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ORIGINAL ARTICLE

The Evidence on Product-Market Diversifying Acquisitions and Joint Ventures by U.S. Banks

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Abstract We examine the acquisition and joint venture strategies of U.S. banks from 1980 to 1998 to diversify into non-banking sectors. We find that the market responds favorably to both types of expansions, with the gains being shared between acquiring banks and their targets and venture banks and their non-bank partners, respectively. Acquisitions expose acquiring banks to significant increases in nonsystematic, market, and total risk, while joint ventures result in significant decreases in the nonsystematic and total risk measures for participating banks. Our results suggest that product-market expansions, in general, provide U.S. banks with value-enhancing opportunities, and that joint ventures may improve both the return and risk characteristics of the partner banks.

Keywords Banking trends · Acquisitions · Joint ventures

JEL classifications F21 · G15 · G21 · G34

Introduction

The Gramm-Leach-Bliley Financial Services Modernization Act, passed in November 1999, redefines the universe of acceptable or permissible banking activities.[1] For

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[1] While the Gramm-Leach-Bliley legislation opens the doors to new product markets for U.S. commercial banks, opportunities for expansion into new product/business lines have evolved over the past 20 years.

Table 1 Distribution of cross-product bank acquisition and joint venture announcements

Panel A: Distribution of announcements over time

Announcement year	Acquisitions	Joint ventures	Total transactions
1980–1985	316	0	316
1986	27	4	31
1987	31	1	32
1988	30	0	30
1989	66	1	67
1990	56	7	63
1991	34	5	39
1992	45	11	56
1993	71	19	90
1994	99	17	116
1995	115	44	159
1996	112	22	134
1997	162	40	202
1998	177	18	195
Total	1,341	189	1,530

Panel B: Distribution of announcements by industry classification

Industry sector	SIC codes	Number of announcements	Number of banks
Non-depository institutions and securities brokers	61s, 62s	620	122
Investment offices	67s	322	116
Data processing	73s	165	40
Insurance carriers and brokers	63s, 64s	80	44
Real estate	65s	73	36
Information technology	48s	66	21
Other	–	204	69
Total		1,530	448

the first time since post-Depression regulation, banking activities now extend beyond simply taking deposits and making loans. The competitive environment in which these banks operate has changed radically, creating additional opportunities for banks to expand their product markets (Shull, 1999).[2] In fact, bank involvement

[2] For purposes of this paper, we define product-market -or cross-product- diversification for banks as expansion through acquisitions and joint ventures into non-depository (non-SIC 60) business sectors.

in product-market transactions has increased steadily from 31 in 1986 to 195 in 1998 (see Panel A of Table 1).

Research into the diversification activities of non-financial firms during this same time period has reached conflicting conclusions. On the one hand, some argue that these product-market expansion strategies are value-reducing (e.g., Comment and Jarrell, 1995; Denis et al., 1997), while others fail to find evidence of a diversification discount (e.g., Villalonga, 2004; Whited, 2001). While these two observations seem contradictory, we suggest that the dramatic change in the regulatory environment for banks has created the incentives for banks to engage in potentially value-adding product-market diversification even though the evidence is less than clear for their non-bank counterparts.[3] Not only are the theoretical arguments for product-market diversification somewhat contradictory, the empirical evidence is also mixed (Lang and Stulz, 1994). Montgomery and Singh (1984) show that cross-product or unrelated diversification leads to increases in systematic risk for non-financial firms. Nevertheless, product-market diversification strategies may be necessary for banks, in particular, to experience growth, given disintermediation (Cornett and Saunders, 1999; Padgett, 1999).[4] Thus, the issue of whether and how U.S. banks expand in this evolving regulatory environment is a provocative empirical issue.

The announcement distribution in Table 1 also shows that the participating banks are implementing these expansion strategies through both acquisitions and joint ventures. While banks are participating in these transactions at an increasing rate, there is evidence that banks engaging in product-diversifying acquisitions generate average abnormal returns of -2.16% for their shareholders (DeLong, 2001). Related evidence on non-financial firms suggests that banks may be in a position to create value by diversifying through joint ventures. McConnell and Nantell (1985) and Johnson and Houston (2000) show that joint ventures, in general, can create shareholder wealth. McConnell and Nantell (1985) report two-day average abnormal returns of 0.73% for their sample of 136 joint venture announcements. Johnson and Houston (2000) show that average abnormal returns of 1.67% over the $(-1, 0)$ window accrue to shareholders of joint venture partners. The dramatic increase in observed bank expansions and the empirical evidence regarding non-financial firms, when taken together, suggests that the diversification strategies of banks encompass their choice of expansion through acquisition or joint venture.

Our sample includes 1530 product-market diversifying expansions (1,341 acquisition announcements and 189 announcements of joint ventures) by U.S. banks. In general, banks making cross-product acquisitions are smaller in size than banks forming joint ventures. The abnormal returns for banks announcing cross-product acquisitions are 0.21% for the $(-1, +1)$ window, while they are 0.50% for joint venture banks (both are significant at the 5% level). We also find significant abnormal returns for the non-bank participants in our sample. The average abnormal return for non-bank targets is 3.45%, and is 0.60% for non-bank partners. Acquiring banks show a significant increase in their total, nonsystematic, and

[3] Economies of scale and scope may be the potential benefits of product-market diversification by banks (see, e.g., Cornett and Saunders, 1999).

