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The Value Effects of Bank Mergers and Acquisitions

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The Value of Bank Mergers and Acquisitions [1]

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Abstract: The banking industry has experienced an unprecedented level of consolidation on a belief that gains can accrue through expense reduction, increased market power, reduced earnings volatility, and scale and scope economies. A review of the literature suggests that the value gains that are alleged have not been verified. The paper then seeks to address alternative explanations and reconcile the data with continued merger activity.

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The views expressed do not necessarily reflect those of the Board of Governors or its staff.

1. Introduction

Over the past decade, the banking industry has experienced an unprecedented level of consolidation as mergers and acquisitions among large financial institutions have taken place at record levels.[1] In the last three years alone more than 1500 mergers have occurred in the US market. To a large extent, this consolidation is based on a belief that gains can accrue through expense reduction, increased market power, reduced earnings volatility, and scale and scope economies. Whether or not bank mergers actually achieve the expected performance gains is the critical question. If consolidation does, in fact, lead to value gains, then shareholder wealth can be increased. On the other hand, if consolidating entities does not lead to the promised positive effects, then mergers may lead to a less profitable and valuable banking industry.

A reading of the literature suggests that the value gains that are alleged to accrue to the large and growing wave of merger and acquisition activity have not been verified. This has left the research community in a quandary. Has the industry followed a path of massive restructuring on a misguided belief of value gains? Is management in this sector just incompetent? Or, are they merely lying to shareholders about the effect of their activity on shareholder value?

The present paper seeks to address these alternative explanations and reconcile the data with the empirical reality of continued merger and acquisition activity. Its not easy. The banking industry is following a path of widespread consolidation even while academics seek answers to why it is going on. The literature in the area is rich in terms of data and variation of techniques employed. But, the results are disappointing in that they leave the reader with no greater understanding of why banks are merging, or which banks are merging, or when this transformation of the industry will stop.

In this paper we begin with a review of this literature on the effects of merger and acquisition activity. Then we attempt to put it in context, and we finally try to learn from the experience. We argue that the literature, in fact, has done a good job in researching the question at hand. It is just

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[1] Throughout this paper, the terms merger and acquisition are used interchangeably.

that we do not understand the answer. Gains by many measures are either small or non existent. The researchers in this field try to explain away the overwhelming message of the literature. In general, these explanations are rationalizations for the non existence of positive value outcomes from the previously reviewed literature. They are not alterative, testable theories, in and of themselves. In fact, these rationalizations can be seen as attempts to defend the approaches taken in the literature from professional economists or bankers who do not find the results credible. But, recently, a new thread of the literature has developed which we find somewhat more promising. The recent interest in understanding individual cases, looking into the process of change for a particular merger and the realized outcome from the event, seems potentially rewarding and revealing. Where these case studies will lead, and what we will learn that can be generalized is still an open question.

Our review of the subject proceeds as follows. In Section 2, we begin with a synopsis of the benefits that are supposed to accrue to a merger transaction. Section 3 outlines the major empirical methodologies used to investigate and measure these alleged gains. This is followed by a discussion of the findings reported in the major studies in the area, although we have, no doubt, left out a few. As noted above, the results obtained are overwhelmingly unsupportive of the value effects. Both accounting and event studies offer no evidence of value gains. The average merger has either no effect on total firm value, or a slightly negative one. The reasons offered for these (non)results are enumerated and critiqued in Section 5, which we appropriately refer to as rationalizations. Then, in Section 6, we present a discussion of the newly emerging case approach. We attempt to explain why this research procedure is being employed and present both sides of the issue of whether such field studies will yield results. We end with Section 7, where our final thoughts are offered.

2. Traditional Views of the Value of Mergers and Acquisitions

Merger and acquisition activity results in overall benefits to shareholders when the consolidated post-merger firm is more valuable than the simple sum of the two separate pre-merger firms. The primary cause of this gain in value is supposed to be the performance improvement following the merger. The research for post-merger performance gains has focused on improvements in any one

of the following areas, namely efficiency improvements, increased market power, or heightened diversification.

Several types of efficiency gains may flow from merger and acquisition activity. Of these, increased cost efficiency is most commonly mentioned. Many mergers have been motivated by a belief that a significant quantity of redundant operating costs could be eliminated through the consolidation of activities. For example, Wells Fargo estimated annual cost savings of $1 billion from its 1996 acquisition of First Interstate.[1]

Consolidation enables costs to be lowered if scale or scope economies can be achieved. Larger institutions may be more efficient if redundant facilities and personnel are eliminated within the post-merger organization. Moreover, costs may be lowered if one bank can offer several products at a lower cost than separate banks each providing individual products. Cost efficiency may also be improved through merger activity if the management of the acquiring institution is more skilled at holding down expenses for any level of activity than that of the target.

