Diversification, Monitoring Effects and Banking Mergers

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Abstract

This study investigates the wealth effects of diversification on United States banking mergers and acquisitions announcement. 2,148 domestic U.S. banking M&As announced between 1985 and 2006 are classified into groups based on geographic and activity diversification, and abnormal returns of each group around the merger announcements are examined. The abnormal return equals the daily real return minus the expected return which is calculated with the market model. I find geographic and activity diversification tends to decrease bidding firms' value, reflected by the bidder's negative abnormal returns around the merger announcement, but increase target firms' value. Target banks are also grouped into private and public companies. In deals consummated with stock, bidders acquiring private targets experience significantly higher cumulative abnormal returns (*CARs*), showing the periodic performance and calculated during different event windows encompassed by event days (-*n*, +*n*), than bidders acquiring public targets do, confirming with the monitoring hypothesis of private companies usually with concentrated ownership.

Keywords: diversification, mergers, monitoring effects, wealth effects, banking

1. Preface

The traditional investment theories tell us, "don't put all the eggs in the same basket", which works in the securities markets in most cases. But for a firm, when should it diversify, and when should it focus? Coase assert that the boundary of a firm should be drawn where "the costs of organizing an extra transaction within the firm become equal to the costs of carrying out the same transaction by means of an exchange in the open market or the costs of organizing in another firm" (Coase, 1937). Being the most important economic pillar in U.S., banking industry has experienced its tremendous changes during the past two decades. Do they benefit more from diversification or concentration? And how does the deal structure influence the wealth created for the shareholders? The paper aims at answering these questions.

In the 1990s, the United States and world economies experienced a large wave of mergers and acquisitions (Andrade, 2001). The U.S. banking industry has been consolidating rapidly: the number of U.S. commercial banks fell from about 14,000 in 1980 to about 7,000 by the end of 2008 (Note 1), the vast majority of which was due to acquisitions, rather than bank failures. Banking and financial services has consistently ranked in the top five of all industries in the number of merger transactions taking place each year. From 1980 to 2008, the share of assets held by the top ten commercial banks (ranked by assets) rose from 22% to 46%, while the share of deposits held by the top ten commercial banks (ranked by deposits) rose from 19% to 41% (Note 2).

While previous studies consistently show that, on average, the target banks experience significantly positive abnormal returns upon merger announcements (Delong, 2001; Houston, James, & Ryngaert, 2001; Beitel & Mark 2004; Kuipers, Miller, & Patel, 2009), there is no clear evidence that mergers are economically valuable to the acquirer banks. Delong (2001), Houston, James and Ryngaert (2001) and Kuipers, Miller and Patel (2008) find significant negative abnormal returns for the bidding banks on the market, and Beitel and Mark (2004) find tenuously wealth creation for the acquiring banks around the announcements. When combined wealth effects are examined in the context of banking mergers, most previous studies find negligible combined returns (Houston & Ryngaert, 1994; Boyd & Graham, 1998; Delong, 2001). This setting raises the question of whether all bank mergers create value effect for the bidders, or whether some types of mergers lead to significant gains while others do not add value.

During the 1950s and 1960s, many corporations undertook massive diversification programs and reached a climax during the merger wave of the late 1960s, which marked the rise to prominence of huge conglomerate firms (Berger, 1995). However, recent studies find that economies of scope began to lose its territory since the 1980s, and there is a steady trend toward greater focus during the 1980s, and diseconomies of scope in the 1980s are confirmed by a trend towards specialization (Comment & Jarrell, 1995). In 1988, 55.7% of exchange-listed firms had a single business segment, compared to 38.1% in 1979. Comment and Jarrell (1995) document a positive relation between stock returns and focus increases.

Moreover, the proper management of a common property is a public good to all the owners of the property, and there are significant costs in ensuring that directors/managers act in the interest of the owners (Grossman & Hart, 1980). In on hand, small shareholders do not have a stake in the firm large enough to absorb the costs of watching the management, and outsiders without a share in a diffusely held firm would never make an effort to improve it. In another hand, the creation of outside blockholders during mergers can increase firm value. Firms acquiring privately held targets, owned by a small group of shareholders, through common stock exchanges tend to increase the bidder's firm value (Demsetz, 1983; Shleifer & Vishny, 1986).

Banking is a special industry and geographic diversification in U.S. is important because regulation at the state level influences not only the corporate control market but also activities in which banks may engage (Delong, 2001). Delong (2001) examines the effects of both geography and activity diversification and asserts that the findings in other industries could not immediately be applied to banking. Compared with Delong (2001), I test the impact of diversification within the banking industry during a longer horizon, and differentiate deals acquiring public targets from those acquiring private ones to test the monitoring hypothesis, which haven't been examined in the context of merger announcements. Investigating monitoring effects would also complement the diversification explanation for the wealth effects of merger announcements.

The study determines the value effect, for bidders and for targets of mergers, and the combined value effect for these players, for each group according to the focusing versus diversifying classification, as well as acquiring private versus public targets. This article is organized as follows. Section II conduct a literature review. Section III describes the methodology and data. Section IV reports my empirical results regarding the wealth effects of geographic and activity diversification, as well as monitoring effects. Section V summarizes the findings and offers conclusions.

2. Literature Review

2.1 Diversification and Bank Mergers and Acquisitions

Economies of scale are the cost advantages that a business obtains due to expansion. They primarily refer to efficiencies associated with supply-side changes, such as increasing or decreasing the scale of its production, of a single product type (Panzar & Willig, 1977). In contrast to economies of scale, economies of scope refer to efficiencies primarily associated with demand-side changes, such as increasing or decreasing the scope of the marketing and distribution of different types of products. Economies of scope are one of the main reasons for marketing strategies like product bundling, product lining, and family branding (Panzar & Willig, 1981). Economies of scale usually occur when banks takeover banks within the same business sector; economies of scope happen when banks takeover banks operating in different sectors.

Theoretical arguments suggest that diversification has both value-enhancing and value-reducing effects. While operating different lines of business within one firm potentially bring about greater operating efficiency, less incentive to forego positive net present value projects, greater debt capacity, and lower taxes, it potentially lead to the use of increased discretionary resources to undertake value-decreasing investments, cross-subsidies that allow poor segments to drain resources from better-performing segments, and misalignment of incentives between central and divisional managers. There is no clear prediction regarding the overall valuation effect of diversification (Berger & Ofek, 1995).

Chandler's *the Visible Hand* (1977) provides insights on how innovative firms redraw organizational boundaries and structures for efficient and effective innovation, because multidivisional firms have to be concerned with coordination of specialized divisions, and are inherently more efficient and thus more profitable than if those lines of business were separate. The internal capital market argument predicts that diversified companies carry out more positive net present value investments than their segments would make as separate firms. By creating a larger internal capital market, diversified firms can reduce this underinvestment problem (Myers, 1977). The external capital markets were relatively undeveloped during the 1960s. The greater the information asymmetries between managers and the external market, the more valuable the internal market (Hubbard & Palia, 1999). Diversified firms allocate resources more efficiently because they create a larger internal capital market (Weston, 1970).

