses both diversification measures (i.e.,  $I = 1$  for interstate and activity diversifying acquisition ( $n = 98$ ) and 0 for intrastate and activity focusing acquisition ( $n = 113$ )).

<sup>a,b</sup> Statistically significant at 1% and 5% levels, respectively.

the final question we examine is whether the governance mechanisms work more or less efficiently for diversifying versus focusing acquisitions. To examine this issue we expand Eq. (2) using interactive dummy variables as control variables. Specifically, we use the following regression:

$$\begin{aligned} CAR_{(-1,+1)_i} = & a_i + b_1I_i + b_2CEOEQ_i + b_3OPTSB_i + b_4AGE_i + b_5TDIR_i \\ & + b_6PEROUT_i + b_7BLKEQ_i + b_8LOGSIZE_i + b_9CAP_i \\ & + b_{10}D1_i + b_{11}D2_i + b_{12}D3_i + b_{13}I_iCEOEQ_i + b_{14}I_iOPTSB_i \\ & + b_{15}I_iAGE_i + b_{16}I_iTDIR_i + b_{17}I_iPEROUT_i + b_{18}I_iBLKEQ_i \\ & + b_{19}I_iLOGSIZE_i + b_{20}I_iCAP_i + b_{21}I_iD1_i + b_{22}I_iD2_i + e_i \end{aligned} \quad (3)$$

where  $I_i$  is a dummy variable set equal to 1 for diversifying acquisitions, and 0 for focusing acquisitions. The interactive dummy allows us to identify the incremental impact of each independent variable for diversifying over focusing acquisitions. The results are reported in Table 5.

Table 5 again reports that the diversification dummy variable,  $I$ , is significant in all regressions. Diversifying (geographically and by activity) acquisitions produce significantly smaller announcement period AR relative to focusing acquisitions. Further, the CEO's equity stake in the firm, either through stock (CEOEQ) or options (OPTSB) are significantly and positively related to abnormal announcement period returns in all four regressions. However, the coefficients on the interactive variables  $I_iCEOEQ$  and  $I_iOPTSB$  are both negative and significant (at the 5% and 1% levels, respectively), indicating that CEO ownership acts to align the incentives of managers and shareholders less effectively for diversifying acquisitions than for focusing acquisitions. That is, regardless of the diversification measure used, CEO ownership (of stock and options) is significantly less related to abnormal announcement period returns in diversifying acquisitions than in focusing acquisi-

tions. Additionally, Table 5 reports that two additional governance mechanisms, CEO age (AGE) and total directors on the board (TDIR), are significantly related to abnormal announcement period returns. Specifically, consistent with effective corporate governance, CEO age is positively and significantly related to announcement period returns in all regressions. However, the coefficient on  $I_i$ AGE is significant and negative. Similarly, the coefficient on the total number of directors on the board (TDIR) is negative and significant (consistent with effective corporate governance controls), but the coefficient on  $I_i$ TDIR $_i$  is positive and significant (inconsistent with effective corporate governance controls). Thus, the impact of the CEO's age and number of board members on AR is consistent with effective corporate governance for focusing acquisitions, and counter to effective corporate governance for diversifying acquisitions. The coefficients on these variables for the two types of acquisitions, in fact, offset, producing the insignificant AR reported for AGE and TDIR in Table 4. To examine whether the corporate governance mechanisms are jointly statistically different from zero, we conduct an *F*-test. We find that in all regressions, the 12 corporate governance variables (denoted by \* in Table 5) are significantly different from zero.<sup>18</sup>

To summarize, the significance of the corporate governance control mechanisms for focusing acquisitions indicates that relationships found in previous literature on corporate governance (for non-banking firms) apply to focusing bank acquisitions as well. For example, the greater the equity stake (either through stock or options) of the CEO in the bidder bank the greater the announcement period AR. Further the greater the proportion of outsiders on the board, the older the CEO and the fewer the number of directors on the board, the greater the announcement period AR. These results are generally consistent with the findings for industrial firms. The results do not lead to the conclusion that all banks in the focusing acquisition sample use these control mechanisms, but that when the control mechanisms are such that the CEOs' motives are better aligned with shareholders, announcement period AR are higher. The results based on the interactive terms in the regressions lead to the conclusion that these mechanisms are not as effective at controlling manager–shareholder conflict for diversifying acquisitions who consequently earn negative AR. That is, we find that while CEO equity and option ownership does align the CEO and shareholders interests, the alignment is not as effective as in focusing acquisitions. Also, while CEO age and a smaller number of directors can help reduce the manager–shareholder conflict in focusing acquisitions, they are not as effective in diversifying acquisitions.