Bank merger and acquisition activity may also encourage improved revenue efficiency in a manner analogous to cost efficiency. Some recent deals, such as the proposed acquisition of Boatmen's Bancshares by NationsBank, have been motivated by potential gains in this area.[2] According to this view, scale economies may enable larger banks to offer more products and services, and scope economies may allow providers of multiple products and services to increase the market share of targeted customer activity. Additionally, acquiring management may raise revenues by implementing superior pricing strategies, offering more lucrative product mixes, or incorporating sophisticated sales

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[1] Barton Crockett, "First Bank Claims Wells Overstates Deal Savings," American Banker (November 20, 1995).

[2] Kenneth Cline, "NationsBank Sees Boatmen's Revenue Potential," American Banker (September 26, 1996).

and marketing programs. Banks may also generate greater revenue by cross-selling various products of each merger partner to customers of the other partner. The result is supposed to be higher revenue without the commensurate costs, i.e., improved profit efficiency. The latter term in general refers to the ability of profits to improve from any of the sources noted above, cost economies, scope economies or marketing efficiency. In a sense, it represents the total efficiency gains from the merger without specific reference to the separately titled efficiency improvement areas.

Merger-related gains may also stem from increased market power. Deals among banks with substantial geographic overlap reduce the number of firms in markets in which both organizations compete. A related effect of in-market mergers is that the market share of the surviving organization in these markets is raised. These changes in market structure make the affected markets more vulnerable to reduced competition. The increased market power of the surviving organization may enable it to earn higher profits by raising loan rates and lowering deposit rates.

It should be noted that antitrust policies of the Federal Reserve and Department of Justice are designed to prohibit mergers with substantially anti-competitive effects. However, to the extent that a local market can be exploited by a merger which results in substantial market power, the potential gain could be substantial.

Finally, mergers may enhance value by raising the level of bank diversification. Consolidation may increase diversification by either broadening the geographic reach of an institution or increasing the breadth of the products and services offered. Moreover, the simple addition of newly acquired assets and deposits facilitates diversification by increasing the number of bank customers.

Greater diversification provides value by stabilizing returns. Lower volatility may raise shareholder wealth in several ways. First, the expected value of bankruptcy costs may be reduced. Second, if firms face a convex tax schedule, then expected taxes paid may fall, raising expected net

income.[1] Third, earnings from lines of business where customers value bank stability may be increased. Finally, levels of certain risky, yet profitable, activities such as lending may be increased without additional capital being necessary.[2]

Any one of these reasons for gains from mergers is sufficient, and different ones presumably are relevant in different circumstances. Not all mergers are expected to result in cost efficiencies, nor does each one result in higher revenue and/or diversification gains. However, for any specific merger to create value, at least one of these gains appears to be necessary to achieve it. A casual review of the press suggests most mergers assert cost advantages, while revenue and diversification gains are less often mentioned. When firms of dissimilar franchise merge, on the other hand, revenue efficiency or diversification are often the indicated reasons. Participants in in-market mergers trumpet cost efficiencies, while others allege market power outcomes. In the U.S., the geographic expansion of the franchise of major super regionals, by contrast, often speaks of the transference of best practice in production and the stability of a large geographic distribution channel.

Whether any of these gains are obtained is another matter. Bankers, and their investment bankers can allege all sorts of benefits. The key issue for the researchers in the area is whether or not these gains are observable. To address this issue, the literature has examined mergers in several different, but hopefully complementary ways. It is to this area that we now turn.

3. Traditional Approaches to Testing the Effects of Consolidation

Most academic studies follow one of two approaches to estimate and evaluate the significance of merger-related gains.[3] The first compares the pre-merger and post-merger performance of

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[1] See Santomero (1995) for a discussion of the benefits of diversification on shareholder value. This area of risk management has grown substantially as this review will illustrate.

[2] This is a key rationalization in favor of a move toward universal banking. See Saunders and Walters (1994).

[3] Rhoades (1994) provides an excellent discussion not only of the two approaches, but of many of the studies conducted from 1980 to 1993 that adopt them.

institutions using accounting data to determine whether consolidation leads to changes in reported costs, revenue or profit figures. The strengths of this approach are that accounting performance can be directly measured and the data used are both easily obtained and well understood. The approach is also fairly straightforward. Data from both pre-merger and post-merger data are used in the analysis and evaluated for evidence of a change in the performance around the merger activity. Proponents of this methodology argue that accounting data measure actual performance conditions, not investor expectations and are therefore likely to be somewhat more reliable than equity returns.

However, studies of accounting data have several drawbacks. Although accounting data are designed to measure actual performance, they may be inaccurate in an economic sense. Data are based on historical figures and often neglect current market values. In addition, measured changes between the pre-merger and post-merger period may not be solely due to the merger. Other events may have occurred during the period that is being investigated which may more accurately account for the observable performance changes. Failing to account for such extraneous events may lead to improper conclusions regarding merger-related changes.