Diversification also creates another benefit by combining businesses with imperfectly correlated earnings streams from different business (Berger, 1995). Moreover, diversified firms are supposed to have higher leverage and lower tax payments than if their businesses were operated separately (Berger, 1995). Tax advantage comes from the tax code's asymmetric treatment of gains and losses. When some segments of a conglomerate experience losses in some years, a conglomerate pays less taxes than its segments would pay separately (Majd & Myers, 1987).

On the other hand, diversified firms tend tooverinvest in lines of business with poor investment opportunities (Stulz, 1990). Managers of firms with unused borrowing power and large free cash flows are more likely to undertake value-decreasing investments (Jensen, 1986). Myerson (1982) and Harris, Kriebel, and Raviv (1982) also point out that there is a higher information asymmetry costs between central management and divisional managers in decentralized firms, for the information is more dispersed within the conglomerate firm, suggesting that diversified firms are less profitable than their lines of business would be separately.

By examining U.S. acquisitions between 1975 and 1987, Morck, Shleifer and Vishny (1990) find bidders experience lower and predominantly negative announcement-period returns for diversifying bidders, suggesting that managerial objectives may drive acquisitions that reduce bidding firms' values but increase managerial personal benefits. Although their results imply a value transfer from bidder to target shareholders in diversifying mergers, butthey does not answer the question of whether diversifying mergers are economically undesirable. Concerning corporate control, Cornett et al. (2003) find that corporate governance mechanisms are not as effective in diversifying (interstate or activity) acquisitions as they are in focusing (interstate or activity) acquisitions. On the other side, intrastate bank mergers, which are subjected to few or no restrictions, do not destroy bidder value (Delong, 2001). Palia (1993) finds merger premiums to be related to the characteristics of both acquirer and target banks, as well as the regulatory environments in both acquirer and target bank states. States with restricted branching make the targets more appealing, and therefore increase the premium, while states that allow multibank holding companies increase the number of bidders and also increase the premium. Location of a bank influences not only the market for corporate control, but also the characteristics of a bank's assets. A bank's loan portfolio is greatly influenced by local regulations, as some states allow their banks to engage in underwriting securities and insurance while other states ban such activities. Different regulatory environments therefore influence business decisions. With unregulated firms, business decisions are based on profit maximization.

Moreover, focusing on the banking industry provides a control for industry-specific factors. If any inter-industry effects exist, studying intra-industry mergers minimizes this impact. Dealing with different industries at the same time may result from some industries' tendency to engage in a value-maximizing type of merger, while other industries engage in a non-value-maximizing type of merger. In my study, I focus on United States banking industry. And I hypothesize that the market can distinguish activity focus from activity diversification, as well as geographic focus from geographic diversification, and may react differently when a merger is focused both in terms of activity and geography.

2.2 Monitoring Effects: Difference between Taking over Public and Private Banks

According to Grossman and Hart (1980), the proper management of a common property is a public good to all the owners of the property, and there are significant costs in ensuring that directors/managers work for the behalf of the owners. If one shareholder devotes resources to improving management, then all shareholders benefit. If the outsider (uninformed shareholders) or small shareholder can gain only on the shares he already owns (which are few, if any), he do not have a sufficiently large stake in the firm to absorb the costs of watching the management, and would never make an effort to improve it.

Shleifer and Vishny (1986) assert that blockholders can serve as effective monitors of managerial performance or facilitate takeovers, so the creation of outside blockholders during mergers can increase firm value. Firms acquiring privately held targets through common stock exchanges tend to create outside blockholders, because such targets are owned by a small group of shareholders. Therefore, acquiring private firms is expected to increase the bidder's firm value. Jensen (1989) also asserts that diffusely held firms are worth less than ones with concentrated ownership. In a diffusely held corporation, no individual investor finds it worthwhile to engage in monitoring activities, so managers shirk. A monitor who owns the entire firm enjoys the full product of his efforts to control management. Thus, he selects the intensity of monitoring at which the ex ante expected marginal product of monitoring equals its marginal cost.

Steven (1993) develops a theoretical model showing that when monitoring is a public good whose costs are privately incurred, only large shareholders are motivated to monitor managers. The tradeoff of returns from improved monitoring against the cost of bearing idiosyncratic risk would determine a unique optimal ownership

structure. Provided the returns of the firm are not too risky and the cost of monitoring is not too high, a concentrated ownership is best. The model predicts that stock price increases with the rise in concentration of stock ownership. Steven (1993) also asserts, while monitoring the manager, the large shareholder may obtain important informationconcerning the value of the firm before other market participants. By trading on this information, the blockholders could earn a return that compensates them for the private cost they incur in obtaining it. The prospective private return could cause the major shareholder to increase his monitoring activities to the benefit of all shareholders. The free rider problem might be redressed by introducing valuable private information as a side product of monitoring. For the minor shareholders, their free riding benefit would be offset by the cost of trading against an information-advantaged party.

Zeckhauser and Pound (1990) employ a sample of 22 industries to investigate the effects of large outside shareholders on corporate performance and corporate financial policy. That is, they try to determine whether the presence of large shareholders is associated with systematic differences in expected earnings growth, dividend payout ratios, or leverage ratios. They suggest that management has an incentive to tilt earnings toward the present and that outside monitors can ameliorate this distortion. The empirical analysis of Zeckhauser and Pound (1990) indicates symbiosis in the relationship between the monitor and the monitored. Controlling for ownership concentration among institutions, managerial ownership, and firm size, a statistically significant positive relation is found between institutional ownership and the stockholder wealth effects of various amendments proposals (Agrawal & Mandelker, 1990). This supports the "active monitoring hypothesis" (Demsetz, 1983; Shleifer & Vishny, 1986), which holds that the existence of large shareholders leads to better monitoring of managers.

Consequently, when bidding banks announce a takeover of private banks using stock, the bidding banks would create large blockholders for themselves. Because ownership is highly concentrated in privately held firms, merged by means of stock exchange, the original owners of the targets become new blockholders of the bidders and would actively monitor the management of the bidding banks. Therefore, I project that compared to acquiring public firms, acquiring private firms are expected to create more wealth for shareholders of bidding firms when stock is used, embodied in the cumulative abnormal returns (CARs) around the announcements, due to the monitoring effects of new blockholders. On the other hand, if the transaction is paid in cash, no new shareholders are created for the bidders regardless of whether the targets are private or public firms and I would thus expect no difference between bidders acquiring public targets and bidders acquiring private targets.

3. Data and Method

3.1 Data

The sample data on U.S. bank takeover bids are obtained from Thomson ONE Banker Database between 1985 and 2006. I stop the sample period at 12/31/2006 because the subprime crisis happened since 2007, which might heavily influence the results. It originally included 2,148 complete deals, of which the bidding firms' stocks are traded on the NYSE, AMEX, or NASDAQ, with CRSP stock returns available around the announcement. Panel A of Table 1 reports the annual breakdown of the sample by type of target bank, geographic diversification (cross-state) and activity diversification. It also reports the nominal and inflation-adjusted average deal value (2005 as the base year), by calendar year. In Panel B of Table 1, the mergers are classified by type of target bank, geographic diversification (cross-state), activity diversification and reports the median deal size of each type.