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<sup>18</sup> To test whether the corporate governance variables have any non-zero effects for diversifying (focusing) bank acquisitions, we employ regression (2) for the sample of interstate acquisitions only (and separately for the sample of intrastate acquisitions only). For interstate (intrastate) acquisitions the coefficient on CEOEQ is 0.142,  $t = 3.14$  (0.259,  $t = 6.64$ ); on OPTSB is 0.082,  $t = 1.75$  (0.140,  $t = 4.10$ ); on AGE is  $-0.022$ ,  $t = -2.11$  (0.041,  $t = 2.89$ ); and on TDIR is 0.053,  $t = 1.40$  ( $-0.101$ ,  $t = -2.10$ ). Again we conclude that while CEO ownership is related to announcement period AR for diversifying bank acquisitions, it is less effective in aligning managers' and shareholders' interests. Additionally, neither the CEO's age nor the number of directors on the board of diversifying bank acquisitions is effective in resolving the manager–shareholder conflict.

Table 5

Weighted-least-squares regressions of CAR(-1,+1) for bank acquisitions announced between 1988 and 1995

Regression	(1) Geographic diversification ( <i>n</i> = 410)	(2) Outliers removed ( <i>n</i> = 370)	(3) Activity diversification ( <i>n</i> = 410)	(4) Geographic and activity diversification ( <i>n</i> = 211)
Intercept	0.106 (1.10)	0.139 (1.27)	0.106 (1.06)	0.114 (1.15)
Diversification dummy	-0.059 (-2.31) <sup>b</sup>	-0.055 (-2.21) <sup>b</sup>	-0.068 (-2.46) <sup>b</sup>	-0.103 (-2.95) <sup>a</sup>
Equity owned by CEO*	0.384 (5.72) <sup>a</sup>	0.397 (6.07) <sup>a</sup>	0.399 (5.37) <sup>a</sup>	0.443 (5.74) <sup>a</sup>
Options granted to CEO*	0.206 (4.37) <sup>a</sup>	0.219 (4.37) <sup>a</sup>	0.198 (4.55) <sup>a</sup>	0.236 (4.37) <sup>a</sup>
CEO's age*	0.041 (3.12) <sup>a</sup>	0.037 (3.01) <sup>a</sup>	0.047 (3.05) <sup>a</sup>	0.053 (3.39) <sup>a</sup>
Total directors on board*	-0.131 (-2.59) <sup>a</sup>	-0.139 (-2.74) <sup>a</sup>	-0.138 (-2.46) <sup>b</sup>	-0.132 (-2.49) <sup>b</sup>
Percent of outside directors*	0.137 (2.87) <sup>a</sup>	0.152 (2.94) <sup>a</sup>	0.146 (2.93) <sup>a</sup>	0.154 (3.01) <sup>a</sup>
Equity owned by blockholders*	0.061 (1.32)	0.057 (1.24)	0.072 (1.28)	0.074 (1.25)
Book value of bidder bank	-0.010 (-1.34)	-0.011 (-1.21)	-0.009 (-1.40)	-0.017 (-1.40)
Primary capital ratio	0.022 (0.57)	0.032 (0.64)	0.028 (0.62)	0.041 (0.68)
Financing method dummy	0.177 (3.30) <sup>a</sup>	0.181 (3.49) <sup>a</sup>	0.183 (3.24) <sup>a</sup>	0.192 (3.07) <sup>a</sup>
Financing unknown dummy	-0.004 (0.15)	-0.009 (-0.40)	-0.006 (-0.24)	-0.005 (-0.19)
Year dummy	0.013 (0.44)	0.017 (0.53)	0.019 (0.48)	0.015 (0.47)
Interactive variables:				
Equity owned by CEO*	-0.071 (-1.92) <sup>c</sup>	-0.066 (-1.83) <sup>c</sup>	-0.083 (-2.10) <sup>b</sup>	-0.116 (-2.47) <sup>b</sup>
Options granted to CEO*	-0.126 (-2.47) <sup>b</sup>	-0.144 (-2.54) <sup>b</sup>	-0.134 (-2.38) <sup>b</sup>	-0.153 (-2.62) <sup>b</sup>
CEO's age*	-0.056 (-2.86) <sup>a</sup>	-0.063 (-3.03) <sup>a</sup>	-0.052 (-2.97) <sup>a</sup>	-0.073 (-3.21) <sup>a</sup>
Total directors on board*	0.112 (2.21) <sup>b</sup>	0.124 (2.31) <sup>b</sup>	0.128 (2.40) <sup>b</sup>	0.143 (2.51) <sup>b</sup>
Percent of outside directors*	-0.033 (-0.74)	-0.041 (-0.80)	-0.044 (-0.68)	-0.053 (-0.69)
Equity owned by blockholders*	0.039 (0.78)	0.044 (0.83)	0.041 (0.81)	0.031 (0.72)
Book value of bidder bank	0.003 (0.79)	0.009 (1.01)	0.005 (0.73)	0.009 (0.82)
Primary capital ratio	-0.076 (-0.92)	-0.057 (-0.71)	-0.065 (-0.87)	-0.071 (-0.81)
Financing method dummy	0.014 (0.14)	0.019 (0.36)	0.020 (0.18)	0.024 (0.21)

