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Mergers and Acquisitions in Commercial Banking: Economic and Financial Considerations

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I. INTRODUCTION

The banking industry is currently experiencing the most significant merger movement in its history. There has been a quantum jump in the number of mergers and acquisitions in the past few years (Appendix A). The increase in the number of mergers is even more significant because the average size of each transaction is also increasing. The consequence of these two trends is that in 1983 alone, over $40 billion in assets were acquired within the commercial banking industry (Appendix B).[1] If current trends are to continue, the consequences for profitability, increased concentration of resources, soundness and competition in the industry may be critical. This Article analyzes the recent merger and acquisition movement within commercial banking. The Article considers the potential benefits to the acquiring and the acquired firms and examines the economic, technological and public policy considerations responsible for the phenomenal increase in merger activity.

II. THE BANKING ENVIRONMENT OF THE 1980'S

The current banking environment is changing more now than it has at any time since the 1930's. These changes include significant deregulation, rapid technological development and an extremely volatile and uncertain economy. Most of these changes have led to increased merger activity by making it considerably more difficult for smaller firms to survive or by putting additional pressure on larger firms to continue to grow. For example, as interstate banking is becoming more important, regional financial institutions perceive the need to achieve a very large

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1. S. RHOADES, MERGERS AND ACQUISITIONS BY COMMERCIAL BANKS, 1960-83, Staff Study No. 142 (1985) (Board of Governors of the Federal Reserve System).

size in order to compete effectively with money center banks and other large financial institutions that are becoming active in the regional markets.

Perhaps the single most important change that has affected commercial banks is the loss of their traditional low cost deposit base. Low cost savings deposits and demand deposits have disappeared due to the introduction of new products such as money market funds and the phase out of Regulation Q.[2] This has put considerable pressure on those commercial banks that relied on low cost savings and demand deposits as their primary source of funds. As Appendix C demonstrates, the share of these funds as a percentage of total funds has dropped tremendously. The firms most affected, which primarily consist of small community banks, are continuing to experience increases in the cost of their funds and a decline in the average duration of their liabilities. If they have not matched this position on the asset side of their balance sheet, they will continue to face narrowing profit margins and their earnings will be greatly sensitive to changes in interest rates.

Some evidence of the impact of these changes can be obtained by examining bank profitability. From 1980 to 1983, at the same time that deregulation occurred, profit margins narrowed. In 1980, the return on assets for insured commercial banks averaged 0.79% of assets. This same ratio equaled 0.76%, 0.71% and 0.67% in 1981, 1982 and 1983, respectively.[3]

A. *Uncertainty in the Economy*

Financial markets have become much more unstable since the economic problems of inflation and low growth in the 1970's. Interest rates, which have a direct consequence both on the cost of bank funds and on bank revenue from loans and investments, have become far more volatile since 1979. This development has increased the pressure on commercial banks to manage their interest rate risk by matching or controlling the net duration or maturity of their assets and liabilities.

Interest rate volatility has been increasing over time but took a marked increase in 1979. In a recent study, Roley and Troll analyzed the

2. Depository Institutions Deregulation and Monetary Control Act of 1980 provided for the phasing out of Regulation Q by 1986. 12 U.S.C. §§ 3501(b), 3503 (1982). The Garn-St Germain Act of 1982 accelerated this process by removing interest rate differentials, 12 U.S.C. § 3503 note (1982), and creating the Money Market Deposit Account, 12 U.S.C. § 3503(c) (1982).

3. Danker & McLaughlin, *Profitability of Insured Commercial Banks in 1983*, 70 Fed. Res. Bull. 802, 803 (1984).

volatility of the ninety day Treasury Bill rate since 1977.[4] The Treasury Bill rate is an excellent proxy for most short term rates in the economy because there is a very active market in T-Bills and because there is no default risk.

The Federal Reserve shifted its approach to monetary policy on October 5, 1979. It adopted a "monetarist" policy that did not attempt to control interest rates. In the three year period following this date, the volatility of weekly changes in the Treasury Bill rate tripled in comparison to the two years preceding the Federal Reserve action. Of course, the two years prior to 1979 were record years for inflation and high interest rates in the economy and conditions were considerably more volatile than in previous years.

Successful management of a financial intermediary in this environment is difficult and complex. The bank is forced to make commitments to lend money into the future at interest rates set under the conditions that prevail at the date of the loan. This is a risky proposition. If interest rates increase more than expected, the bank will receive less revenue than it would have received if it had not lent at a fixed rate. Conversely, if rates fall, the lender is better off.