The number of bank merger transactions peaks in the 1990s, with 67% of the transactions taking place during 1993–2000. Merger activity is somewhat subdued in the early 1980s and 2000s. The average transaction value also peaks in late 1990s. The average market value of target banks is about five times smaller than the average market value of bidders. As shown in Panel B, more than half mergers aim at public targets, and one third of the mergers cross state boarders. Among all the U.S. bank mergers, more than half are characterized as geographic and activity focusing, 1286 deals.

Table 1. Descriptive statistics for U.S. banking merger bids

Panel A. Frequency description

Year	Bank Mergers	Cross-state Bids	Activity Diversification	Public Targets	Private Targets	Average Deal Size ($mil)	
						Nominal	Inflation Adjusted
1985	18	9	1	11	7	96.17	155.91
1986	93	29	7	23	70	110.25	174.75
1987	53	23	3	22	31	54.34	83.63

1988	39	16	6	25	14	51.93	77.07
1989	65	21	11	34	31	62.38	89.38
1990	60	9	7	40	20	17.24	23.75
1991	66	22	6	39	27	197.61	263.24
1992	96	37	23	57	39	99.01	129.07
1993	161	51	25	85	76	91.43	116.62
1994	195	71	32	102	93	45.68	57.03
1995	205	57	38	137	68	238.34	291.69
1996	207	43	22	175	32	46.77	56.23
1997	190	71	41	122	68	408.17	482.08
1998	205	56	33	126	79	696.83	813.52
1999	152	38	24	117	35	242.58	279.07
2000	130	34	15	114	16	398.27	447.98
2001	71	16	11	58	13	414.86	456.52
2002	22	6	6	13	9	31.97	34.64
2003	37	11	8	22	15	1466.5	1555.08
2004	40	12	9	22	18	306.26	315.31
2005	28	13	4	10	18	195.23	194.33
2006	25	16	5	15	10	170.54	164.37
Total	2148	661	337	1369	779		
Average						247.38	284.6

Note: This Table provides descriptive statistics for the entire sample, including all 2,148 U.S. banking bids during 1985–2006. Panel A reports the number of bank merger bids, cross-state bids, activity diversification bids, number of bids aiming at public targets, number of bids aiming at public targets, nominal and inflation-adjusted average deal value, by calendar year. "Inflation Adjusted" means that the deal value and the market prices have been adjusted to the Gross Domestic Product: Implicit Price Deflator composed by the U.S. Department of Commerce: Bureau of Economic Analysis*, 2005 as the base year. *(http://www.bea.gov/national/nipaweb/).

Panel B. Median size of mergers, by type

Merger Type	Number of Mergers	Median Deal Value ($mil)	Median Market Value of Bidders ($mil)	Relative Deal Size (Deal Value/Bidder MV)
All Mergers	2148	19.40	650.70	2.98%
Mergers with Stock Payment	1063	44.90	768.40	5.84%
Mergers with Cash Payment	1085	6.89	308.80	2.23%
Mergers with Public Targets	1369	22.01	1,261.91	1.74%
Mergers with Private Targets	779	17.95	395.33	4.54%
Geographic and Activity Diversification	143	65.00	1617.50	4.02%
Geographic and Activity Focus	1286	9.85	302.38	3.26%
Geographic Focus and Activity Diversification	199	31.78	249.30	12.75%
Geographic Diversification and Activity Focus	520	50.40	1,786.79	2.82%

Note: This panel reports the number of bank mergers and median deal size for each type of merger, classified by method of payment, type of target bank, geographic diversification (cross-state), and activity diversification.

3.2 Method

Event study is a statistical method used to assess the impact of public announcements of new value-relevant information, by finding the abnormal return attributed to the event being studied (Gilson & Black, 1995).

Abnormal return is obtained by subtracting the normal or expected return in the absence of the event, $AR_{it}=R_{it}-E(R_{it})$, from the actual return in the event period. There are several ways to measure the expected return, $E(R_{it})$, among which the returns predicted by the market model, market returns, and past firm-specific average returns are frequently used. The market model is adopted, for it is likely the most frequently used approach (Kallunki et al., 2002). The Center for Research in Security Prices (CRSP) equal-weighted return is used as the market return, and the market model parameters are estimated over the 255-day period, from event day -274 to event day -20, where event day 0 is the acquisition announcement date. The abnormal returns are calculated from actual returns during the event period and the estimated coefficients from the estimated period. Cumulative abnormal returns (*CARs*) are also calculated during different event windows, encompassed by event days (*-n, +n*). A further step in my empirical analysis is to evaluate the market's expectations on the combined gain resulting from the merger of the two banks. In fact, looking only at the two separate entities "may give a partial and perhaps distorted interpretation of the market reaction" to the merger announcement (Cybo-Ottone & Murgia, 2000). Following Bradley, Desai, and Kim (1988), synergies are measured as the sum of target and acquirer three day announcement returns weighted by the market capitalizations of the target and acquirer, respectively. Specifically,

$Synergy(-1,+1)$

$= (\$ACAR(-1,+1) + \$TCAR(-1,+1))/(BidderMCAP(-1Y) + (1-Toehold)*TargetMCAP(-1Y))$

Where *MCAP*, the market capitalization of the bidder (target) bank (in millions of dollars), is defined as the *Price**Shares outstanding the last fiscal year-end before the takeover announcement; *Toehold* stands for the percentage of shares held by the bidder on the takeover announcement date; $\$ACAR$(-1, +1) stands for the cumulative abnormal dollar returns for the bidder bank, equals $ACAR(-1,+1)*BidderMCAP(-1Y) - Toehold*TCAR(-1,+1)*TargetMCAP(-1Y)$; $\$TCAR(-1,+1)$ stands for the cumulative abnormal dollar returns for the target bank, equals $TCAR(-1,+1)*TargetMCAP(-1Y)$.

4. Empirical Tests

This section reports the empirical relations between wealth effects and diversification. I use two types of diversification: geographic diversification and activity diversification. When the bidding bank targets a bank in another state, it is defined as a geographic diversification deal; otherwise, it is considered a geographic focus deal. I classify the activity diversification according to four-digit SIC codes. If the first three digits of the bidder's SIC code is the same as the target's SIC code, it is defined an activity focus deal; otherwise, it is considered an activity diversification deal.

4.1 Effects of Geographic Diversification

The effects of geographic diversification on the wealth effects of the merger announcements are show in Table 2.

First, geographically focusing dealscreate more wealth for the bidders than geographically diversifying deals (see Panel A of Table 2). CAAR(-1, +1) around the announcement day for the bidders is 0.81% when they aim at targets in the same state, and -0.82% when they target at banks in different state. The difference is 1.63% (significant at the 1% level). When the entire sample is divided into two groups by target type, public or private, the difference still exists, though not significant.