The second approach to analyzing merger benefits evaluates the stock market reaction to merger announcements. Proponents of this approach argue that in as much as it relies on market data rather than accounting figures, it more accurately conveys the implied value of merging two independent entities. In essence, they argue that accounting data are unreliable and the market s reaction is likely to be a better indicator of the real economic effects of the announced deal. Most studies examine the abnormal returns of acquirers and targets separately, but several papers analyze the total change in shareholder wealth. In such cases, the value-weighted sum of acquirer and target abnormal returns is the appropriate measure of overall gains stemming from merger and acquisition activity. This measure quantifies the value creation that the market believes the merger will provide. Studies of the abnormal returns experienced by individual merger parties can not differentiate between the effect on

value of consolidation and the effect of the wealth transfer embodied in the purchase price.

As with any approach, market price studies themselves are not perfect. They have their share of detractors who focus most often on the timing of the analysis. While abnormal return studies, which use market prices, have the benefit of not relying on potentially misleading accounting data, most studies only measure returns during a short period around the merger announcement. The analysis is, therefore, based solely on market expectations of unrealized events. Studying abnormal returns during the post merger period, however, has its own set of problems. The interpretation of the few studies of abnormal returns that extend into the post-merger period is unclear. Observed returns may be attributable to expected bank performance or to the actual outcome which may be unrelated to the merger transaction under investigation.

In all studies, it is unclear what event period is most preferred. How many days before the announcement are necessary to capture the effect of information leakage without including too much unrelated noise? How many days after the announcement are appropriate to enable the market to fully trade on information regarding the proposed transaction? If the event period is important, results may be influenced substantially by the window selected for analysis.

Recently, a third approach has emerged in the literature which incorporates and extends the two basic methods of analysis. Several papers not only analyze the relationship between mergers activity and both changes in accounting figures and stock market returns, but go a step further. These studies measure the correlation between changes in accounting data and abnormal returns. In so doing, the ability of the market to accurately forecast subsequent performance changes is examined. The extended analysis addresses the question of whether the market is able to differentiate among mergers that ultimately achieve improved performance and those that fail to achieve gains.

4. A Review of the Published Literature

Before examining the applications of the three approaches enumerated above, a practical issue arises, namely, what should be the level of the analysis. Two primary approaches to defining mergers exist in the literature. Mergers are defined at the bank level and at the holding company level. A

bank-level merger occurs when previously distinct banks are consolidated into one institution. Consolidations of individual banks under the same holding company are often included in samples of mergers defined this way. Analyzing mergers at the bank level is appealing for several reasons. Not only have there been a great number of mergers at this level, but because the FDIC Report of Income and Report of Condition (call report) measure performance at the bank level, data are easily obtained for these types of mergers. However, studying bank-level mergers centers the study on the impact of changing organizational structure. It does not clearly assess the gains brought about by new ownership which economists general view as the centerpiece of the analysis of mergers and acquisitions. Therefore, most studies focus on mergers of holding companies. A merger at the holding company level is defined by a change in ownership of a subsidiary bank or a group of subsidiary banks. This type of merger is viewed in the same manner regardless of whether the newly acquired banks are consolidated into a single institution or continue to operate as separate entities under new ownership. By construction, analysis of this type of merger is particularly useful in examining the effect of changes in ownership.

A large portion of the empirical work examining the benefits of mergers focuses on changes in cost efficiency using available accounting data. Berger and Humphrey (1992), for example, examine mergers occurring in the 1980s that involved banking organizations with at least $1 billion in assets. The results of their paper are based on data aggregated to the holding company level, using frontier methodology and the relative industry rankings of banks participating in mergers. Frontier methodology involves econometrically estimating an efficient cost frontier for a cross-section of banks. For a given institution, the deviation between its actual costs and the minimum cost point on the frontier corresponding to an institution similar to the bank in question measures X-efficiency. The authors find that, on average, mergers led to no significant gains in X-efficiency.[1] Berger and

[1] See Berger, Hunter, and Timme (1993) for an excellent discussion on the topic of financial institution efficiency.

Humphrey also conclude that the amount of market overlap and the difference between acquirer and target X-efficiency did not affect post-merger efficiency gains. In addition to testing X-efficiency, they also analyze return on assets and total costs to assets and reach a similar conclusion: no average gains and no relation between gains and the relative performance of acquirers and targets. Non-interest costs yield significant results, but the findings are opposite of expectations that the operations of an inefficient target purchased by an efficient acquirer should be improved.

Akhavein, Berger, and Humphrey (1997) analyze changes in profitability experienced in the same set of large mergers as examined by Berger and Humphrey. They find that banking organizations significantly improved their profit efficiency ranking after mergers. However, rankings based on more traditional ROA and ROE measures that exclude loan loss provisions and taxes from net income did not change significantly following consolidation.

DeYoung (1993) also utilizes frontier methodology to examine cost efficiency and reaches similar conclusions as Berger and Humphrey. Cost benefits from mergers did not exist for 348 bank-level mergers taking place in 1986 and 1987. In addition to the lack of average efficiency gains, improvements were unrelated to the difference between acquirer and target efficiency. However, DeYoung does find that when both the acquirer and target were poor performers, mergers resulted in improved cost efficiency.