By precise and careful balancing of the maturities of its various types of deposits with its loan and investment portfolio, the bank can maintain some control over its interest rate exposure. If the net duration (time adjusted maturity) of its assets and liabilities are properly balanced, the bank is effectively protected from a change in value resulting from changes in interest rates. Changes in the value of the asset portfolio are matched by changes in the liability portfolio. This technique is difficult to understand and even more difficult to apply. The calculations necessary to obtain duration estimates for all assets and liabilities are complex and time consuming.[5]

Most of the larger financial institutions are developing sophisticated forms of duration management or, at a minimum, are developing the expertise to manage the sensitivity of their short run cash flows to changes in interest rates through a technique called gap management. Smaller financial firms are placed at a strong disadvantage in this environment. First, they may not feel they have the requisite expertise to institute a duration or interest rate gap matching program. Second, they have less

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4. Roley & Troll, *The Impact of New Economic Information on the Volatility of Short-Term Interest Rates*, in FINANCIAL INSTITUTIONS AND MARKETS IN A CHANGING WORLD 271-87 (1984).

5. *See* Kaufman, *Measuring and Managing Interest Rate Risk: A Primer*, ECON. PERSP., Jan.-Feb. 1984, at 16-29 (Federal Reserve Bank of Chicago).

control of their assets and liabilities since their portfolios are generally less diversified. They must meet their narrow market demand and as a result are likely to have less discretion to manage their portfolios. Consequently, their earnings are far more sensitive to changes in interest rates.[6] By combining with larger firms that have more diversified asset and liability maturity structures, firms may be in a better position to reduce their interest rate sensitivity.

Interest rate volatility, accompanied by surges in inflation and subsequent deflationary periods, has placed considerable stress on several key industries. Some of these industries, including agriculture, energy and aircraft, are heavily indebted to commercial banks. In a similar vein, many less developed countries, including Mexico, Argentina, Brazil and Poland, are heavily indebted to the larger United States commercial banks. Recently, many of these countries have had difficulty meeting their repayment schedules. These events place considerable pressure on many United States banks as potential write-offs exceed their loan loss reserves and even their capital reserves.

More banks failed in 1984 than have failed in any year since 1938. This trend has continued into 1985. Mergers may become an attractive option to financially distressed firms prior to their ultimate failure and dissolution by the Federal Deposit Insurance Corporation (FDIC). Moreover, a common practice by the FDIC has been to encourage mergers rather than to liquidate a failed bank. Mergers may also allow firms which concentrated too heavily in specific segments of the economy to further diversify their loans.

B. Public Policy Towards Mergers and Acquisitions

At the same time that pressure has been building for mergers and acquisitions, the main restrictions on these activities have been reduced, making possible combinations that would not have been contemplated a decade ago.

Mergers and acquisitions are limited by antitrust laws and by specific legislation, including the Bank Holding Company Act of 1956[7] and Banker Merger Act.[8] This legislation prohibits any merger which will lead to a reduction in competition in any line of commerce in any section of the country. Since the analysis of the effect of a merger requires an estimate of its future consequences, there is room for interpretation on

6. *See* Flannery, *Market Interest Rates and Commercial Bank Profitability: An Empirical Investigation*, 36 J. FIN. 1085 (1981).

7. 12 U.S.C. §§ 1841-1850 (1982).

8. 12 U.S.C. § 1828 & note (1982).

any individual merger. The interpretation will depend on assessments by the regulatory agencies or by the courts of the relevant lines of commerce, the appropriate geographic market, the competitive environment in which firms operate, and the patterns of behavior in the industry. Recent court rulings, as well as statements by the regulatory agencies and the Department of Justice, have signalled a relaxation on the types of mergers that would be challenged.

All bank mergers and acquisitions must be approved by the Federal Reserve Board, the Office of the Comptroller of the Currency or the FDIC, depending on the charter class of the surviving institution and the type of transaction. Similarly, all mergers of savings and loan associations must be approved by the Federal Home Loan Bank Board. Furthermore, the United States Department of Justice is required to challenge within thirty days any acquisition they deem anticompetitive.

In 1982, the Department of Justice[9] and the Federal Reserve Board[10] released guidelines detailing the conditions under which they would expect a bank merger to have an anticompetitve effect, given current legal interpretations. Mergers that exceed these guidelines are likely to be denied.

The Federal Reserve market extension guidelines are directed at market extension merges, and the Department of Justice guidelines are directed at horizontal mergers. Market extension mergers involve the combination of two banks operating in different geographic markets. For example, the merger of two banks operating in different cities would be a market extension merger. Horizontal mergers involve the combination of two firms operating in the same market.