Second, when bidders acquire public target banks (Panel B of Table 2), the combined wealth effect of geographically focusing deals, in which bidders and targets operate in the same state, is significantly positive, 1.20% higher than that of geographically diversifying deals, suggesting that geographic focusing is more rewarding;. Geographically focusing deals create 1.36% wealth around the announcement for the merger partners, compared with 0.16% combined CAR for geographically diversifying deals. Moreover, geographically focusing deals create more wealth for the bidders than geographically diversifying deals; geographically diversifying deals create more wealth for the targets than geographically focusing deals. Both differences are significant at the 1% level.

Overall, the evidence demonstrates that acquiring banks realize greater abnormal returns when they expand their operations within their state rather than when they acquire public or private targets from a different state. Targets' high positive abnormal returns in mergers with bidders operating in a different state, suggests that bidders tend overpay targets located outside their geographical domain.

Table 2 reports the effects of geographic diversification on Cumulative Average Abnormal Returns (CAARs). For j[th] firm, cumulative abnormal returns (CARs) is defined: $CAR_{T_1,T_2} = \sum_{t=T_1}^{T_2} AR_{jt}$. For each sample group, cumulative

average abnormal return (CAAR) is the average of all the cumulative abnormal returns (CARs) in the group. Median CAR refers to the CAR separating the higher half of a group from the lower half. To test whether the median is statistically different from zero, t-statistics are used.

Table 2. Cumulative average abnormal return (CAAR) for geographic diversification vs. geographic focus bank mergers

Panel A. Entire sample

Merger Type	Number of Mergers	All Bidders				Stock Bidders of Public Targets				Stock Bidders of Private Targets				Difference
		(1) CAAR	(2) Median CAR	(3) % Positive	Number of Mergers	(4) CAAR	(5) Median CAR	(6) % Positive	Number of Mergers	(7) CAAR	(8) Median CAR	(9) % Positive		(4)–(7)
a: Cumulative Average Abnormal Returns														
Geo Focus	1485	0.81%***	0.64%	59.60%	231	-1.63%***	-1.40%	34.07%	314	0.29%	-0.11%	48.73%		-1.91%***
t-Statistics		[7.58]				[-5.44]				[1.23]				[-5.06]
Geo Div	663	-0.82%***	-0.62%	38.31%	262	-2.05%***	-1.45%	26.72%	257	-0.13%	-0.12%	46.30%		-1.93%***
t-Statistics		[-6.16]				[-8.51]				[-0.78]				[-6.64]
Total	2148	0.31%***	0.20%	52.95%	492	-1.86%***	-1.42%	30.02%	571	0.10%	-0.11%	47.29%		-1.96%***
t-Statistics		[3.6]				[-9.76]				[0.68]				[-8.15]
b: Differences between Groups														
Geo Focus vs. Geo Div		1.63%***	1.26%	21.29%		0.43%	0.05%	7.35%		0.41%	0.02%	2.43%		
t-Statistics		[3.08]				[1.11]				[1.46]				

Note: The sample consists of 2,148 domestic U.S. bank mergers announced between 1985 and 2006. The sample is divided into groups according to geographic diversification. A geographic focus merger is one in which both partners are located in the same U.S. state; diversifying mergers are those in which the bidder and target are located in different states. 1063 deals paid with stock are divided according to the target type, 492 deals with public targets and 571 deals with private targets, as well as geographic diversification.

Panel B. Public bidders acquiring public targets

Merger Type	(1) Number of Mergers	Synergy			Bidders			Targets		
		(2) Synergy	(3) Median	(4) % Positive	(5) CAAR	(6) Median CAR	(7) % Positive	(8) CAAR	(9) Median CAR	(10) % Positive
a: Cumulative Average Abnormal Returns										
Geo Focus	1051	1.36%***	0.40%	56.25%	1.01%***	0.87%	63.56%	6.15%***	2.67%	78.51%
t-Statistics		[3.61]			[7.61]			[16.1]		
Geo Div	318	0.16%	-0.44%	43.20%	-1.69%***	-1.32%	30.82%	15.02%***	12.47%	85.52%
t-Statistics		[0.33]			[-7.77]			[16.68]		
Total	1369	0.75%**	-0.04%	49.59%	0.38%***	0.47%	55.99%	8.14%***	3.27%	80.12%
t-Statistics		[2.43]			[3.24]			[21.98]		
b: Differences between Groups										
Geo Focus vs. Geo Div		1.20%	0.84%	13.05%	2.70%***	2.19%	32.74%	-8.87%***	-9.80%	-7.01%
t-Statistics		[1.38]			[10.62]			[-9.08]		

Note: The sample consists of 1,369 domestic U.S. bank mergers, both sides of which are public banks, announced between 1985 and 2006. The sample is divided into groups according to geographic diversification. A geographic focus merger is one in which both partners are located in the same U.S. state; diversifying mergers are those in which the bidder and target are located in different states. *Synergy(-1,+1)* is defined as the weighted sum (by market capitalization) of the bidder and target cumulative abnormal announcement returns, following Bradley, Desai, and Kim (1988). Specifically.

$$Synergy(-1,+1) = (\$ACAR(-1,+1) + \$TCAR(-1,+1)) / (BidderMCAP(-1Y) + (1 - Toehold) * TargetMCAP(-1Y))$$

4.2 Effects of Activity Diversification

Now I turn to activity (business) diversification. The effects of activity diversification on the wealth effects of the merger announcements are reported in Table 3.

First, for the entire sample of 2,148 deals, activity-focusing deals create more wealth for the bidders (Panel A of Table 3). The three-day cumulative average abnormal return CAAR(-1, +1) around the announcement day for the bidders is 0.81% when they acquire targets in the same business, and -0.82% when they acquire targets in a different business sector. The difference is 1.63% (significant at the 1% level). When the entire sample is divided into two groups by target type, public or private, the difference still exists (Note 3).

Second, when bidders acquire public target banks (Panel B of Table 3), the combined wealth effect of activity focusing deals, in which bidders and targets operate in the same sector, is significantly positive. Activity focusing deals create 0.67% wealth around the announcement for the bidders, compared with -1.13% CAR for activity diversifying bidders. This represents a difference of 1.80% (significantly positive at the 1% level). Activity focusing deals create 6.70% wealth around the announcement for the targets, compared with 16.08% for the targets in activity diversifying deals. This represents a difference of -9.38% (significantly negative at the 1% level), suggesting that activity diversification is more rewarding for the targets than activity focusing deals, whereas activity focusing deals create more wealth for the bidders than activity diversifying deals.

Overall, the evidence demonstrates that acquiring banks realize greater abnormal returns when they focus on their original business. Target banks share higher returns in activity diversifying deals, though significantly positive in both groups.

Table 3 reports the effects of activity diversification on Cumulative Average Abnormal Returns (CAARs). For j^{th} firm, cumulative abnormal returns (CARs) is defined: $CAR_{T_1,T_2} = \sum_{t=T_1}^{T_2} AR_{jt}$. For each sample group, cumulative average abnormal return (CAAR) is the average of all the cumulative abnormal returns (CARs) in the group. Median CAR refers to the CAR separating the higher half of a group from the lower half. To test whether the median is statistically different from zero, t-statistics are used.