[4] Amihud et al. (2002) find no significant change in the systematic or total risk measures of acquiring banks when these banks expand abroad. They conclude that the risk decreasing and risk increasing effects offset each other leaving the risk profile of the acquiring bank unchanged in cross-border mergers on average.

market risk measures. Joint venture bank partners experience a significant reduction in their total and nonsystematic risk measures, indicating that these events are both wealth enhancing and risk reducing. We observe no significant changes in the risk components of non-bank participants.

The remainder of the paper is structured as follows. Section 2 provides a discussion of the theoretical and empirical considerations underlying these expansion activities. The research design, including a discussion of the sample and the methods, is provided in Section 3. Our empirical results are presented in Section 4. Section 5 concludes the paper.

Theoretical and Empirical Considerations

Diversification and Bank Value

Recent studies focusing on the diversification versus specialization debate reveal several interesting issues. First, several of these studies exclude financial firms, arguing that they are operationally different than the other firms retained in the sample (e.g., Comment and Jarrell, 1995; Denis et al., 1997).

Second, each of these papers stresses that the value of diversification is a function of the tradeoff between the benefits and the costs of these cross-product market transactions.[5] The perceived benefits include the firm improving both scale and scope operating efficiencies, making more optimal capital budgeting or allocation decisions, and taking advantage of greater debt capacity. The costs arise from inefficiencies in these same discretionary areas. Specifically, the costs focus on misaligned evaluation and incentive systems that result in sub-optimal operating and investment decisions, as well as the cross-subsidization of lower-performing business units by their better performing counterparts.

Third, the results from previous research are mixed. Many of the early studies conclude that the benefits of expanding into new lines of business outweigh the costs. Another strand of the literature finds that diversification is value-reducing or conversely that corporate focusing activities are value-adding (e.g., Berger and Ofek, 1995; Comment and Jarrell, 1995; John and Ofek, 1995). However, several new studies find no evidence of a diversification discount (e.g., Villalonga, 2004; Whited, 2001).

These issues of interest, when taken together, suggest that the effects of cross-product expansion on participating banks are an important, yet largely unexamined, empirical issue. One notable exception is DeLong (2001) who finds activity-diversifying mergers result in negative returns for merging banks. Empirical research shows that non-financial firms expanding into new lines of business during the 1980s and 1990s experienced wealth reductions. During the same period of time, the regulatory environment overseeing commercial banking activity became increasingly more relaxed. Commercial banks took advantage of this changing and more open environment by expanding more frequently into non-banking areas.

[5] See, for example, Lewellen (1971), Stulz (1990), and Berger and Ofek (1995) for a discussion of these perceived benefits and costs.

Presumably, they would not continue to do so if these expansions destroyed value. Thus, we would expect this evolving regulatory environment to provide value-enhancing opportunities for the banks in our sample.[6]

The Expansion Mode Choice and Bank Value

U.S. commercial banks can choose from a variety of alternatives when implementing a diversification strategy. In particular, most domestic expansions take the form of acquisitions. Diversification strategies can be characterized across a range of alternatives with differing degrees of *equity ownership* and *contractual control* (Harrigan, 1985). At one end of this range are acquisitions, characterized by full equity ownership and control. Firms participating in these alternatives own the asset and skill base, but also bear the full risk of the entity. The other end of the classification structure contains purely contractual agreements, such as licensing and strategic alliances, where no new entity is created, and there is no ownership position. In the middle of this range are transactions that are characterized by both partial ownership and some degree of contractual control, namely, joint ventures. We exclude purely contractual agreements to focus on the two alternatives that have ownership elements.

A substantial literature in financial economics seeks to explain the motives for acquisitions. The literature on bidders argues that factors such as increases in efficiency, benefits from diversification, gains from financial synergies, increased market power, and tax effects lead to post-acquisition performance gains for bidders. On the other hand, hubris, free cash flow, and agency driven issues suggest that bidders suffer losses. The empirical evidence indicates that target shareholders enjoy the acquisition-related gains (Akhigbe et al., 2004), leaving bidder shareholders with insignificant or negative gains (Andrade et al., 2001). The parallel literature in finance related to the motivations for joint ventures is limited in terms of the number of studies. McConnell and Nantell (1985), Weston et al. (2001), and Johnson and Houston (2000) identify a variety of motives for joint ventures, as well as the potential gains associated with joint ventures.

Our focus in this paper is different in that we do not consider joint ventures exclusively. Rather, we consider acquisitions and joint ventures as alternative modes for achieving growth through ownership-based product-market diversification, as well as the motives that lead to a choice between these two alternative growth strategies.

The empirical evidence on comparative gains to shareholders when acquisitions and joint ventures are considered as alternative ownership modes is sparse. However, several researchers conceptually consider the factors affecting the choice between these alternative modes of expansion, usually presented from the perspective of choosing a joint venture. We discuss three fundamental reasons influencing this choice. The first reason is related to the *costs of assimilating the*

[6] Buch and DeLong (2004) examine the effects of regulatory environment on international bank mergers with some interesting results. The targets in their sample exist in highly regulated environments, while the acquirers operate in markets where transparency is considerably weaker. When they consider regulatory changes over time they observe that some work well as in the case of North American mergers after NAFTA, while others did not (e.g., cross-border mergers within the European Union).

target asset (Hennart and Reddy, 1997, 1999), with target referring to both an acquisition target and a joint venture partner. Firms will choose between these two alternative mode strategies based on the costs associated with gaining access to a key asset from the total asset package of the target firm. With cross-product targets, the entire target may not be of strategic importance for the bank. Thus, joint ventures may be the preferred mode when the costs of assimilating the entire target unit into the structure of the asset-seeking bank are high, since the unwanted set of corporate activities or assets can be avoided. In a similar vein, Weston et al. (2001) argue that joint ventures may be the preferred mode for augmenting technical abilities, which certainly would be the case with product-market expansions.