In addition to frontier methodology, the literature contains several papers that solely employ standard corporate finance measures to analyze the effect of mergers on performance. For example, Srinivasan and Wall (1992) examine all commercial bank and bank holding company mergers occurring between 1982 and 1986. They find that mergers did not reduce non-interest expenses. Srinivasan (1992) reaches a similar conclusion.

Both of these studies focus solely on non-interest expenses resulting in an incomplete picture of the cost savings associated with mergers. In order to gain a complete view of bank costs, the total of interest and non-interest expenses must be examined. Various funding and investment strategies have different impacts on the two cost components. For example, an increase in purchased funds raises interest costs, but lowers non-interest costs. Therefore, to avoid attributing efficiency gains

to changes in funding methods or investment choices, total costs must be evaluated.[1]

Toward this end, Rhoades (1993) conducts a thorough examination of in-market mergers taking place between 1981 and 1986. He regresses the change in several performance measures on control variables and a dummy variable differentiating banks that engaged in an in-market merger from those that did not. Rhoades also conducts several logit analyses where the dependent variables measure whether the efficiency quartile of a bank increased, decreased, or remained unchanged. In both sets of tests, cost reductions and efficiency gains were not significantly related to horizontal mergers.

The 1993 study is the most recent of a number of studies on the subject by this author. In an earlier study, Rhoades (1987) examines the impact of mergers on the ratios of net income before extraordinary items to assets and non-interest expenses to assets. He runs probit analyses in which a dummy variable distinguishing non-acquired banks from banks acquired by multibank holding companies is the dependent variable. Performance measures and several control variables serve as the independent variables. Rhoades finds that neither income nor non-interest expenses were affected by merger activity. In Rhoades (1990), a similar study to Rhoades (1993) is conducted with 13 acquisitions involving billion dollar banks. Consistent with his other work, Rhoades finds no performance effect due to mergers.

The work of Linder and Crane (1992) is also noteworthy. They analyze the operating performance of 47 bank-level intrastate mergers that took place in New England between 1982 and 1987. Of the 47 mergers in the sample, 25 were consolidations of bank subsidiaries owned by the same holding company. The authors aggregate acquirer and target data one year before the merger and compare it to performance one and two years after consolidation. The performance of merged banks is adjusted by the performance of all non-merging banks in the same state as the merging entities. The results indicate that mergers did not result in improved operating income, as measured by net interest income plus net non-interest income to assets.

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[1] **The problems with ignoring total expenses and only analyzing non interest costs are discussed in Berger and Humphrey (1992).**

Several studies find evidence of merger gains, but the results of these studies must be scrutinized carefully. Spindt and Tarhan (1993) find gains in their sample of 192 commercial bank mergers completed in 1986. Non-parametric tests comparing the performance changes of merged banks with a group of matched pairs indicate that mergers led to operating improvements. The results, however, may be due primarily to economies of scale. The existing evidence in the literature suggests that scale economies do exist for institutions holding less than $100 million in assets. [1] Spindt and Tarhan's results are based on a sample that is dominated by mergers involving banks of this size. Because the results may be driven by economies of scale at small institutions, it is unclear whether their findings are relevant to large mergers--the transactions most severely transforming the banking industry.

Chamberlain (1992) demonstrates the importance that sample selection can have in influencing the results of a merger study. Her sample consists of 180 bank subsidiaries that were acquired by bank holding companies between 1981 and 1987. The unit of analysis is the individual target bank that experienced a change in ownership, but was not consolidated into another bank. For each merger, matched pair analysis is conducted. Pre-merger and post-merger performance of the acquired bank are compared to those of a non-acquired bank from the same area and of similar size and leverage. While Chamberlain finds evidence of overall gains when Texas mergers are omitted from the sample, the full sample yields no evidence of gains.

Turning to studies of stock market reactions to merger announcements, researchers also generally fail to find total gains from consolidation. Most abnormal return studies typically analyze target and acquirer returns separately. However, in order to measure the overall anticipated gains resulting from a merger, the value-weighted average of bidder and target abnormal returns must be analyzed. Most research on abnormal returns does not do this.

Hannan and Wolken (1989) conduct a study of the value-weighted abnormal returns experienced in 43 deals announced between 1982 and 1987. The authors find that, on average, total shareholder

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[1] For good surveys of the literature on economies of scale, see Clark (1988) or Humphrey (1990).

value was not significantly affected by the announcement of the deal. The authors do, however, find that one determinant, target capitalization, cross-sectionally influenced expected synergistic gains. Target capital was negatively related to the change in total value.

Houston and Ryngaert (1994) examine abnormal returns from four days before the target was initially declared a takeover candidate (by any bank) to the announcement day. In their sample of 153 mergers announced between 1985 and 1991, acquirers suffered a loss in value and targets enjoyed a gain. However, there was no significant aggregate effect on the overall value of the two organizations. The amount of value that was created was highest when acquirers were strong pre-merger performers and when substantial overlap existed. This relationship of value creation with the degree of overlap is consistent with the market expecting mergers best suited for improved efficiency and/or increased market power to experience the greatest level of post-merger benefits.