Table 3. Cumulative average abnormal return (CAAR) on activity diversification mergers vs. activity focus mergers

Panel A. Entire sample

Merger Type	Number of Mergers	All Bidders			Bidders of Public Targets Using Stock				Bidders of Private Targets Using Stock				Difference
		(1) CAAR	(2) Median CAR	(3) % Positive	Number of Mergers	(4) CAAR	(5) Median CAR	(6) % Positive	Number of Mergers	(7) CAAR	(8) Median CAR	(9) % Positive	(4)–(7)
a: Cumulative Average Abnormal Returns													
Act Focus	1806	0.81%***	0.64%	59.60%	327	-2.09%***	-1.71%	29.88%	492	0.03%	-0.15%	46.56%	-2.12%***
t-Statistics		[7.58]				[-8.51]				[0.20]			[-7.33]
Act Div	342	-0.82%***	-0.62%	38.31%	164	-1.39%***	-1.04%	30.49%	78	0.54%	0.29%	51.28%	-1.94%***
t-Statistics		[-6.16]				[-4.81]				[1.16]			[-3.52]
Total	2148	0.31%***	0.20%	52.95%	492	-1.86%***	-1.42%	30.02%	571	0.10%	-0.11%	47.29%	-1.96%***
t-Statistics		[3.6]				[-9.76]				[0.68]			[-8.15]
b: Differences between Groups													
Act Focus vs. Act Div	1.63%***	1.26%	21.29%		-0.70%*	-0.67%	-0.61%		-0.51%	-0.44%	-4.72%		
t-Statistics		[3.08]				[-1.83]				[-1.04]			

Note: The sample consists of 2,148 domestic U.S. bank mergers announced between 1985 and 2006. The sample is divided into groups according to activity diversification, which are classified by SIC codes. If the first three digits of each party's SIC code are the same, the deal is classified as activity focus; otherwise it is classified as an activity diversification deal (Note 4). 1063 deals paid with stock are divided according to the target type, 492 deals with public targets and 571 deals with private targets, as well as activity diversification.

Panel B. Public bidders acquiring public targets

Merger Type	(1) Number of Mergers	Synergy			Bidders			Targets		
		(2)Synergy	(3) Median	(4) % Positive	(5) CAAR	(6) Median CAR	(7) % Positive	(8) C AAR	(9) Median CAR	(10) % Positive
a: Cumulative Average Abnormal Returns										
Act Focus	1150	0.72%**	0.06%	50.76%	0.67%***	2.91%	79.31%	6.70%***	0.72%	60%
t-Statistics		[2.13]			[5.18]			[18.23]		
Act Div	219	0.80%	-0.11%	47.24%	-1.13%***	-0.98%	69.97%	16.08%***	13.19%	84.13%
t-Statistics		[1.36]			[-3.29]			[9.98]		
Total	1369	0.75%**	-0.04%	49.59%	0.38%***	0.47%	55.99%	8.14%***	3.27%	80.12%
t-Statistics		[2.43]			[3.24]			[21.98]		
b: Differences between Groups										
Act Focus vs. Act Div		-0.08%	0.18%	3.52%	1.80%***	3.89%	9.34%	-9.38%***	-12.47%	-23.96%
t-Statistics		[-0.26]			[12.04]			[-8.19]		

Note: The sample consists of 1,369 domestic U.S. bank mergers, both sides of which are public banks, announced between 1985 and 2006. The sample is divided into groups according to activity diversification, which are classified by the SIC codes. If the first three digits of each party's SIC code are the same, the deal is classified as activity focus; otherwise it is classified as a diversification deal. *Synergy (-1,+1)* is defined as the weighted sum (by market capitalization) of the bidder and target cumulative abnormal announcement returns, following Bradley, Desai, and Kim (1988). Specifically,

$$Synergy(-1,+1) = (\$ACAR(-1,+1) + \$TCAR(-1,+1)) / (BidderMCAP(-1Y) + (1 - Toehold) * TargetMCAP(-1Y))$$

4.3 Combination Effects of Geographic and Activity Diversification

The combination effects of geographic and activity diversification on the wealth effects of the merger announcements are shown in Table 4. Following Delong (2001), the entire sample is divided into four mutually exclusive categories: mergers that focus both geography and activity, mergers that focus geography and diversify activity, mergers that diversify geography and focus activity, and mergers that diversify geography and activity.

Deals involving both activity and geographic focus bring more wealth for the bidders than the other three groups. Deals involving both activity and geographic focus bring less wealth for the targets than the other three groups, whereas deals involving both activity and geographic diversification create the most wealth for the targets. For the entire sample (Column (5) of Panel A of Table 4), the CAAR (-1, +1) of the bidders is 1.01% for the activity and geographic focus group, but negative for each of the other three groups (significant differences shown in Column (5) of Panel B). The CAAR (-1, +1) of the targets is 5.14% for the activity and geographic focus group, much smaller than that of the other three groups (Column (8) of Panel A of Table 4).

Deals that focus both geography and activity create more wealth for the combined bidder and target. The Synergy (-1, +1) for the activity and geographic focus group, is 1.84%, and significantly larger than two out of the other three groups: -0.29% for the geographic focus and activity diversification group, 0.48% for the geographic diversification and activity focus group (Column (2) of Panel B of Table 4). The targets capture the bulk of wealth created by the deal in each type.

Table 4 reports the interaction effects of geographic and activity diversification on Cumulative Average Abnormal Returns (CAARs). The sample consists of 2,148 domestic U.S. mergers announced between 1985 and 2006 between banking firms. A geographic focus merger is one in which both partners are located in the same U.S. state; diversifying mergers are those in which the bidder and target are located in different states. An activity-focusing merger is one in which both partners have SIC codes where the first three digits are the same.

Table 4. Cumulative average abnormal return (CAAR) for mergers according to the focus or diversification of geography and activity

Panel A. Cumulative average abnormal returns (CAAR) of each group

Merger Type	(1) Number of Mergers	Synergy			Bidders			Targets		
		(2) Synergy	(3) Median	(4) % Positive	(5) CAAR	(6) Median CAR	(7) % Positive	(8) CAAR	(9) Median CAR	(10) % Positive
Geo and Act Focus	1286	1.84%***	0.58%	58.71%	1.01%***	0.83%	62.52%	5.14%***	2.34%	77.85%
t-Statistics		[3.74]			[8.81]			[16.59]		
Geo and Act Div	143	1.08%	-0.24%	43.90%	-0.67%**	-0.66%	38.30%	16.80%***	12.58%	83.33%
t-Statistics		[0.84]			[-2.28]			[10.43]		
Geo Focus and Act Div	520	-0.29%	-0.60%	42.86%	-0.85%***	-0.60%	39.23%	14.17%***	11.45%	85.65%
t-Statistics		[-0.54]			[-5.68]			[22.22]		
Geo Div and Act Focus	199	0.48%	0.18%	51.19%	-0.53%*	-0.67%	39.80%	15.65%***	12.77%	84.62%
t-Statistics		[0.83]			[-1.9]			[13.09]		
Total	2148	0.75%**	-0.04%	49.59%	0.31%***	0.20%	52.95%	8.29%***	3.35%	80.13%
t-Statistics		[2.43]			[3.6]			[27.88]		