The second reason is related to the *asymmetric information hypothesis* (Balakrishnan and Koza, 1993), which suggests that the higher the degree of uncertainty regarding the ultimate value of the assets to the cooperating firms, the more preferred will be the joint venture alternative. Joint ventures help the partner firms reduce the overall costs arising from the risk inherent in these information asymmetries, including facilitating easier exit if the situation warrants terminating the relationship. This uncertainty regarding the ultimate value of the expansion to a bank may be higher when the bank enters new product markets. This reason suggests that joint ventures may be preferred over acquisitions when asymmetric information costs are perceived to be high.

The third reason suggests that joint ventures can be used to reduce the *management and transaction costs* of combining assets (Balakrishnan and Koza, 1993; Weston et al., 2001). When a bank expands into a new product market, it acquires relationships with employees, customers and suppliers who may operate under a different set of business customs, practices, and norms. These differences may arise because the partner firms operate in different industries (Hennart and Reddy, 1997). Thus, joint ventures may dominate acquisitions as an appropriate alternative when banks can reasonably anticipate acquisition-related difficulties in integrating or acclimating to the new business relationships away from its core industry (Kogut and Singh, 1988).

Empirical Considerations

We use three different approaches to evaluate the reasons for choosing between acquiring and joint venturing. First, we estimate the short horizon abnormal returns using a traditional event study method. Relatively higher returns for one particular mode would suggest that the market thinks one mode might be the superior mode for diversification in light of the three reasons discussed above. Next, we analyze the effect of these expansions on the firm's risk profile by observing changes in measures for total, nonsystematic, and market risk subsequent to the announcement. The mode that results in reduced risks arising from informational asymmetries would exhibit relatively smaller or negative changes in beta or risk measure, which would be consistent with the asymmetric information hypothesis. Third, we translate the three reasons for choosing between acquisitions and joint ventures into accounting measures to examine both changes in accounting performance and to see if the choices between the two expansion modes can be predicted. Banking literature (see, e.g., Cornett and Tehranian, 1992) suggests that profitability, size, liquidity, efficiency, and leverage are common indicators of bank performance. These measures are reflective of performance of non-banking firms also.

More profitable banks are more likely to receive regulatory approval to acquire another firm. Similarly, more profitable firms make better targets. Higher profitability levels for banks and non-banks reduce the costs of assimilating the non-bank target and indicate lower degree of information asymmetry. We use net profit margin to measure profitability.[7]

Larger banks may not be seeking asset growth. Given their size and complexity, they may prefer a joint venture to obtain strategic assets without increasing size or complexity, thus avoiding large incremental management and transaction costs. Larger non-banks may be more suitable as joint venture partners, because this results in lower regulatory oversight, lower assimilation costs, lower management and transaction costs, and lower costs of information asymmetry. The log of total assets is our proxy for size.

Higher liquidity for banks decreases regulatory concerns, thus making assimilation of acquisitions more feasible. Liquidity for non-banks is not an important concern since these firms possess strategic competencies needed by the banks. Liquidity is measured by the ratio of cash to total assets.

More efficient banks are more likely to incur lower assimilation costs, and lower management and transaction costs, and thus may be more likely to prefer acquisitions over joint ventures. Similarly, more efficient non-banks may make better targets due to possible lower assimilation and transaction costs. We use total asset turnover as the measure of efficiency.

Banks with higher leverage would generally prefer to acquire to benefit from risk-reducing diversification. Higher leverage for non-banks implies a managerial bonding mechanism, which reduces information asymmetry, making acquisitions more feasible. Leverage is measured as the ratio of total debt to total assets.

Finally, among the non-bank industries where banks may seek to expand, bank executives would be most familiar with the business practices of the financial services firms (SIC 61 and 62). In general, due to this familiarity, expansions into financial services would have lower assimilation costs, lower uncertainty regarding the value of the expansion, and lower transaction costs, suggesting that banks would prefer acquisitions over joint ventures in the financial services area. We use a dummy variable = 1, if the expansion is in the financial services area, and = 0, otherwise.

Research Design

Sample

We obtain 1,706 announcements of product-market diversifying acquisitions and joint ventures by U.S. banks over the period from January 1, 1980 to December 31, 1998 from the Securities Data Corporation's *Mergers and Acquisitions* and *Joint Ventures* databases.[8] Accounting or share price data were not available for 155 banks, which were eliminated from the sample, leaving 1,551 banks in the sample.

[7] We have checked for robustness using return on assets (ROA) as well. Results are quantitatively similar to those using NPM. Results with NPM are reported given that multicollinearity exists between ROA and log of assets, which is also used in the model as an explanatory variable.

[8] Specifically, we screened for publicly traded U.S. banks that either acquired a firm or formed a joint venture with a firm in a line of business outside of banking.

Next, the announcement dates for the expansions were verified in *Lexis/Nexis*. 21 announcements could not be verified in Lexis/Nexis and were eliminated from the sample, leaving 1,530 announcements. The final sample consists of 1,341 acquisition announcements and 189 joint venture announcements by 448 U.S. banks.

Many of the target firms and joint venture partners are privately held firms and accounting and market data on these firms are not available. However, the sample does include the subsamples of the 244 non-banking targets and the 189 non-banking joint venture partners for which accounting and financial data are available.