Madura and Wiant (1994) study abnormal returns of acquirers over a lengthy period following the merger announcement. They find that average cumulative abnormal returns of acquirers in a sample of 152 deals taking place between 1983 and 1987 were negative during the 36-month period following the merger announcement. Moreover, abnormal returns were negative in nearly every month. Acquirer losses around the time of the announcement may reflect a loss of wealth from an overly generous acquisition price. Negative abnormal returns in months after the announcement, however, are not likely to be due to the price. They seem more attributable to either the merger achieving fewer benefits than projected, or the market revising downward its expectations for the merger.

The only serious study of the European market on this issue is the recent work by Cybo-Ottone and Murgia (1996). In it they analyze 26 mergers of European financial services firms (not just banks) taking place between 1988 and 1995 in 13 European banking markets. Their results are qualitatively similar to much of the analysis conducted on American banking organizations. Average abnormal returns of targets were significantly negative and those of acquirers were essentially zero. This pattern suggests that there was a transfer of wealth from acquirers to targets. Also comparable to mergers of American banks, the change in overall value of European financial firms at the time of

the announcement was small and not significant. This pattern continued for at least a year. In the year following the merger, (excluding the first 10 days after the announcement), the combined value of the acquirer and target did not change significantly.

The findings of Zhang (1995) on U.S. data contradict those of most abnormal return studies. Among a sample of 107 mergers taking place between 1980 and 1990, the author finds that mergers led to a significant increase in overall value. Although both merger partners experienced an increase in share price around the merger announcement, target shareholders benefitted much more on a percentage basis than the acquiring shareholders. Cross-sectional results suggest that increases in value were smallest when improved efficiency and increased market power were expected to have their greatest potential impact. Changes in value decreased as targets got larger relative to acquirers and as the amount of geographic overlap between acquirers and targets increased. The latter finding is consistent with diversification creating value.

Recently, several papers incorporate both approaches in the literature. The first of these studies is conducted by Cornett and Tehranian (1992) and examines 30 large holding company mergers occurring between 1982 and 1987. The authors find that profitability, as measured by cash flow returns on the market value of assets, improved significantly after the merger. This finding, however, must be viewed closely for several reasons. First, the market value of assets may be an inappropriate measure for standardizing income. It is defined primarily from the liability side of the balance sheet as the market value of common stock plus the book value of long-term debt and preferred stock less cash. Given the nature of banks as financial intermediaries, it is unclear why deposits are not included in this liability-based definition. The appropriateness of subtracting cash holdings is also debatable. Cornett and Tehranian find that net income to assets, a more traditional measure of bank profitability, does not change by a significant amount.

In addition, the findings of Cornett and Tehranian may also be partially driven by adjusting performance by an improper benchmark. The authors use, as their peer group, a sample of banks located throughout the country that were traded on either the NYSE or AMEX and that did not merge during the sample period. This comparison set of banking organizations may not be relevant

to the sample institutions which had significantly different regional characteristics. This problem is accentuated by a set of sample observations which has a number of questionable deals.[1] As a result, Cornett and Tehranian's findings of post-merger improvements relative to a benchmark may be due to the unique data used for the study.

Cornett and Tehranian also examine value-weighted abnormal returns around the time of the merger announcement. They find that the market responded to announced deals by raising the combined value of the merger partners. The authors also find that changes in several performance measures, including cash flow returns on the market value of assets, were positively correlated with value-weighted abnormal returns. These relationships suggest that the market may have been able to accurately forecast the eventual benefits of individual mergers. Net income to total assets is not one of the variables that was correlated to value-weighted abnormal returns, however.

Pilloff (1996), like Cornett and Tehranian, combines both approaches found in the literature to analyze a sample of 48 mergers of publicly traded banking organizations that merged between 1982 and 1991. His study improves upon Cornett and Tehranian by addressing many of the problems in that paper. First, results are based on traditional measures of performance that are appropriate for a study of banking organizations. Second, the performance of merging banks is compared to a more accurate benchmark that controls for geographic location. Third, and perhaps most importantly, the merger sample is larger with substantially fewer observations that are poorly suited for analysis.

Pilloff obtains results that are consistent with the bulk of the merger literature. In general, mergers were not associated with any significant change in performance, suggesting that managers were unable to generate benefits from deals on average. Moreover, the mean overall change in shareholder value was also quite small.

Although there was no average change in either operating performance or shareholder value, there was a great deal of variation among banks. Some mergers proceeded successfully and others resulted

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[1] **See Pilloff (1996) for a detailed discussion of this problem.**

in failure. Likewise, the dispersion of changes in market values indicates that investors expected some mergers to increase and others to decrease firm value. A particularly important result of this paper is that merger-related changes in performance were found to be unrelated to changes in market value at the time of merger announcement. Investors recognized that although the mergers would not create benefits on average, some would result in better performance and some would lead to worse performance. However, the market was unable to distinguish between the two types of deals at the time the mergers were initially announced.