Note: For j^{th} firm, cumulative abnormal returns (CARs) is defined: $CAR_{T_1,T_2} = \sum_{t=T_1}^{T_2} AR_{jt}$. For each sample group, cumulative average abnormal return (CAAR) is the average of all the cumulative abnormal returns (CARs) in the group. Median CAR refers to the CAR separating the higher half of a group from the lower half. *Synergy (-1,+1)* is defined as the weighted sum (by market capitalization) of the bidder and target cumulative abnormal announcement returns, following Bradley, Desai, and Kim (1988). Specifically,

$$Synergy(-1,+1) = (\$ACAR(-1,+1) + \$TCAR(-1,+1)) / (BidderMCAP(-1Y) + (1 - Toehold) * TargetMCAP(-1Y)) .$$

Panel B. Differences between groups

Merger Type	Synergy			Bidders			Targets		
	(2) Synergy	(3) Median	(4) % Positive	(5) CAAR	(6) Median CAR	(7) % Positive	(8) CAAR	(9) Median CAR	(10) % Positive
Geo/Act Focus vs. Geo/Act Div	0.76%	0.81%	14.81%	1.68%***	1.49%	24.22%	-11.66%***	-10.24%	-5.48%
t-Statistics	[0.55]			[5.33]			[-7.11]		
Geo/Act Focus vs. Geo Focus/Act	2.13%***	1.18%	15.85%	1.86%***	1.43%	23.29%	-9.03%***	-9.11%	-7.80%
t-Statistics	[2.93]			[9.87]			[-12.74]		
Geo/Act Focus vs. Geo Div/Act	1.36%*	0.40%	7.52%	1.54%***	1.50%	22.72%	-10.51%***	-10.43%	-6.77%
t-Statistics	[1.80]			[5.1]			[-8.51]		
Geo/Act Div vs. Geo Focus/Act	1.37%	0.36%	1.05%	-0.67%**	-0.66%	38.30%	16.80%***	12.58%	83.33%
t-Statistics	[0.98]			[-2.03]			[9.7]		
Geo/Act Div vs. Geo Div/Act	0.61%	-0.41%	-7.29%	-0.14%	0.01%	-1.50%	1.15%	-0.19%	-1.29%
t-Statistics	[0.43]			[-0.35]			[0.57]		
Geo Focus/Act Div vs. Geo	-0.77%	-0.78%	-8.33%	-0.32%	0.07%	-0.57%	-1.48%	-1.32%	1.03%
t-Statistics	[-0.98]			[-1.01]			[-1.09]		

4.4 Monitoring Effects from Private Targets Banks

Table 2 (Panel A) and Table 3 (Panel A) both test the monitoring effects by focusing on the deals with stock payment, and find consistent results.

Both geographically focusing deals and geographically diversifying deals (see Panel A of Table 2) create less wealth for the bidders when they acquire public than private banks. For the 1,485 geographically focusing deals, the bidders for the 231 deals that target public banks using stock realize a CAAR (-1,+1) of -1.63%, significantly lower than the CAAR of bidders targeting private banks, 0.29%. The difference is -1.91%, significant at the 1% level. Among the 663 geographically diversifying deals, the bidders in the 262 deals that target public banks using stock have a CAAR (-1,+1) of -2.05%, significantly lower than the CAAR of bidders targeting private banks

-0.13%. The difference is -1.93%, significant at the 1% level.

Both activity focusing deals and activity diversifying deals (see Panel A of Table 3) create less wealth for the bidders when they acquire public than private banks. For the 1,806 geographically focusing deals, the bidders for the 327 deals that target public banks using stock realize a CAAR (-1,+1) of -2.09%, significantly lower than the CAAR of bidders targeting private banks, 0.03%. The difference is -2.12%, significant at the 1% level. Among the 342 geographically diversifying deals, the bidders in the 164 deals that target public banks have a CAAR (-1,+1) of -1.39%, significantly lower than the CAAR of bidders targeting private banks 0.54%. The difference is -1.94% and significant at the 1% level.

Overall, Table 2 (Panel A) and Table 3 (Panel A) support my prediction that compared to acquiring public firms, bidders of private firms are expected to create more wealth for their shareholders when stock is used in acquiring private firms due to the monitoring effects of new blockholders.

Table 5 reports announcement returns for private and public targets executed with different methods of payment. Panels A1 and A2 of Table 5 show the wealth effects for deals settled with stock payment while Panels B1 and B2 show the wealth effects for deals completed with cash payment.

Table 5. Daily AAR and CAAR around bank merger announcements

Panel A1. Daily AAR for deals with stock payment deals

Window (day1, day2)	(1) Bidders of Public Targets (492 deals)	(2) Bidders of Private Targets (602 firms)	(1)–(2)
-10	-0.07%	-0.15%	0.08%
	[-0.82]	[-1.451]	[0.6]
-9	0.00%	0.02%	-0.02%
	[0.57]	[-0.788]	[-0.79]
-8	0.01%	0.02%	-0.01%
	[-0.23]	[0.472]	[-0.16]
-7	-0.02%	-0.14%	0.12%
	[0.25]	[-1.085]	[0.79]
-6	-0.06%	0.07%	-0.13%
	[-1.09]	[0.477]	[-0.83]
-5	0.00%	0.00%	0.00%
	[-0.08]	[-0.575]	[0]
-4	-0.03%	0.02%	-0.05%
	[-0.81]	[0.143]	[-0.35]
-3	-0.16%	-0.13%	-0.03%
	[-1.41]	[-0.802]	[-0.15]
-2	0.16%	0.06%	0.10%
	[1.47]	[0.516]	[0.63]
-1	-0.02%	-0.05%	0.03%
	[-0.06]	[-0.926]	[0.09]
0	-1.36%***	0.06%	-1.42%***
	[-19.01]	[0.788]	[-13.59]
1	-0.48%***	0.03%	-0.51%*
	[-7.23]	[-0.104]	[-1.72]
2	-0.25%***	-0.07%	-0.18%
	[-3.057]	[-0.93]	[-1.62]
3	-0.17%*	-0.03%	-0.14%
	[-1.821]	[-0.715]	[-1.37]
4	-0.05%	-0.14%*	0.09%
	[-0.72]	[-1.899]	[0.89]
5	-0.07%	-0.01%	-0.06%
	[-0.77]	[0.384]	[-0.63]
6	-0.05%	0.03%	-0.08%
	[-0.5]	[0.351]	[-0.61]
7	-0.01%	-0.15%	0.14%
	[0.16]	[-1.544]	[1.21]
8	0.10%	0.01%	0.09%
	[0.66]	[0.943]	[0.59]
9	-0.06%	-0.08%	0.02%
	[-0.96]	[-0.591]	[0.13]
10	-0.07%	-0.10%	0.03%
	[-0.92]	[-0.729]	[0.19]

Note: This panel reports daily AAR for deals with stock payment.