Our data fall into two distinct categories. First, we use accounting based data from Standard and Poor's *Research Insights* for the 1,530 announcements during the sample period of 1980 to 1998. The descriptive and comparative statistics in Tables 1, 2, and 5, and the models in Table 6 are based on these announcements. The sample sizes vary based on data availability for the variable being measured, the length of the time period for analyses, and the type of analyses. Second, we use CRSP stock market returns data for the analysis of short-term stock market performance reported in Table 3, and the analysis on changes in risk reported in Table 4.

Table 1 shows the distribution of product-market diversifying announcements. Panel A shows the distribution of acquisition, joint venture, and the total announcements over the 1980–1998 time period. The table indicates an increasing trend towards joint ventures and acquisitions in noncore business areas by U.S. banks as regulation on these activities became less restrictive. Panel B of Table 1 shows the business lines that the sample banks entered. It indicates that while banks engaged in a diverse set of activities, the largest number of announcements is for expansion into the areas of financial services provided by non-depository institutions (SIC 61) and securities brokerage firms (SIC 62). The second largest area of expansion involves investment offices (SIC 67), followed by data processing (SIC 737 within SIC 73) in the third spot.

Sample Characteristics

Descriptive statistics for our sample are provided in Table 2. All of the financial data are reported for the year prior to the acquisition or joint venture announcement. We include mean and median values for the variables described above for acquiring banks, non-bank targets, banks forming joint ventures, and non-bank venture partners (Columns 1 through 4, respectively). We also report the t-statistics (Wilcoxon Zs) for the difference in means (median) tests between acquiring banks and their non-bank targets (Columns 1–2), venture partner banks and their non-bank partners (Columns 3–4), acquiring banks and those entering joint venture arrangements (Columns 1–3), and non-bank targets and non-bank partners (Columns 2–4).

Acquiring banks are more profitable than their non-bank targets prior to the announcement (Columns 1–2). Joint venture banks are also more profitable than their counterparts (Columns 3–4). Acquiring banks are less profitable than joint venture banks in the period prior to their respective expansions (Columns 1–3). Finally, non-bank targets are less profitable than non-bank venture partners (Columns 2–4).

Both acquiring and venture banks are larger, on average, than their non-bank counterparts. Acquiring banks are significantly smaller than the joint venture banks, while non-bank targets are significantly smaller than non-bank partners.

Table 2 Summary of financial characteristics of the sample firms. This table provides summary financial characteristics of the firms in the sample for which Research Insights data are available. The mean values for selected financial characteristics for the sample firms are reported in this table. All of the financial data are reported for the year prior to the acquisition or joint venture announcements. Some firms are represented more than once in the sample. Thus, the figures in this table represent "value-weighted" averages. Net profit margin is measured as net income divided by sales. Total asset turnover is measured as sales divided by total assets. Sample sizes for bank acquirers, non-bank targets, bank partners, and non-bank partners are in parentheses under the variable name

Variable (Sample sizes)	(1) Mean (median) for bank acquirers	(2) Mean (median) for non-Bank targets	(1–2) Difference test t-statistic (Wilcoxon Z)	(3) Mean (median) for bank partners	(4) Mean (median) for non-bank partners	(3–4) Difference test t-statistic (Wilcoxon Z)	(1–3) Difference test t-statistic (Wilcoxon Z)	(2–4) Difference test t-statistic (WilcoxonZ)
Net profit margin	10.88%	7.15%	1.75*	12.32%	9.45%	1.69*	−2.46**	−1.83*
(1340/229/186/194)	(10.21%)	(6.79%)	(6.67)***	(13.14%)	(8.56%)	(22.76)***	(11.87)***	(0.70)
Total assets ($mi)	$54,356	$13,151	8.19***	$76,506	$29,079	2.47***	−3.67***	−4.23***
(1340/230/187/195)	($26,755)	($3,589)	(11.33)***	($47,397)	($12,303)	(48.39)***	(38.47)***	(48.90)***
Cash/total assets	13.58%	13.42%	0.17	10.65%	13.96%	−1.86*	1.87*	−0.30
(1337/227/186/194)	(11.30%)	(10.20%)	(3.36)**	(8.50%)	(9.11%)	(0.15)	(24.03)***	(1.29)
Total asset turnover	0.92%	0.61%	3.06***	0.55%	0.22%	6.63***	2.91***	1.75*
(1337/227/187/194)	(0.83%)	(0.20%)	(19.54)***	(0.28%)	(0.14%)	(56.87)***	(15.16)***	(3.48)*
Total debt/total assets	28.47%	18.22%	3.29***	23.55%	17.41%	3.07***	1.72*	1.06
(1338/227/186/194)	(23.94%)	(16.17%)	(12.29)***	(23.27%)	(16.02%)	(33.43)***	(3.68)*	(0.04)

*,** and *** significant at the 10%, 5%, and 1% levels, respectively, using a two-tailed test.

Bank partners, in general, are less liquid than acquiring banks, and their non-bank partners. In terms of efficiency, measured by total asset turnover, both acquiring and venturing banks are significantly more efficient than their targets and venture partners, respectively. Acquiring banks and their targets are also more efficient than venturing banks and non-bank partners, respectively. With regard to leverage, both acquiring and venturing banks have higher leverage than their non-bank counterparts.