In summary, most studies fail to find a positive relationship between merger activity and gains in either performance or stockholder wealth. This conclusion of no economic benefits holds across a wide variety of methodologies, samples, and levels of analysis, (individual bank or bank holding company). Moreover, there appears to be no relationship between changes in value at announcement and subsequent outcomes. Although Cornett and Tehranian find the existence a relationship, Pilloff provides stronger evidence for nonexistence.

5. Explanations and Rationalizations

The general findings of the merger literature raises the question of why bank consolidation has been and continues to be so prevalent. When gains are not observable on average. Moreover, equity returns indicate that they have been difficult, if not impossible, to accurately forecast. Several answers to this question have been offered. The first of these is the most straightforward. The argument goes that the nature of the data may obscure the true economic impact of mergers.

There are a number of arguments offered in this regard. It is often contended that the lack of market data biases studies of accounting data. It is also argued that perhaps the post-merger time period is insufficiently long to capture the gains. Consolidation includes well-known transition costs, which may disguise operating gains achieved shortly after merger completion. Moreover, many performance gains may take time to either be achieved or be reflected in financial reports.[1] Extending

[1] Discussions with a number of bank consultants and analysts indicated that as much as one half to three quarters of all merger-related cost savings should be achieved within a year.

the post-merger period does not alleviate the issue, because this solution includes its own problems. Beyond a certain point, the analysis of the merged firm relative to some peer control group relates less to the merger itself than to the idiosyncratic circumstances of each market or firm-specific strategy. There is a limit to the extent that the merger can be held accountable for the firm s relative performance.

Studies of abnormal returns are also not immune from these data problems. In these studies, the time period under consideration is typically short, but the exact interval is uncertain. With firms engaged in discussions prior to announcement and investors speculating on potential acquisition targets, the researcher is frequently unsure about the exact period to analyze. In truth, the correct timing is likely to be deal-dependent and probably requires careful analysis in each and every case. However, to do so somewhat vitiates the benefits of a broad based cross-section analysis. The researcher hopes to gain some insight into the average benefits by looking at a large number of such events. If the time period of analysis varies across the transactions investigated, the standardization is lost. So, researchers have tended to examine fixed pre- and post-merger time periods for purposes of gaining insight on market value effects.

There is another issue that frequently comes up when critiquing the empirical studies, some selection bias. Researchers often examine mergers in a way that excludes relevant data points in an effort to obtain a clean data set. Typically, only deals that involve banks that engaged in no other major merger activity during the period surrounding the deal of interest are studied. Deals by banks that either had multiple mergers in the same year or engaged in several deals over a given time period are often excluded from analysis. Requirements like these omit the very firms that are most relevant to analysis of consolidation. For example, banks such as Nations Bank and Bank One, just to name two, have been active acquirers, and are reputed to be especially efficient in the integration process. However, these very firms are often excluded from the samples investigated due to the selection criteria listed above. The consequence may be a sample that biases results. These firms may be active

participants that achieve substantial gains. Their elimination may lead to the no-gain results reported above. At the very least, their omission from many of the samples may exclude interesting data from the analysis.

Is this list of data problems sufficiently severe to lead one to discount the entire literature? We think not. While there are always data problems in every field, it is hard for us to imagine that the results reported above by so many different researchers can be dismissed because of data impurities. While these problems should clearly be of concern and the effect of sample bias and timing needs ongoing scrutiny, it seems unlikely that those technical features alone can reverse the overwhelming quantity of evidence against gains in performance and value.

Other researchers seem to concur with the conclusion that data problems are not masking real gains, and have recently offered stories to explain the inconsistency of the empirical evidence with the ongoing wave of bank mergers. The explanations center on two allegations concerning managerial behavior. The first of these explanations is managerial hubris. In short, managers have an unrealistic view of their skill and talent, leading them to believe that they are capable of obtaining gains from the acquisition of another institution. However, in truth, they are no more capable than others. Therefore, ex post results do not lead to superior performance.[1] The argument, then, comes down to the contention that ex ante expectations of performance gains systematically exceed ex post performance. Variability in realized gains are not attributable to differences in managerial skill, but to unpredictable noise in the integration process. This rationalization of the empirical results is appealing, at least to the research community that studies, but does not operate within, the banking industry. The argument states that the research is correct and the managers are systematically incorrect.

However, the managerial hubris argument is a bit incredulous. It is based upon a view that managers are systematically blind to the reality of the situation, and that they do not observe the

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[1] **See Roll (1986) for a further discussion**

actual outcomes of their past actions or the actions of their peers. Further, it contends that shareholders and boards are oblivious to the reality of the situation and allow management to engage in activity that systematically has no positive shareholder value. This story might work for a one-time event, as in an industry where mergers and acquisitions are rare. In such circumstances, the truth of the situation is not apparent until after the action and there is no way to develop reasonable expectations of the ex post earnings effects. These conditions do not seem consistent, however, with the U.S. banking market. With the number of mergers totaling 420 in 1995, 564 in 1994 and 477 in 1993[1], it is hard to believe that shareholders are unaware of the consequences of managerial action in this area or the likely outcome of the next acquisition.