Panel A2. CAAR for stock payment deals

Window (day1, day2)	(1) Bidders of Public Targets (492 deals)	(2) Bidders of Private Targets (602 firms)	(1)–(2)
(-1,0)	-1.38%***	0.01%	-1.39%***
	[-13.49]	[-0.09]	[-9.57]
(-1,+1)	-1.86%***	0.04%	-1.90%***
	[-15.19]	[-0.14]	[-6.11]
(-2,0)	-1.21%***	0.07%	-1.28%***
	[-10.16]	[0.22]	[-3.75]
(-2,+2)	-1.94%***	0.03%	-1.97%***
	[-12.47]	[-0.29]	[-10.58]
(-10,0)	-1.53%***	-0.23%	-1.30%***
	[-6.40]	[-0.97]	[-3.87]
(-10,+10)	-2.65%***	-0.74%*	-1.91%***
	[-7.94]	[-1.76]	[-3.56]

Note: This panel reports CAAR for deals with stock payment.

Panel B1. Daily AAR for deals with cash payment deals

Day	(1) Bidders of Public Targets (n=877)	(2) Bidders of Private Targets (n=211)	(1)–(2)
-10	0.08%	-0.05%	0.13%
	[0.42]	[-0.19]	[0.4]
-9	-0.06%	0.06%	-0.12%
	[-1.10]	[0.1]	[-0.21]
-8	0.03%	-0.12%	0.15%
	[0.52]	[-0.42]	[0.51]
-7	0.15%	-0.24%**	0.39%**
	[1.37]	[-2.18]	[2.51]
-6	-0.04%	-0.09%	0.05%
	[-1.00]	[-1.25]	[0.61]
-5	-0.02%	0.15%	-0.17%
	[-0.44]	[0.76]	[-0.84]
-4	-0.07%	0.05%	-0.12%
	[-0.72]	[1.16]	[-1.13]
-3	0.13%	-0.53%***	0.66%***
	[1.54]	[-4.36]	[4.46]
-2	0.00%	-0.05%	0.05%
	[-0.13]	[-0.65]	[0.65]
-1	0.16%*	0.18%	-0.02%
	[1.69]	[1.58]	[-0.13]
0	1.04%***	0.22%	0.82%***
	[15.56]	[1.14]	[4.03]
1	0.53%***	-0.04%	0.57%
	8.063	[-0.08]	[1.09]
2	0.30%***	0.07%	0.23%**
	4.093	[1.02]	[2.29]
3	-0.01%	-0.05%	0.04%
	(-0.642]	[-1.29]	[0.96]
4	0.06%	0.05%	0.01%
	[0.874]	[-0.04]	[0.01]
5	0.05%	0.13%	-0.08%
	[0.159]	[1.09]	[-0.24]
6	-0.06%	-0.01%	-0.05%
	[-0.836]	[0.12]	[-0.45]
7	0.09%	-0.01%	0.10%
	[0.07]	[0.17]	[0.08]
8	0.03%	0.07%	-0.04%
	[1.368]	[0.05]	[-0.03]
9	-0.05%	0.04%	-0.09%
	[-1.483]	[0.87]	[-1.58]
10	0.04%	0.01%	0.03%
	[0.008]	[0.09]	[0.01]

Note: This panel reports daily AAR for deals with cash payment.

Panel B2. CAAR for cash payment deals

Window (day1, day2)	(1) Bidders of Public Targets (n=877)	(2) Bidders of Private Targets (n=211)	(1)–(2)
(-1,0)	1.20%***	0.40%*	0.80%***
	[12.20]	[1.92]	[2.88]
(-1,+1)	1.74%***	0.36%	1.38%***
	[14.62]	[1.53]	[5.07]
(-2,0)	1.20%***	0.34%	0.86%***
	[9.89]	[1.20]	[2.71]
(-2,+2)	2.04%***	0.38%	1.66%***
	[13.09]	[1.35]	[4.93]
(-10,0)	1.40%***	-0.42%	1.82%***
	[5.34]	[-1.30]	[3.27]
(-10,+10)	2.39%***	-0.16%	2.55%***
	[6.41]	[-0.50]	[3.82]

Note: This panel reports CAAR for deals with cash payment.

Table 5 presents cumulative average abnormal return (CAAR) for both acquirers and targets for stock (Panels A) and cash (Panels B) deals, using the market model. The sample of the bidders paying in stock (cash) consists of 1,063 (1,085) successful acquisition deals completed over the 1985–2006 period for short-term analysis, as identified in the Thomson ONE Banker Database. Standardized cross-sectional t-statistics are reported in brackets. ***, ** and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, using a one-tailed test.

First, merger announcements for deals with equity payment cause the bidders' stock price to decline when they merge with public targets, but there is no negative impact on the bidders' stock price when they merge with private targets. For equity deals (see Panel A of Table 5), the average abnormal return (AAR) on the announcement day (t=0) for bidders is -1.36% when they acquire public targets (significantly negative at the 1% level) (Note 5). Column (2) of Panel A1 shows that the bidders' AAR on the announcement day is 0.06% when they acquire private targets with stock (not significantly different from zero), which is 1.42% higher than the AAR of bidders acquiring public targets, significantly negative at the 1% level. Panel A2 shows a similar pattern for the 3- and 5-day window intervals.

Second, merger announcements for cash deals cause bidders' stock price to increase when they acquire public targets, but there is no significant influence on the bidders' stock price when they acquire private targets. As reported in Panel B1 (see column (1)), the AAR on the announcement day for bidders is 1.04% when they acquire public targets (significantly positive at the 1% level); among the 877 announcements, 537 are positive. Column (2) shows that the AAR on the announcement day for the bidders is 0.22% when they acquire private targets (not significantly different from zero). The difference between the AAR of bidders for public targets and private targets (column (1)–(2) in Panel B1) is 0.82% (significantly positive at the 1% level). These patterns hold for the 3- and 5-day window intervals (see Panel B2).

Overall, the evidence from Table 5 suggests that stock bidders experience negative abnormal returns when they acquire public targets, but do not realize losses when they purchase private targets. These results tend to support the monitoring hypothesis, and suggesting that acquirers of private banks using stock benefit from the concentrated ownership of targets, for private targets are owned by a small group of shareholders who are expected to exert monitoring on bidders (Demsetz, 1983; Shleifer & Vishny, 1986).

4.5 Multivariable Regression

Weighted ordinary least squares (OLS) regression using White's method (1980) is also conducted to examine the various hypotheses discussed above (Table 6). Consistent with univariate tests, both combined returns and individual returns are examined at dependent variables. The regressions include geographic and activity diversification dummies and other control variables. To disentangle the impacts of diversification from other explanations, several factors that previous literature shows can be important to the announcement outcome are included in the regression: type of target when stock payment is used, pre-merger performance of the target, attitude of takeover, size of transaction and leverage of bidder.

A cross term *Private Target*Stock Payment* is adopted to examine the monitoring effects, for acquiring private firms with stock payment are likely to create stakeholder for the new company, and exert monitoring effects on it. Palepu (1986) finds that firms are more likely to be acquired if their stock doesn't performan well. To control for under-performing targets that may create more value for the merger partners, *Target P/B,* the prior year-end price-to-book ratio of target bank, is used as a proxy for the target performance. Mikkelson and Ruback (1985)

investigate whether the reason for a merger influences returns to targets and find hostile takeovers could create more value than non-hostile mergers. So, I control for this possibility by including a dummy variable *Hostile* to indicate when a merger is hostile. Since a size effect is found in acquisition announcement returns and is robust to firm and deal characteristics (Moeller, Schlingemann, & Stulz, 2004), the logarithm of *Deal Value* is controlled in the regression. The rationale for including leverage as a control variable stems from theories of financing and capital structure, which predict that leverage levels are likely to be related to a firm's growth opportunities. Therefore, it is possible that leverage and financing constraints influence bidder behavior (Dong et al., 2006).