Empirical Methods

Event Study. We use Eventus 7.0 (Cowan, 2003) for event study methodology to test the market reaction to the announcement of these acquisitions and joint ventures.[9] Returns are modeled using the ordinary least squares market model. The market index used to measure bank abnormal returns is the Datastream US Bank Index. The market model parameters are estimated for the 100-day period $(-110, -11)$.[10] Abnormal returns for the $(-1, +1)$ and $(-1, 0)$ windows and for day 0 are estimated, where day 0 is the announcement day.

Changes in risk. For each bank we estimate the changes in its risk characteristics surrounding the announcement of the event (see Waheed and Mathur, 1995). The pre-announcement risk measure, VAR_{PRE} [post-announcement risk measure, VAR_{POST}] is estimated over the period from t-110 to t-11 [t + 11 to t + 110], where t = 0 is the announcement date. We estimate three components of risk against the Datastream US Bank Index: total, systematic, and unsystematic risk.

Changes in accounting performance. To identify the accounting performance implications of cross-product bank strategies, we utilize univariate tests to analyze gains or losses in the key performance variables for both acquiring and joint venture banks.

Logistic Regressions. We use logistic regressions to estimate the probability that the expansion will be through an acquisition rather than a joint venture. One model considers this question from the perspective of the banks making the expansion choice, and a second model looks at differences between non-bank targets and partners. Given the potential for interaction between bank and non-bank characteristics, we estimate a third model that is based on the ratios of the accounting variables for the banks and their non-bank targets and partners. Profitability, size, liquidity, total asset turnover (asset efficiency), leverage (total

[9] The possibility of confounding or overlapping events is high given the number of transactions and banks in our sample. Observation of our data indicates that there are some overlaps of events within the event windows, but not for any one participating bank. We test for the former situation by using the time series standard deviation method option in Eventus (Cowan, 2003). The results are similar to those for the standardized cross-sectional method (Boehmer et al., 1991) adapted for serial correlation (Cowan, 2003).

[10] Estimation periods of up to 150 days were also used with minor, insignificant changes in the abnormal returns. The reported results are representative of the results observed for the varying lengths of estimation periods considered.

debt to total assets), regulatory periods, and a dummy variable for industry (= 1, if the non-bank firm is in financial services, and = 0 otherwise) are used as the predictor variables.

Empirical Results

Event Study

Table 3 provides the results from the event study. Panel A reports the results for the bank and non-bank participants, respectively. For the (−1, +1) window, bank participants experience abnormal returns of 0.43% while non-bank firms gain 2.14% (both significantly positive at the 1% level). Both results for the event date are slightly lower in both magnitude and level of signficance, but are still significant at least at the 10% level. These results suggest that the market appears to respond favorably to the announcement of cross-product transactions and views bank expansions into new product markets as value generating.

Panel B shows the results for a finer classification of the participants by both firm type and by mode of expansion, providing insights into the market's perception of the appropriate expansion mode for achieving the banks' diversification objectives. Specifically, we look at acquiring and venture partner banks, non-bank targets, and non-bank partners. The wealth gains for cross-product acquisitions in the (−1, +1)

Table 3 Cumulative abnormal returns. This table presents the announcement period cumulative abnormal returns (CARs) for the (−1, +1), (−1, 0) and (0) event windows for the 1530 acquisition and joint venture announcements. Abnormal returns are calculated using the market model estimated from 110 to 11 days prior to the event announcements. CARs represent the cumulative market model-adjusted abnormal returns over the relevant event window. The CRSP equally-weighted market index is used. The Z statistics (given in parentheses) are based on the standardized cross-sectional method. The number of positive and negative CARs for the (−1, +1) window (+/−) are reported in the last column, with the test statistic for the nonparametric generalized sign test reported in parentheses under +/−

	No.	CAR event windows			+/−
		(−1, +1)	(−1, 0)	(0)	
Panel A: Total sample					
Bank participants	1,530	0.43	0.23	0.17	735/795
		(2.76)***	(1.92)*	(1.89)*	(−1.60)
Non-bank participants	451	2.14	1.47	1.38	340/111
		(2.99)***	(2.43)**	(2.24)**	(3.29)***
Panel B: By participant type					
Acquiring banks	1,341	0.10	0.05	0.09	630/711
		(1.97)*	(1.01)	(1.27)	(−0.47)
Venture partner banks	189	2.77	1.72	0.72	105/84
		(3.69)***	(3.08)**	(2.47)**	(2.08)**
Non-bank targets	244	3.45	2.46	2.38	190/54
		(2.89)***	(2.60)**	(2.58)**	(2.16)**
Non-bank partners	207	0.60	0.21	0.20	150/57
		(2.44)**	(2.13)**	(2.11)***	(3.77)***

** and *** significant at the 5% and 1% levels, respectively, using a two-tailed test.

window are 0.10% for the acquiring banks and 3.45% for the non-bank targets, significant at the 10% and 1% levels, respectively. However, the generalized sign test for the number of positive and negative CARs is significant for the non-bank targets only. These results suggest that product-market diversifying acquisitions may generate value for the shareholders of both the acquiring banks and the non-bank targets. The results for these acquirers are in contrast with comparable banking event studies, which show that bidders in bank acquisitions do not experience wealth gains upon announcement (Cornett and Tehranian, 1992; Palia, 1998; DeLong, 2001). They are, however, consistent with the results of Aintablian and Roberts (2000), who find significant positive abnormal returns on the announcements of cross-product bank acquisitions by Canadian banks.

For the (−1, +1) window, partner banks gain 2.77% while non-bank partners gain 0.60% (significant at the 1% and 5% level respectively). The generalized sign tests for the number of positive and negative CARs are significant at least at the 5% level for both venture partner sub-groups. These results indicate that the use of joint ventures by banks is perceived as a value-generating strategy.