The Federal Reserve guidelines state that the Board is unlikely to find an antitrust violation by any merger unless several criteria are met. Generally, these criteria are: (1) the market is highly concentrated; (2) there are few other potential entrants; (3) the acquiring firm is an important probable future entrant to the market; and (4) the acquisition is of a dominant firm in the market.[11] Under current judicial interpreta-

9. UNITED STATES DEPARTMENT OF JUSTICE, MERGER GUIDELINES (June 14, 1982), *reprinted in* 2 TRADE REG. REP. (CCH) 4501-4505 [hereinafter cited as DEPARTMENT OF JUSTICE GUIDELINES].

10. Statement of Policy on Bank Acquisitions, 47 Fed. Reg. 9017 (1982) (to be codified at 12 C.F.R. ch. 2) (proposed Mar. 8, 1982).

11. Specifically, these criteria are: (1) the market of the firm to be acquired is highly concentrated (the three-firm concentration ratio of total deposits exceeds 75%); (2) there are six or fewer other firms not operating in the market that are capable of entry; (3) the market of the firm to be acquired is a metropolitan area and has a growth rate in deposits higher than the

tion, unless all of these criteria are met, it is unlikely that there will be a reduction in competition sufficient to warrant a denial.

Mergers that meet all the criteria for challenge specified by the Federal Reserve Board are rare. Most market extension mergers will fail to meet at least one of the criteria. Consequently, the probability of an antitrust challenge of a market extension merger, which normally represents a major barrier to bank mergers and acquisitions, is very low at this time. In fact, very few have been denied.[12]

The Department of Justice has set up similar criteria under which it would find a violation in a horizontal merger involving direct competitors.[13] The tests are based on the Herfindahl-Hirschman Index (HHI) as a measure of market concentration.[14] The guidelines are significantly less stringent than the previous Justice Department guidelines in place since 1968, especially in markets with low to moderate concentration.[15] As a consequence, many mergers between two banks within their own markets are possible now, whereas they probably would not have been feasible only a few years ago.

In addition to a substantial relaxation of the structural standards, the regulatory authorities have exercised greater discretion in consistently approving mergers that violate the quantitative guidelines. In a recent study of enforcement of the guidelines on horizontal mergers since 1982, Di Clemente and Fortier concluded that the actual threshold was significantly higher than the stated threshold.[16] Mergers that clearly vio-

average of its state or the average of the nation; and (4) the firm to be acquired must be one of the three largest in the market and have more than 10% of the bank deposits. *Id.*

12. Hawke, *Fed Smiles on Holding Company Expansion in 1983*, Legal Times, Jan. 16, 1984, at 11, col. 1.

13. The Department of Justice Guidelines are detailed below:

Change in HHI	Level of Postmerger HHI		
	HHI < 1000	1000 < HHI < 1800	HHI > 1800
50 or less	no challenge	no challenge	may challenge
50 to 100	no challenge	no challenge	may challenge
Over 100	no challenge	may challenge	challenge

DEPARTMENT OF JUSTICE GUIDELINES, *supra* note 9, at ¶ 4503.101.

14. The HHI is the sum of market shares squared of all firms in the market. For example, in a market with five banks with market shares of 40%, 30%, 20%, 7% and 3% respectively, the premerger HHI would be 2958. A merger of the two smallest firms would increase the postmerger HHI to 3000. Under the Department of Justice Guidelines, such an increase of 42 would not be challenged. A merger of the largest two banks would increase the postmerger HHI to 5358. The 2400 increase would be challenged.

15. Guerin-Calvert, *The 1982 Department of Justice Merger Guidelines: Applications to Bank Mergers*, ISSUES BANK REG., Winter 1983, at 18.

16. Di Clemente & Fortier, *Bank Mergers Today: New Guidelines, Changing Markets*, ECON. PERSP., May-June 1984, at 3 (Federal Reserve Bank of Chicago).

lated the guidelines were approved by the regulatory agencies and were not challenged by the Department of Justice. Effectively, these decisions gave a signal to the banking industry. Banks could consider combinations that previously would have been out of the question.[17]

C. *Interstate Banking*

The McFadden Act of 1927[18] and the Douglas Amendment to the Bank Holding Company Act of 1956[19] limit the ability of banks to expand their banking operations into additional states. This legislation prohibits banks from entering new states, either through direct branching or through the establishment or acquisition of banking affiliates in other states, unless interstate acquisitions are expressly permitted by the state.