In addition, it is not at all clear why managerial hubris in the mergers and acquisitions area should be any greater than in other areas of bank activity. Perhaps managers have over-inflated egos and unrealistic views of their own talents. However, elsewhere in finance we presume that reality impinges upon delusion and markets have a way of sorting these things out. Why is it the case that this does not occur here? The literature is silent on this point.

A second rationalization offered for the absence of observed gains in the literature centers around agency problems. It is well known that there is a general lack of alignment between the interests of shareholders and managers. This point has received considerable attention in the recent corporate finance literature.[2] To many, the recent wave of mergers in the banking industry is one more piece of evidence of this phenomenon. According to this view, mergers are in the best interest of managers but not necessarily shareholders. The former engage in the activity to increase their own power and

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[1] Mergers and Acquisitions Roundup , American Banker (1996)

[2] The obvious strategy point here is Fama (1980), but some more recent references include Morck, Schleifer, and Vishney (1990).

remuneration, which are both assumed to be related to institutional scale. However, this behavior comes at the expense of the shareholders of the acquiring institutions who, in general, overpay for such acquisitions and suffer dilution if not decline, in firm value itself. Managers in the acquired institution seem oblivious to the issue of agency problems. They seem able to exploit the interests of the acquiring manager by obtaining systematic gains to shareholders of acquired firms even while they are displaced in the process.

Some may appropriately object to this characterization of acquired firm managers. They seem more than capable of obtaining golden parachutes and lucrative buyout agreements. However, the evidence is that, on average, they negotiate a price which increases shareholder value, even while the acquiring management is following another agenda of self-interest.

This contrast between the managerial behavior of acquired and acquiring firms is problematic. It seems that if manager behavior is driven by self-interest, rather than purely increasing market value, then the behavior of managers on both sides of the negotiation should be explainable using the same paradigm. This is indeed possible. Perhaps the gains from mergers are a reality. However, the side payments to the two groups of managers completely exhaust them, resulting in a neutral effect on value and reported performance measures. This would be consistent with the data and the allegations of an agency problem. Continuing management, according to this view, obtains the gains associated with running a larger organization, such as greater power, prestige and remuneration, while departing management receives the present value of their gain in terms of a buyout compensation package. The mystery is why the costs of such a transaction are born by the acquiring organization, rather than split by the two groups of shareholders. Perhaps there is a winners curse, where acquiring firms bid up the price of other firms who are willing to sell out. However, this theory has not been investigated empirically, and remains a puzzle.

In light of our inability to explain the results reported above using conventional economic arguments some recent researchers have attempted to investigate the effect of merger activity using a different approach. They propose investigating merger events with close scrutiny of managerial process and the extent to which plans are both put in place and accomplished. This approach, while

still in a nascent state, argues that the performance gains that can be forthcoming from merger activity are often unique to a specific merger and difficult to estimate or even see using the standard cross-section tools heretofore employed. Rather, to understand and obtain estimates of the value gains requires case by case examination of merger activity. This has led to a growing number of case-specific studies which have tried to analyze specific mergers and document the outcomes and their associated efficiency gains or, in some cases, losses.

At the core of this examination of merger results is a view that it is difficult to go from the specific to the general. It argues that averages obscure the fact that many good mergers occur, which add efficiency gains, and that can be explained on a case by case basis. And, there are still others where gains, while potentially sizable, never accrue to the surviving firm s shareholder. In the latter case, the management may never follow through with plans to downsize operations or eliminate excess capacity, or does not fully exploit the merger's potential. Yet, from a technical point of view the efficiency gains are both feasible and estimable. Researchers pursuing this line of investigation hope to obtain results on managerial best practice by examining events on a case by case basis. They look for estimates of pure efficiency gains and a better understanding of why the standard cross-section analysis does not systematically find evidence of performance gains.

6. The Managerial Process Or Follow Through Approach

Economists are understandably suspect of an examination of empirical regularities that begins with an assertion that every case is unique. Nonetheless, the reality is that existing explanations of the data seem hard-pressed to explain the ongoing and substantial merger activity in the banking sector. It does seem that the research in this area is somehow missing an important factor in this ongoing trend. Whether the managerial process studies can unearth new insights or result in mere rationalizations for the fact that traditional empirical approaches are incapable of revealing performance gains is still open to question. But certain facts suggest that this approach to understanding the effect of mergers warrants at least some consideration.

It is a well-documented fact that the variability of efficiency across banks of a specific size and

product mix is far greater than any variation in efficiency that has been associated with either scale or scope.[1] Accordingly, there seems to exist an opportunity for revenue enhancement as well as cost efficiency gains from the merger of firms with different efficiency levels. In fact, the data reported by Berger and Humphrey (1992) suggest that on average acquiring firms are more efficient than acquired institutions. Yet, the data show no evidence of across-the-board ex post efficiency gains.