While both categories of cross-product transactions are wealth generating, joint ventures seem to be the preferred mode by shareholders. The joint venture abnormal returns of 2.77% for the (−1, +1) window are significantly higher than the 0.10% observed for acquisitions.[11] These results suggest that cross-product expansions using joint ventures are more value enhancing for banks than those made through acquisitions, and are consistent with all three of the reasons discussed for choosing joint ventures over acquisitions. The largest gain goes to the shareholders of the non-bank targets.

Changes in Risk

Table 4 provides the results of the examination of three measures of risk -total, nonsystematic, and systematic or beta- of banks engaging in product-market diversifying transactions. Panel A again distinguishes between bank and non-bank participants, while Panel B looks at the risk profiles for acquiring and partner banks and non-bank partners. Non-bank targets are not shown due to the resultant acquisitions.

The total risk for the average bank in the sample shows a statistically significant increase of 0.107. Increases in both the nonsystematic and market risk measures account for the change in total risk (though only total risk and beta are statistically significant at the 5% and 10% levels, respectively.) The results indicate that these expansion activities result in an increase in the banks' overall risk for the sample firms engaging in product-market diversifying transactions. While all three risk measures for the non-bank participants increase over the measurement period, none of the increases is statistically significant.

The conclusions drawn from the results for the total sample, however, are somewhat misleading because very different results are obtained for the two subsamples. For product- market diversifying acquisitions, there is a statistically significant increase in the total risk and beta (at the 5% and 10% levels, respectively) following the announcement of the acquisition.

The results for joint venture partners are in sharp contrast to those for acquisitions. The total risk measure decreases significantly for banks expanding

[11] A one-tailed *t* test is significant at the 10% level.

Table 4 Changes in risk. This table reports the changes in total risk, nonsystematic risk, and systematic risk or beta around the announcement of the expansion activity for the acquiring banks, partnering banks, and the non-bank partners. The non-bank targets sample ceases to exist. For each bank, we estimate the pre-announcement variable, VAR_{PRE} [post-announcement variable, VAR_{POST}] over the period from t-110 to t-11 [t+11 to t+110], where t=0 is the announcement date. The difference is calculated as VAR_{POST} -VAR_{PRE} for the banks participating in these acquisitions and joint ventures. A positive [negative] change in the bank's risk measure represents an increase [a decrease] in risk over the measurement period. t statistics are reported in parentheses. The total risk and nonsystematic risk figures have been multiplied by 10,000

Sample	Number	Total risk	Nonsystematic risk	Beta
Panel A: Total sample				
Bank participants	1,530	0.107 (2.35)**	0.204 (1.40)	0.017 (1.70)*
Non-bank participants	451	0.033 (1.57)	0.031 (1.47)	0.018 (1.60)
Panel B: By participant type				
Acquiring banks	1,341	0.270 (2.15)**	0.258 (1.58)	0.023 (1.97)*
Venture partner banks	189	−0.807 (3.48)***	−0.179 (1.04)	−0.031 (−1.52)
Non-bank partners	207	0.001 (0.41)	0.003 (0.12)	−0.03 (1.49)

* and **significant at the 10% and 5% levels, respectively, using a two-tailed test.

through joint ventures (significant at the 1% level). Nonsystematic risk and beta decline, but not significantly so. This is not inconsistent with results found by Comment and Jarrell (1995) who report increases in firm-specific risk when firms engage in focusing activities. The changes in the risk measures for the non-bank partners are not significant.

The results in Table 4 support the notion that joint ventures may provide risk reduction benefits through non-related diversification and may be preferred over acquisitions due to information asymmetry. Higher information asymmetry may result from acquisitions due to the "winner's curse," where the owner of the acquisition target has an incentive to overstate the value of the assets being sold. In circumstances of diversifying (and often technology-based) acquisitions, the bank may not be familiar with the value of the target, and may overpay as a result. Because joint ventures are risk sharing arrangements with a specific objective, information asymmetry may be lower because the acquirer does not have to digest the entire target. Investors may perceive a relatively higher degree of uncertainty involved with the cross-product acquisitions, resulting in the market assigning a higher beta to the post acquisition bank.[12]

Accounting Performance Outcomes

We extend our post-announcement analysis by examining accounting performance changes following product-market diversifying acquisitions and joint ventures. To do this effectively requires treating the two expansion sub-groups differently because their post-expansion structures are slightly different. First, to evaluate the change for the acquiring banks, we look at the combined values for the acquiring bank and its target prior to the announcement relative to the value for the acquirer two years after

[12] As a robustness check and to eliminate the possibility of industry wide effects, we also conducted a matched sample test. We calculated the risk measures for both the sample and the matching banks and tested for changes in risk based on the differences in the risk measures for the sample and matching banks. The results are similar to the ones reported here.

the announcement. For the venture partner banks, we look at the changes to them alone since the ownership structure does not change dramatically as it does for the acquiring sub-group.

Table 5 reports the industry adjusted differences in the five performance variables for the firms in our sample involved in cross-product acquisitions and ventures. The percent change for all variables for each bank is calculated as the change from one year prior to two years after the announcement minus the same measure for the industry average for the 3 digit SIC code in which the firm operates. The results reported in the table are ($ADJVAR_{post}$ - $ADJVAR_{pre}$), where ADJVAR is the measure for the sample firm variable minus the control firm variable, *post* is two years after the announcement, and *pre* is one year prior to the announcement. Test statistics for the differential changes in operating performance between acquiring banks plus their targets versus their venture partner counterparts are shown in the last column.