The pressure for interstate banking legislation has been building for the past decade. It has been recommended by regulatory authorities, academics and by the United States Treasury.[20] Many larger institutions have created de facto interstate networks through subsidiary networks of financial activities closely related to banking.[21]

Even though Congress has not yet acted, many states have taken unilateral action to permit some form of interstate banking within their borders. To date, twenty states have passed some form of interstate banking legislation.[22] Only a few states allow full interstate banking while others have very restricted plans. The most popular form of inter-

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17. Exceeding quantitative guidelines is in part justified by the increasing role that thrifts and other financial institutions play in the supply of many banking services. Measures of market structure, such as concentration ratios and Herfindahl indices based on commercial bank deposits only, may overstate the lack of competition in banking markets, especially when there is significant non-bank competition. Hence, it is likely that some mergers which technically violated the merger guidelines would not have done so if the product market definition were modified and market structure measures recalculated to reflect competition from firms other than commercial banks.

18. 12 U.S.C. § 36 (1982).

19. 12 U.S.C. § 1842(d) (1982).

20. UNITED STATES DEPARTMENT OF TREASURY, GEOGRAPHIC RESTRICTIONS ON COMMERCIAL BANKING IN THE UNITED STATES (1981).

21. Banks are allowed to expand non-bank financial activities through their holding company organizations. Consequently, there has been a considerable amount of out of state "banking" activity in more attractive markets. Bank holding companies currently operate trust companies, consumer and commercial finance subsidiaries and mortgage subsidiaries in multiple states. Under current law, they may also open non-bank banks—banks that do not meet the Bank Holding Company Act's legal definition of a bank because they either do not hold commercial loans or do not accept demand deposits. 12 U.S.C. § 1841(c) (1982). For a survey of interstate activities, see Whitehead, *Interstate Banking: Taking Inventory*, ECON. REV., May 1983, at 4, 5 (Federal Reserve Bank of Atlanta).

22. *See* Hawke, *Public Policy Toward Bank Expansion*, in HANDBOOK FOR BANKING STRATEGY 381 (1985).

state banking legislation has been the regional compact concept. States in New England have passed legislation that permits interstate bank acquisitions only by bank headquarters in that region. The southeastern states have passed similiar legislation. This legislation has been challenged as unconstitutional, and the case will be heard by the United States Supreme Court in 1985.

The interstate banking activity in this form has increased pressure for merger activity. When a state is opened up to banks from another state, the most common and often the only permitted avenue for entry is through acquisition. At the same time, banks that do not plan to expand interstate have an incentive to expand by acquisition within their state as a defensive measure to meet competition and to prevent possible takeover bids from out-of-state institutions. In fact, the stated intent of regional compacts is to allow for large multistate companies to compete with larger money center banks. This growth will come through mergers and acquisitions.

D. Antitrust in an Interstate Banking Environment

If Congress were to pass full interstate banking legislation allowing banks to enter markets in any state by acquisition, there would be little deterrence to prevent massive acquisition movements by the largest financial institutions. The consequences of this activity could be a complete disappearance of major regional banks within some of the high growth states. Under current judicial and regulatory interpretations, antitrust would have limited impact on restricting interstate acquisitions. In an interstate banking environment, even the largest banks would combine without violating the current tests for illegality.[23]

Interstate acquisitions would generally represent expansion into new geographic markets and thus be considered market extension mergers. The acquiring firm and the acquired firm would not have competed directly prior to the merger. Consequently, the antitrust analysis would have to consider dimensions other than the elimination of direct competition.

One ground for challenging interstate combinations is that the acquisition may eliminate a probable future entrant to the market where the acquired firm or the acquiring firm presently operate.[24] If there were

23. *See How the Financial System Can Best Be Shaped to Meet the Needs of the American People, Hearings Before the Comm. on Banking, Finance and Urban Affairs*, 98th Cong., 2d Sess. 683, 688 (1984) (statement of Arnold A. Heggestad).

24. Rhoades, *A Clarification of the Potential Competition Doctrine in Bank Merger Analysis*, 6 J. BANK RESEARCH 35, 37-38 (1975). For an analysis of attempts to apply this theory to

no merger, the acquiring firm or the acquired firm may have entered the other's markets in a more procompetitive way. Second, interstate mergers could be challenged on the ground that a series of such mergers could lead to an increase in the number of links between the major banks as they meet in a large number of markets. A final basis for challenging interstate combinations is that large mergers of dominant companies could cause an undue concentration of resources. Such a challenge would come from regulators under the authority of section 4 of the Bank Holding Company Act[25] and the Sherman[26] and Clayton Acts,[27] which are designed to stop monopoly in its incipiency.

The impact on probable future competition will most likely have little effect as an antitrust argument. The Federal Reserve's proposed guidelines[28] require that *all* of the conditions be present to find competitive injury. It is clear that under full interstate banking, interstate mergers would violate at least one of the conditions and consequently could not be challenged. For example, one criterion is that there must be only a few other potential entrants. The theoretical injury to competition occurs if one of only a few possible entrants is lost. Under interstate banking, there will always be a large number of potential entrants to any major United States market.