In Table 6, the multivariate findings for target valuations are generally consistent with those of the univariate analysis. The intercept represents the portion of returns that is not explained by the other variables. This amount includes, but is not limited to, the return to mergers that focus both geography and activity. The first three coefficients represent the additional market reaction due to the merger being of a different type than those that focus both geography and activity, among other things.

Table 6. Ordinary least squares regressions

	Dependent Variable				
	Synergy(-1, 1)	Bidder CAR(-1, 1)		Target CAR(-1, 1)	
Intercept	0.051*	0.016***	0.023***	0.037***	0.036**
	[0.053]	[0.000]	[0.000]	[0.000]	[0.015]
Activity Diversification*Geo Diversification	0.050*	-0.003	-0.004	0.082***	0.101***
	[0.073]	[0.773]	[0.715]	[0.001]	[0.001]
Activity Diversification*Geo Focus	-0.015	-0.018**	-0.019**	0.085***	0.075***
	[0.567]	[0.040]	[0.035]	[0.001]	[0.004]
Activity Focus*Geo Diversification	0.004	-0.010	-0.009	0.070***	0.065***
	[0.869]	[0.141]	[0.243]	[0.001]	[0.003]
Private Target*Stock Payment		0.037***	0.029***		
		[0.000]	[0.000]		
Target P/B	-0.004	0.002***	0.000	0.001	-0.007*
	[0.434]	[0.000]	[0.814]	[0.324]	[0.058]
Hostile Takeover	0.025		-0.049**		0.123*
	[0.508]		[0.037]		[0.068]
Log(Deal Value)	0.007		-0.002*		0.010***
	[0.352]		[0.090]		[0.010]
Leverage	-0.002		0.000		0.000
	[0.152]		[0.230]		[0.517]
N	133	425	385	418	378
Adjusted R-squared	[0.018]	[0.232]	[0.204]	[0.154]	[0.198]

This table reports the ordinary least squares (OLS) regressions on Synergy, bidder CAR and target CAR. Individual acquirer and target announcement-period cumulative abnormal returns (CAR) are measured over the 3-day event window (−1, +1), beginning 1 day before the announcement (day -1) and ending 1 day after the announcement (day +1) of the acquisition. The sample includes all announced banking merger deals in which both the acquirer and target are listed on the NYSE, AMEX, or NASDAQ during 1985–2006. *Activity diversification* = 1 if the acquirer and target share different first three digits of the COMPUSTAT SIC codes; 0 otherwise. *Geographic diversification* = 1 if the acquirer and target are located in the same state; 0 otherwise. *Private Target* =1 if target is not publicly traded; 0 otherwise. *Stock Payment* = 1 if the bidder uses stock to pay for the deal; 0 for cash payment. *Target P/B* is the prior year-end price-to-book ratio of target bank. *Hostile takeover* is a dummy to indicate a hostile takeover. *Deal Value* = announced transaction value. Leverage = acquirer total debt / total assets. For each coefficient, the second row reports the p-value.

The first regressions on *Synergy* in Table 6 shows that diversifying both geography and activity leads to positive market reaction for the merger partners, showing an expected synergy from the investors. On the other hand, diversification influences the bidder and the target differently. For the targets, the coefficients on the types of mergers that do not focus geography and activity are positive and statistically significant, and robust to different control variables, among which the one for both geography and activity diversification is the biggest. This result is consistent with the results shown in Table 4, which shows that the value created by mergers that diversify both geography and activity is the greatest. As for the bidders, diversification tends to decrease the bidder's wealth (Note 6).

Consistent with the monitoring hypothesis, the coefficients of *Private Target*Stock Payment* are significantly positive in both regressions on bidder CARs, implying that creation of potential outside blockholders, which may serve as effective monitors of managerial performance, by acquiring privately owned firms can increase firm value.

5. Conclusion

This study investigates banking mergers by classifying them into public targets and private targets and test diversification and monitoring effects at the same time. Investigating the value of geographic and activity diversification in the context of mergers allows us to make inferences on the desirability of various organizational structures in the banking industry, such as universal banking. Compared with DeLong (2001), who uses the data from 1988 to 1995, I use a larger sample during a longer horizon, offering a more comprehensive picture of banking mergers based on diversification.

By examining 2148 U.S. bank mergers that involve a public bidding bank and a target bank, either public or private, in the context of the focus versus diversification debate, this study find that the market does distinguish among various types of mergers; diversification strategy and target ownership have significant influence on the wealth effect of merger announcements. Mergers are divided into groups according to activity or geographic diversification. Abnormal returns, as well as combined abnormal returns, of each group around the merger announcements are examined. Empirical results show that geographic and activity diversification tend to decrease bidding firms' value, reflected by the bidder's negative announcement abnormal returns, but they increase target firms' value. Target banks are also grouped into private and public companies. In deals consummated with stock, bidders acquiring private targets reap significantly higher wealth creation than bidders acquiring public targets do, confirming with the monitoring hypothesis of private companies usually with concentrated ownership. Both univariate and multivariate regressions provide consistent results, and robust to alternative regressors.

Although diversification, normally achieved by mergers and acquisitions, could increase the firm size and build its business empire within a short time, it could also increase the fragility of the firm's money chain and management structure. The decision makers should match the business cautiously and time it skillfully to guarantee the stable development and right direction of the firm. Facing mergers in such a risky industry, regulators should monitor the information disclosure and deal transparency carefully, and provide guidance for both parties, especially in case of diversification.

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Notes

Note 1. See the website of Federal Deposit Insurance Corporation (http://www2.fdic.gov/SDI/SOB/).

Note 2. Consolidated Reports of Condition and Income, Federal Financial Institutions Examination Council, various years (http://www.fdic.gov/news/index.html).

Note 3. The result is not reported here, but available upon request.

Note 4. SIC Code: Banks, non-UNITED STATES chartered (6000); National Commercial Banks (6021); State Banks, member fed reserve (6022); Commercial Banks, nec (6029); Saving Institutions, federally chartered (6035); Saving Institutions, not federally chartered (6036); Credit Unions, Federally Chartered (6061); Credit Unions, not Federally Chartered (6062); Branches and agencies of foreign banks (6081); Foreign Trade & International Banking Institutions (6082); Personal Credit Institutions (6141); Short-Term Business Credit Institutions (6153); Offices of Bank Holding Companies (6712); Offices of Holding Companies, nec (6719).

Note 5. Among the 492 announcements, not reported but available upon request, 335 are negative suggesting that this result is not driven by outliers.

Note 6. CUSUM test is used to check the coefficient stability of the equation. The null hypothesis that there is no structural break in the equation could not be rejected.

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