The industry adjusted net profit margin mean and median measures for the two sub-samples do not show statistically significant improvements. The improvement for acquiring banks is smaller than for joint venture banks, but the difference is not statistically significant. The industry adjusted growth in mean and median total assets for the acquisition sample is statistically significant. Joint venture banks also show positive but insignificant growth. The difference for acquisition and joint venture banks is significant. Industry adjusted liquidity declines for acquiring banks and

Table 5 Changes in accounting and operating performance. This table reports the changes industry adjusted selected operating and performance variables for sample firms from one year prior to two years after the cross-product announcement. The percent change for all variables is calculated as (VAR_{post} - VAR_{pre}), where VAR is the measure for the sample firm variable, *post* is two years after the announcement, and *pre* is one year prior to the announcement. To evaluate the change for the acquiring banks, we look at the combined values for the acquiring bank and its target prior to the announcement relative to the value for the acquirer two years after the announcement. For the venture partner banks, we look at the changes to them alone. Net profit margin is measured as net income divided by sales. Total asset turnover is measured as sales divided by total assets. t-statistics (Wilcoxon Zs) indicate the differences in mean (median) changes from the year prior to the announcement to two years post announcement. Test statistics for the differential changes in operating performance between acquiring banks plus their targets versus their venture partner counterparts are shown in the last column

Variable	(1) Mean (median) change for acquiring banks	(Post-pre) difference test t-statistic (Wilcoxon Z)	(2) Mean (median) change for venture banks	(Post-pre) difference test t-statistic (Wilcoxon Z)	(1–2) Difference test t-statistic (Wilcoxon Z)
Sample size	228		182		
Net profit margin	0.03 (0.01)	0.65 (1.04)	0.19 (0.13)	0.56 (1.30)	−1.28 (−0.45)
Total assets ($mi)	0.58 (0.26)	2.05** (3.06)**	0.05 (0.01)	1.38 (1.06)	2.05** (4.36)***
Cash/total assets	−0.77 (−0.52)	−1.35 (−1.54)	0.35 (0.24)	(1.99)** (3.85)***	−3.07*** (−4.55)***
Total asset turnover	−0.06 (−0.03)	−0.36 (−1.05)	0.27 (0.18)	1.76* (3.05)**	−1.93* (2.05)
Total debt/ total assets	1.24 (1.08)	1.08 (0.63)	0.24 (0.06)	1.37 (1.28)	1.56 (1.70)

*,** and *** significant at the 10%, 5%, and 1% levels, respectively, using a two-tailed test.

increases for joint venture banks, with the difference in the change being statistically significant for only joint venture banks. These results indicate that joint venture banks are able to maintain their liquidity risk subsequent to their diversification announcements, while acquiring banks significantly increase their liquidity risk. Significant changes in efficiency are observed only for venturing banks. Finally, industry adjusted leverage for both acquiring and venturing banks increases, but not significantly.

The evidence on post expansion accounting performance suggests that acquisitions facilitate more rapid growth in total assets and a reduction in leverage, while joint ventures help improve the liquidity position for banks.

Logistic Regressions

Table 6 reports the results for logistic regressions modeling the probability that the expansion will be through an acquisition rather than a joint venture. The first model looks at the probability that the bank will acquire rather than form a joint venture. Larger banks are more likely to expand through joint ventures (significant at the 1% level). Acquisitions are more likely if the non-bank firm is in financial services. Similarly, acquisitions were more prevalent in the first regulatory regime. The model χ^2 of 122.87 is significant at the 1% level. These results, in general, validate the reasons advanced for the conditions under which banks would prefer joint ventures over acquisitions.

The second logistic model looks at the differences between the non-bank targets and joint venture partners in the sample. Smaller and more efficient non-bank firms are more likely to be targets. Similarly, non-bank financial services firms appear to make better targets. Target firms with these characteristics would be easier to integrate, which suggests lower assimilation costs. These firms also have higher debt ratios, which implies lower levels of information asymmetry. Smaller target firms would certainly have lower integration costs. It is also possible that acquiring smaller firms, relatively speaking, creates fewer regulatory problems for the expanding banks. The χ^2 for this model is 64.23, which is significant at the 1% level.

For the third logistic regression, we compute the ratios of the accounting variables for the banks and non-bank firms, For example, we compute the net profit margin (NPM) ratio as bank NPM / non-bank NPM. The result indicates that a smaller profitability ratio and a larger size differential lead to a greater propensity to expand through acquisitions. The result suggests that banks may seek to increase profitability and minimize assimilation costs through acquisition-related economies of scale and scope. The size coefficient is significant and positive, i.e., the probability of an acquisition is higher when the bank is comparably larger than the non-bank firm, pointing to the importance of lower regulatory oversight costs, lower assimilation costs, lower transaction costs, and lower information asymmetry costs in the acquisition versus joint venture decision.

In addition to statistically significant relationships, the results of the logistic regressions suggest economic significance as well.[13] Using the estimated coefficients shown in Table 6 and the mean values of the independent variables, we estimate for Regression 1 the predicted probability that a bank that has decided to expand will

[13] The discussion of the economic significance of the logistic regression model is motivated by a similar discussion in Johnson and Houston (2000).