The second ground for challenging a market extension merger is the "multimarket links" effect.[29] This theory states that if the same firms meet each other in many different markets, they are less likely to be competitive in any single market, as each must protect its interest in every market in which it operates. A merger of two large multimarket firms could possible increase the degree of linkage sufficiently to be found illegal. The Supreme Court in *United States v. Marine Bancorporation, Inc.*[30] ruled that this effect must be considered but required empirical evidence of the effect.[31]

For the multimarket links effect to be significant, it would be necessary to show significant overlapping. Since there is now virtually no overlapping across state lines, there would have to be a substantial

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banking firms, see Austin, *The Legal and Legislative History of the Line of Commerce in Banking*, ECON. REV., Apr. 1982, at 12 (Federal Reserve Bank of Atlanta).

25. 12 U.S.C. § 1843 (1982).

26. 15 U.S.C. § 1 (1982).

27. 15 U.S.C. § 15 (1982).

28. *See supra* note 11.

29. *See* Heggestad & Rhoades, *Multi-Market Interdependence and Local Market Competition in Banking*, 60 REV. ECON. & STATISTICS 523 (1978).

30. 418 U.S. 602 (1974).

31. *Id.* at 630-32.

number of large mergers before this challenge successfully could be invoked. Even then, the empirical evidence of the multimarket links effect is somewhat conflicting.[32]

The final basis for challenging interstate mergers is that they tend to lead to undue concentration of resources. Compared to most industries, banking is unconcentrated at the national level. It would take many mergers before the overall concentration of banking resources becomes high by traditional standards. For example, if Bank of America acquired the largest banking organizations in Texas and Florida, its share of the 1982 United States domestic deposits would increase from 4.14% to 5.41%. In comparison to recent oil mergers that have passed antitrust barriers, this increase is almost trivial. It is highly doubtful that a denial by one of the regulatory agencies would be upheld in the courts.

In sum, the banking environment, the uncertainty economy and the evolution toward interstate banking suggest that bank mergers will continue to play an important role in the United States banking industry. In addition, the application of antitrust law to bank mergers in this environment suggests that these considerations will not be a significant constraint.

The next section of the Article considers the effects of bank mergers on the owners of some of the acquired and acquiring firms, as well as some of the perceived benefits of mergers in banking, both from a private and a public viewpoint.

III. Motivations for Mergers

A. *Financial Elements of a Merger*

The financial aspects of mergers are of critical importance in determining whether they will occur and whether they will be profitable. Consider the acquisition of Firm B by Firm A. The acquiring firm must make two determinations. First, it must determine the value of Firm B as an independent entity. Second, it must consider the incremental value of Firm B to the combined firm. This may be defined as V(AB) - V(A), the value of the firm after its acquisition relative to its initial value.

The value of the acquired firm (V(B)) as an independent is straightforward if there is an active market in its stock. The value of the equity of the firm would simply be the number of shares outstanding multiplied by the price per share. This figure represents the present value of the firm's expected future earnings.

32. Gilbert, *Bank Market Structure and Competition: A Survey*, 16 J. Money, Credit & Banking 617 (1984).

If there is no active market in the firm's stock, as is the case for the stock of most commercial banks, the determination of value is somewhat more difficult.[33] The best approach would be to estimate future earnings and apply the appropriate discount rate to arrive at the present value of the firm. Because of the difficulty in making earnings estimates, other techniques for value determination are also used. For example, the value is often estimated based upon the book value of the bank, with some attempt to arrive at adjusted market value for assets.[34] This process becomes highly subjective as specific estimates must be made of the value of real estate and the soundness of each loan and investment. There is also considerable variation in estimates of market value.

The final selling price that will be determined in the merger or acquisition will depend to some degree on the bargaining skills of management. The estimated value of the acquired bank, V(B), should represent the minimum price that A would have to pay for the bank. However, A and B may have different estimates of relative value, especially in those instances where there is no active market in B's stock. If the management of A can convince the management of B that their bank is worth less than its true value, the acquisition could be profitable to A even though there are no synergies or other advantages caused by the merger.[35]

It is possible that there are benefits to be shared by both A and B. The upward range in price would be determined by the incremental value that Firm B brings to the new combination firm, AB. This is defined as V(AB) - V(A). If this value is larger than the independent value of B, V(B), synergies exist. If the price were set at the incremental value of firm B, all of the benefits of the transaction would go to the acquired firm's shareholders, and none to the shareholders of the acquiring firm. The greater is V(AB) - V(A), the greater are the synergistic benefits of the merger and the more likely the merger is to occur. High incremental values provide greater room for negotiation, and increase the possibility that the owners of both firms will benefit.