The goal of this new field based research is to investigate why these efficiency gains do not materialize in the average merger data by closely examining mergers on a case by case basis. According to this approach, one needs to examine each merger to estimate the gains or losses associated with different parts of the merger process in order to understand the gain or loss from the entire merger transaction. These studies investigate the fixed costs associated with the transition to a merged entity, the time and the effort needed to downsize, restructure and close redundant production facilities, and management s attention to aggressively slashing expenses. They seek to understand where merged institutions quickly align their practices to least cost procedures and where they do not. They separately estimate transition costs, and gains from long term operating efficiency accruing to the combined organization. In fact, one of the goals of these studies is to separate these two features of any merger. They also study the process and timing issues surrounding the convergence to a single operating environment, as it is well known that the gains from the mergers materialize more quickly when the process of transition is completed early.[2]

At the very least, these studies may help provide an explanation for the observed cross section behavior reported in Section 4 above. In addition, by concentrating on a wider array of data, institutional detail and idiosyncratic evidence surrounding the process, they may offer new insight to the research community.

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[1] See Berger, Hanweck and Humphrey (1987), Berger and Humphrey (1991), Berger, Humphrey and Timme (1993) or Berger and Humphrey (1994) for a discussion of the overwhelming evidence.

[2] Frei, Harker and Hunter (1995).

Doubters may argue that this procedure is too idiosyncratic. By moving to the specific from the general, broad patterns are lost. However, as has been reported above, there are no broad patterns! This type of investigation may permit some to emerge. It may also be suggested that this approach is nothing more than documenting the reasons for the failure of the average merger. However, it is important to understand that the focus of the hubris and the agency stories is that gains in fact do not exist. In the present context, the argument is quite different. Gains may exist, but they require specific know how and process talent to be achieved. The focus is on why some firms succeed while others fail, and it attempts to document the causes of these differences. As such, it is quite a different approach than the ones enumerated above. If successful, the literature may emerge from this exercise with a better understanding of both the merger process and the difficulties it encounters. In any case, it seems worthy of investigation.

Thus far there are three studies of which we are aware, of this case by case approach. The first reported by Calomiris and Karcuki (1996) examines nine bank merger cases. The second is a broad-based study at Wharton, including work by Frei, Harker and Hunter (1995) and Singh and Zollo. In both cases, the studies are on-going and results are scarce. The last is an on-going effort at the Fed, in which a similar project will produce results of nine in-depth analyses and, hopefully, lessons learned from the exercise.

While each of these studies is far from definitive and some have not even been formally released, the expectation is that they will begin to provide insights into the drivers of efficiency gains and obstacles to achieving them. Already, participants in such studies have suggested that process design and merger planning play a large role in the short and intermediate term benefits from mergers, (Frei Harker and Hunter (1995), Frei and Harker (1996)). Each case study provides an insight into the reasons for the empirical outcome, not merely a rationalization of them. Whether they will truly provide fundamental economic insights is still an open question. However, as noted by Akhavein, Berger and Humphrey (1997), the data on X-efficiency suggests that many banks have cost levels that are 20% to 25% above those using best practice. Understanding firms practices in merger consolidation may illustrate where gains are, which firms have exploited them, and by extension which

managers have superior abilities in this area. At this point, however, it is only a hope.

7. Summary and Conclusions

The literature on the value of bank mergers and acquisitions presents a clear paradox. Empirical evidence indicates clearly that on average there is no statistically significant gain in value or performance from merger activity. On average, acquired firm shareholders gain at the expense of the acquiring firm. This is documented over the course of many studies covering different time periods and different locations. It is true whether one looks at accounting data or the market value of equity. Even more disturbing is that the market is unable to accurately forecast the ultimate success of individual mergers, as indicated by the absence of any correlation between changes in accounting-based performacne measures and stock market returns around the merger announcement. Yet, mergers continue. Indeed the merger wave that has swept the U.S. shows no sign of abating and there is increasing evidence of a similar move in Europe.

How can these facts be reconciled? The answers that appear in the literature are reasonable enough and follow a predictable path. Maybe the empirical work is wrong. But, this does not seem likely because there have been many studies by many authors with incredibly robust results.

Maybe managers are suffering from self-delusion? But, it is hard to believe that a massive restructuring of the world financial structure is occurring because of a misguided view of one s own managerial talent.

Maybe managers are lying, telling the shareholders that they are creating value but merely expanding their own power base and compensation? But, here too, it seems incredulous to argue that major institutions have engaged in massive acquisition plans with the blessing of shareholders that gain no value from the exercise.

The truth may be that we do not understand what exactly is going on in the process of industry consolidation. The efforts that have recently begun to examine the managerial process and follow through that is associated with a specific merger deal may help shed some light on the matter. The key question is: can we explain the process and the recent expanded activity level from investigating

merger deals on a case by case basis? Can this process lead us to an appreciation of the potential efficiency gains, and why they do not on average appear in the data that most economists examine? While we are not convinced, it appears a productive path to pursue, at least for a while.

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