Table 6 Logistic regression modeling the probability that the expansion is through an acquisition rather than a joint venture. We estimate the probability that the expansion will be through acquisition for both the bank and non-bank subsamples (acquiring versus joint venture banks and non-bank targets versus venture partners, respectively). In each model, the dependent variable is a dummy equal to 1 if the firm expands through an acquisition and zero otherwise. The independent accounting variables proxy for profitability, firm size, liquidity, asset efficiency, and financial leverage. Net profit margin is measured as net income divided by sales. Total asset turnover is measured as sales divided by total assets. Industry is a dummy variable equal to 1 if the non-bank firm is in financial services and zero otherwise. Regulatory Period 1 [Regulatory Period 2] is a dummy variable = 1, if the expansion announcement is in 1980 – 1986 [1987 – 1993], and = 0, otherwise. The independent accounting variables in the third model are the ratios of the bank and non-bank variable of interest. For each model, we report the coefficients with the Chi square statistic shown in parentheses

Variables	Proxies for	Bank acquirers versus partners	Non-bank targets versus partners	Ratio of bank to non-bank participants
Intercept		2.74 (3.26)**	0.63 (1.44)	0.20 (0.20)
Net Profit Margin	Profitability	−0.02 (1.96)	−0.001 (0.27)	−0.06 (4.13)**
Ln(Total Assets)	Size	−0.24 (6.99)***	−0.07 (5.36)***	0.08 (4.72)**
Cash to Total Assets	Liquidity	1.26 (4.29)	−0.72 (0.75)	0.04 (1.78)
Total Asset Turnover	Asset Efficiency	1.02 (3.59)	0.02 (3.31)*	0.15 (0.24)
Debt Ratio	Financial Leverage	1.99 (3.09)	0.38 (1.08)	0.36 (0.75)
Industry	Financial Services	0.93 (7.81)***	1.08 (9.20)***	1.21 (14.23)***
Regulatory Period 1	Regulatory Regime	2.73 (7.52)***	4.28 (4.93)**	2.06 (3.97)**
Regulatory Period 2	Regulatory Regime	−0.04 (1.96)	−0.05 (3.20)*	0.41 (1.61)
N		1530	420	420
Model χ^2		122.87 ***	64.23***	55.83***

*, ** and *** significant at the 10%, 5%, and 1% levels, respectively, using a two-tailed test.

do so through an acquisition (93.91%).[14] Using this percentage as the base case, we compare the impact of a change in a given independent variable on the probability of acquiring rather than venturing. A one standard deviation increase in the mean of the log of total assets results in a predicted probability of an acquisition of 81.27%, or a change of −12.64%. In Regression 2, a one standard deviation increase in the mean of the log of total assets decreases the probability of an acquisition by 3.76%. Finally, in the third regression, a one standard deviation increase in the ratio of the log of total assets increases the probability of an acquisition by 2%. These results indicate that changes in any of the independent variables do in fact change the likelihood of choosing acquisitions over joint ventures.

[14] We examine the robustness of our results by conducting the following analysis. We randomly selected equal numbers of observations from the acquisitions and joint ventures subsamples and estimated the logistics model. We repeated the process five times with the sample size varying from 150 to 300 total observations. We obtained results similar to the ones reported here. Namely, the impact of changing each independent variable by one standard deviation resulted in effects on the probability of choosing an acquisition similar to the ones shown here.

Conclusions

The regulatory environment in which U.S. commercial banks operate has undergone massive changes in the past two decades. The repeal of key components of the Glass-Steagal Act and the passage and implementation of the Gramm-Leach-Bliley Financial Services Modernization Act create additional opportunities for these banks to expand into non-banking lines of business, providing a broader range of financial services than they have since the 1930s. How they capitalize on these opportunities to diversify into non-banking business sectors is the focus of this paper. Specifically, we examine how these banks use acquisition and joint venture strategies during the 1980s and the 1990s to expand the scope of their operations into non-banking sectors with several important results.

First, we find statistically significant positive market responses for all four participating firm types (acquiring banks, and joint venture banks, non-bank targets, and non-bank partners). Second, we find significant increases in total risk and systematic risk for the acquiring banks, while there is a significant reduction in total risk when banks form joint ventures. Thus, the wealth gains may be compensating acquiring bank shareholders for the additional risk they face as a result of the acquisition, while the joint venture bank shareholders benefit from both wealth gains and a reduction in the risk profile of the bank. Third, we find that banks engaging in cross-product expansion through acquisitions are able to grow more than venturing banks. However, their liquidity position deteriorates compared to venturing banks.

These results support the fact that product-market diversifying expansions through joint venture agreements can be a valuable alternative to more traditional acquisitions. First, a qualitative assessment of the joint venture announcements indicates that they are primarily (i) related to offering new products or services in the financial services related areas, (ii) designed to exploit new technologies applicable to the banking area, or (iii) take advantage of or provide access to specific assets that are of interest to the banks in our sample. Further, these banks do not have to acquire the target companies to gain access to these assets. The formation of these joint ventures is consistent with the assimilation, information asymmetry, and management and transaction costs hypotheses.

Second, the larger abnormal returns for the $(-1, +1)$ window indicate that the joint venture mode for cross-product expansion is preferred over expansion through acquisition. These results suggest that some combination of the reasons mentioned for deciding between an acquisition and a joint venture lead to the superior financial performance for joint ventures.

Third, our systematic risk results suggest that acquisitions involve a higher degree of uncertainty regarding the value of the assets being acquired. Thus, there is some support for the asymmetric information hypothesis.

Finally, when considered together, we interpret these findings as evidence that both acquisitions and joint ventures are value adding, wealth-enhancing opportunities when U.S. banks use them to implement product-market diversification strategies.

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