It is possible that the price paid will exceed V(AB) - V(A). This

33. Of 14,000 banks, only about 300 firms have their stock traded on organized exchanges.

34. For an elaboration, see Heggestad, *Fundamentals of Mergers and Acquisitions*, in HANDBOOK FOR BANKING STRATEGY 703 (1985).

35. This could occur if no active market in the stock of the bank exists, and the owners of the acquired bank miscalculate their bank's future earnings. Also, this situation would result only if there are a small number of potential acquiring firms, so that the acquiring bank has some monopolistic power. In a perfectly competitive market for acquisitions, no transaction in which the acquired bank was sold below its market value would be possible since the price would be bid up to that level by competing firms.

could occur for two reasons. First, these valuations are based upon expected future values. Management of A could have either overestimated V(AB) or underestimated their own value, V(A), and paid too much. Alternatively, they could have overpaid because they are not following a strategy designed to maximize the value of their firms. If management's incentive is to maximize growth, to maximize sales or to insure their continued employment, they may be willing to pay excess premiums for mergers.[36]

Of course, managers cannot continually follow a strategy of paying more than incremental value for acquired firms since they are effectively transferring wealth from their own shareholders to those of the acquired firm. This will ultimately drive down the value of their own shares and is likely to lead either to their removal from management or to a takeover offer for their bank by some potential acquirer that discovers the undervalued stock.

B. Sources of Synergy

There are several potential sources of gains that would cause the value of the combined firm to increase relative to the value of the separate entities—[V(AB)—V(A) + V(B)]. This effect is referred to an synergy. Possible sources of synergy include:

(1) Greater efficiency—On a combined basis, the firms achieve important economies of scale or scope. They need less resources to produce the same output as they are able to integrate production facilities or use more efficient methods;

(2) Financial Economies—The new firm has access to financial markets that were not available to one or both of the smaller firms. The cost of capital falls below premerger levels. For example, the combined firm may have a lower probability of bankruptcy than the two separate firms if the cash flows of the two firms are not perfectly positively correlated. Recognizing this, lenders may require a lower return reducing the cost of capital;

(3) Market power—The combined firm may have additional market power. It may be able to increase its prices relative to its costs because of a reduction in competition. The market would recognize this by increasing the value of the combined firm;

(4) Tax incentives—The acquired firm may have tax credits that it is not able to use directly, perhaps because it will not generate sufficient profits as an independent to recoup past losses. As part of a larger firm,

36. *See* S. RHOADES, POWER, EMPIRE BUILDING, AND MERGERS (1983).

it may be able to recoup loss carryforwards immediately, increasing the present value of the tax benefits; and

(5) Evasion of regulation—In a heavily regulated industry, such as commercial banking, mergers may provide a mechanism to avoid regulations. For example, if the law prohibits de novo interstate banking but permits expansion by acquisition, there may be an increase in the value of the acquiring firm as a result of the expansion because potential competitors may be excluded from entering the market.

IV. Motives for Commercial Bank Mergers

This section considers in more detail a number of the potential benefits to commercial banks from acquisitions. Given the banking environment, several benefits will be of considerable importance.

A. Economic Synergies

1. Economies of scale

One of the most commonly stated motives for acquisitions is the opportunity to exploit economies of scale. Economies of scale are enjoyed whenever the average unit cost of production declines as production increases. Recent studies of banking firms suggest that the average cost curves of banks tends to be U-shaped and that most economies of scale are exhausted when banks reach a deposit size in the range of $25 to $50 million.[37] Appendix D presents the size distribution of deposits for United States banking organizations in 1983. Of the 14,500 commercial banks, over 10,000 are below the critical fifty million size. Thus, for seventy-two percent of the commercial banks, there are potential synergistic benefits for combination by achieving some economies of scale. However, the larger merger transactions are not motivated by potential economies of scale.[38] In fact, an upward sloped average cost curve for

37. *See, e.g.*, Benston, Hanweck & Humphrey, *Scale Economies in Banking: A Restructuring and Reassessment*, 14 J. MONEY, CREDIT & BANKING 435 (1982) (Part I). The results of these studies differ from the majority of earlier findings regarding bank economies of scale, which almost uniformly concluded that the that the production of banking services was characterized by economies of scale. However, recent studies have convincingly demonstrated that earlier results are largely due to misspecification of the production function. For a lucid criticism of the economies of scale literature in banking, see Humphrey, *Costs and Scale Economies in Bank Intermediation*, in HANDBOOK FOR BANKING STRATEGY 745 (1985).

38. One unresolved question is whether these results can be extended to the very largest banking firms. The disaggregated technical approaches to estimating scale economies in banking use date from the Federal Reserve's Functional Cost Program. Larger banks have not participated in this program.

larger firms would be a negative factor in larger mergers. The increase in production costs would have to be offset by other factors.