Table 5 (continued)

Regression	(1) Geographic diversification ( <i>n</i> = 410)	(2) Outliers removed ( <i>n</i> = 370)	(3) Activity diversification ( <i>n</i> = 410)	(4) Geographic and activity diversification ( <i>n</i> = 211)
Financing unknown dummy	−0.008 (−0.16)	−0.009 (−0.39)	0.002 (0.21)	−0.003 (−0.41)
Adj. <i>R</i> <sup>2</sup>	0.29	0.30	0.31	0.35
<i>p</i> -value for the entire model	0.0007	0.0007	0.0006	0.0004
<i>F</i> -statistic that the corporate governance variables are jointly significantly different from zero	10.68 <sup>a</sup>	11.41 <sup>a</sup>	11.72 <sup>a</sup>	12.29 <sup>a</sup>

This table reports weighted-least-square regressions of three day ( $t = -1, +1$ ) CARs for bidder banks at an acquisition announcement. To obtain efficient estimators, we weight observations in the cross-sectional regressions using the inverse of the standard deviation estimate for each bank for the 120-day estimation period from the market model. Results for versions of the following regression are reported (*t*-values are reported in parentheses):

$$\begin{aligned} \text{CAR}_{(-1,+1)_i} = & a_i + b_1 I_i + b_2 \text{CEOEQ}_i + b_3 \text{OPTSB}_i + b_4 \text{AGE}_i + b_5 \text{TDIR}_i + b_6 \text{PEROUT}_i \\ & + b_7 \text{BLKEQ}_i + b_8 \text{LOGSIZE}_i + b_9 \text{CAP}_i + b_{10} D1_i + b_{11} D2_i + b_{12} D3_i + b_{13} I_i \text{CEOEQ}_i \\ & + b_{14} I_i \text{OPTSB}_i + b_{15} I_i \text{AGE}_i + b_{16} I_i \text{TDIR}_i + b_{17} I_i \text{PEROUT}_i + b_{18} I_i \text{BLKEQ}_i \\ & + b_{19} I_i \text{LOGSIZE}_i + b_{20} I_i \text{CAP}_i + b_{21} I_i D1_i + b_{22} I_i D2_i + e_i \end{aligned}$$

where  $I_i$  = dummy variable equal to 1 for diversifying acquisition and 0 for focusing acquisition,  $\text{CEOEQ}_i$  = percentage of equity owned by CEO,  $\text{OPTSB}_i$  = market value of options granted to the CEO divided by the CEO's salary and bonus,  $\text{AGE}_i$  = CEO's age,  $\text{TDIR}_i$  = total number of directors on the board,  $\text{PEROUT}_i$  = percentage of outside directors on the board,  $\text{BLKEQ}_i$  = percentage of equity owned by blockholders,  $\text{LOGSIZE}_i$  = natural log of the book value of the bidder bank,  $\text{CAP}_i$  = primary capital ratio,  $D1_i$  = dummy variable equal 1 if all cash financed and 0 otherwise,  $D2_i$  = dummy variable equal 1 if the method of financing was not announced and 0 otherwise and  $D3_i$  = dummy variable equal 1 if year is 1994–1995 and 0 if year is 1988–1993. Regression (1) uses data on the full sample of 410 banks and examines geographic diversification (i.e.,  $I = 1$  for interstate acquisition and 0 for intrastate acquisition). Regression (2) omits the top and bottom 1% of the sample based on relative size of the target to bidder banks and the corporate governance variables discussed in Section 2 and uses geographic diversification. Regression (3) uses the full sample and activity diversification (i.e.,  $I = 1$  for activity diversifying acquisition and 0 for activity focusing acquisition). Regression (4) uses both diversification measures (i.e.,  $I = 1$  for interstate and activity diversifying acquisition ( $n = 98$ ) and 0 for intrastate and activity focusing acquisition ( $n = 113$ )).

\*Variable included in *F*-test that corporate governance variables are jointly statistically different from zero.

<sup>a,b,c</sup> Statistically significant at 1%, 5% and 10% levels, respectively.

## 6. Conclusion

This paper examines whether shareholder value-maximizing corporate governance mechanisms assist in reducing the managerial incentive to enter value-destroying bank acquisitions. We look at announcement period abnormal stock returns for diversifying (interstate or activity) acquisitions versus focusing (intrastate or activity) acquisitions. We find that the announcement period AR earned by the bidder banks are significant and negative for diversifying bank acquisitions but not for focusing

acquisitions. Further, we find that corporate governance mechanisms that reduce the manager–shareholder conflict are not as effective in diversifying acquisitions as they are in focusing acquisitions. If corporate governance mechanisms used to control the manager–shareholder conflict are less effective in interstate diversifying acquisitions these acquisitions are less likely to be value maximizing. Thus, shareholders and bank regulatory agencies should be more vigilant of interstate or activity diversifying acquisitions, given that the bank’s internal governance mechanisms are not as effective at encouraging value maximization.

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