2. Economies of scope

The concept of economies of scale technically applies to a single product firm. Other operating efficiencies may arise in a multiproduct firm due to cost complementaries.[39] Cost complementaries, in turn, give rise to economies of scope, which exist whenever it is less costly to combine two or more product lines in one firm than to produce these products separately. Economies of scope imply cost savings associated with joint production and may arise, for example, when inputs are shared or utilized jointly in separate functions.

Scope economies are potentially significant in banking. For example, credit analyses on loan applications are less costly when customers have deposit relationships with the bank. Physical plant and equipment is jointly utilized by several functions. Automated Teller Machines (ATMs) are utilized for cash dispensing, deposit taking, statement verification and account transfers. Statistically, significant scope economies have been found although the magnitude of such scope effects is quantitatively small.[40] Nevertheless, such economies may offset to some extent the diseconomies associated with bank scale.

3. Technological synergies

Although unresolved, another issue associated with economies of scale in banking is that certain technological and productivity enhancements may only be economically feasible for larger institutions.[41] These

39. Cost complementarity is said to exist whenever the costs of producing a particular commodity vary with respect to the output levels of the other commodities produced by the firm. *See* Panzar & Willig, *Economies of Scale on Multi-Output Production*, 91 Q.J. ECON. 481 (1977).

40. Studies regarding scope economies in banking include Gilligan, Smirlock & Marshall, *Scale and Scope Economies in the Multi-Product Banking Firm*, 13 J. MONETARY ECON. 393 (1984), and Benston, Berger, Hanweck & Humphrey, *Economies of Scale and Scope in Banking*, in PROCEEDINGS OF A CONFERENCE ON BANK STRUCTURE AND COMPETITION (May, 1983) (Federal Reserve Bank of Chicago). For a study which found economies of scope in Canadian credit union operations, see Murray & White, *Economies of Scale and Economies of Scope in Multiproduct Financial Institutions: A Study of British Columbia Credit Unions*, 38 J. FIN. 887 (1983).

41. The issue is whether superior technologies are feasible only for larger banking firms. If so, average costs, at some level of scale, could flatten or decline, as a different technology was implemented. Even though continued expansion using existing technology may result in diseconomies of scale, shifting to a different technology could create additional operating cost savings. The fact is that there has been a significant change in the technology available for bank payments and delivery systems. For a discussion of this issue in the context of the results

new products and activities may either create additional cost complementaries with other activities, but only at a sufficiently large scale, or they may have product specific economies of scale over a wider range of firm size. Studies of ATMs and cash dispensers show that high volumes are required in order to produce cost savings over conventional delivery systems. Likewise, electronic payments at automated clearing houses have been shown to have scale economies, whereas check processing seems to be subject to diseconomies of scale. Many of the newer technological developments have the potential to reduce the operating costs associated with the delivery of financial services. Apparently, these innovations are efficient only at a scale larger than the most efficient scale of more conventional bank delivery and payments systems ($50 million). Consequently, acquiring firms may perceive that mergers provide a method to capture these potential "technological" synergies.

4. Inefficient management

Another motive for bank mergers is the opportunity to replace inept or inefficient management operations. A poorly managed firm will have a depressed value relative to its potential value. As a result, its earnings will also be depressed. If it can eliminate inefficiencies, the acquiring firm should be able to capture the increase in value and earnings.

Although existing management of an inefficiently run firm could be replaced by existing shareholders, the process is not automatic or easy. Moreover, in banking, the Change in Bank Control Act of 1978[42] and the Change in Savings and Loan Control Act of 1978,[43] which require prior notice to the regulatory authorities before obtaining twenty-five percent or more of a firm's stock, make unfriendly takeovers more difficult. A merger often offers a less costly option for existing shareholders to eliminate inefficiencies or replace management. Depending on the bidding process, mergers may permit existing shareholders to capture some of the expected future benefits of more efficient operations. The acquiring firm should obtain at least part of the synergies due to more efficient management.[44]

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on economies of scale, see Humphrey, *supra* note 37, at 745. Humphrey concludes that some of these developments have the potential to significantly reduce the costs associated with payments and delivery systems. However, the benefits from these technological developments have not occurred rapidly and are unlikely to do so in the foreseeable future. Humphrey therefore concluded that the results regarding the lack of economies of scale for larger banking firms will remain valid for some time.

42. 12 U.S.C. § 1817 (1982).

43. 12 U.S.C. § 1730 (1982).

44. Although we are unaware of studies in banking focusing on mergers and management

This particular motive may be of increasing importance to banking firms today. Historically, banks have operated under regulations designed to restrict competition and prevent bank failure. If these regulations created monopoly rents in banking, management may have had the opportunity to divert some of these rents from the owners either in the form of non-pecuniary compensation, reduced risk or abnormal salaries.[45] As deregulation and competition increase, however, monopoly rents will decline, placing greater pressure on management to behave efficiently. If unable to do so, the value of firms should reflect the poorer quality management and create more opportunities for mergers designed to eliminate such inefficiencies.

5. Increases in market power

Horizontal mergers, by definition, reduce the number of independent competitors in the market and increase the market share of the acquiring firm. This may enhance the firm's monopoly power. In this case, the synergistic benefits are increased profitability resulting from higher loan rates or reduced deposit rates. This should not be a major factor since mergers that lead to significant increases in market share are likely to be prevented by the banking authorities. Moreover, substantial monopoly rents are likely to be competed away by the potential competition and the entry of both bank and non-bank competitors.

Indeed, according to the contestable market thesis, market share and high concentration per se do not imply market power.[46] As long as entry is costless, firms operating in the market must take into account potential competitors. They will behave as if they were operating in perfectly competitive markets. This model implies that mergers should not result in increased monopoly power. The contestable market model is receiving considerable attention in the legal and economic literature. However, its assumption are very restrictive and may not be fully appli-

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quality, there is some corroborating evidence from the non-banking sector. Ellert found that investors in acquired firms earned relatively low rates of return some years prior to acquisition. In the months immediately preceding the takeover, the price of the stock increased somewhat, reflecting the anticipated premium paid to the selling firm. These results are generally consistent with the poor management hypothesis. *See* Ellert, *Mergers, Antitrust Law Enforcement and Stockholder Returns*, 31 J. FIN. 715 (1976).

45. *See, e.g.*, Edwards & Heggestad, *Uncertainty, Market Structure, and Performance: The Galbraith-Caves Hypothesis and Managerial Motives in Banking*, 87 Q.J. ECON. 455 (1973); Edwards, *Managerial Objectives in Regulated Industries: Expense-Preference Behavior in Banking*, 85 J. POL. ECON. 147 (1977); Hannan, *Expense-Preference Behavior in Banking: A Reexamination*, 87 J. POL. ECON. 891 (1979).

46. W. BAUMOL, J. PANZAR & R. WILLIG, CONTESTABLE MARKETS AND THE THEORY OF INDUSTRY STRUCTURE (1982).

cable to an industry such as commercial banking. For example, the theory requires instantaneous and costless entry and exit, which is certainly not appropriate for banking markets.

Because entry in banking is not totally costless nor instantaneous, some banks may perceive that there are monopoly rents associated with larger market share, even if these rents are only transitory.[47] Although there is no direct evidence (nor would it be easy to obtain) regarding the validity of this motive, there is a large body of empirical literature in banking suggesting that banks with larger market shares, or banks operating in markets with fewer competitors, *ceteris paribus*, are more profitable than those banks operating in more competitive markets.[48]

6. Vertical integration

In vertical mergers, the acquiring firm expands along the production process either forward to the customer or backward to the supplier. This integration may facilitate coordination and administration of the production process. It may provide greater control over suppliers, eliminate potential bottlenecks in the production process, reduce contracting and monitoring costs, facilitate planning and remove uncertainties associated with supply deliveries. In banking, the benefits of such mergers are likely to accrue more often to a bank holding company expanding into closely related financial areas than to a banking subsidiary merging directly with

47. Related to increasing market share is the desire to acquire established firms in different banking markets. Relative to de novo entry, such acquisitions may reduce the time and promotional expenses required to build a clientele and to reduce the uncertainty associated with establishing the market presence. However, while this may be a motive for expansion, such acquisitions are not likely to create synergistic benefits. The value of the acquired firm should reflect its existing market presence and the opportunity costs associated with establishing that position. However, recent changes in antitrust policy may have increased the number of permissible combinations and reduced certain acquisition costs associated with antitrust enforcement. *See* Guerin-Calvert, *supra* note 15.

48. For a comprehensive summary of these findings which are associated with the structure-performance paradigm, see S. RHOADES, STRUCTURE AND PERFORMANCE STUDIES IN BANKING: A SUMMARY AND EVALUATION, Staff Economic Study No. 92 (1977) (Board of Governors of the Federal Reserve System); S. RHOADES, STRUCTURE-PERFORMANCE STUDIES IN BANKING: AN UPDATED SUMMARY AND EVALUATION, Staff Economic Study No. 119 (1982) (Board of Governors of the Federal Reserve System). Generally, these studies find a significant relationship between concentration and profitability. However, an alternative view is that these results do not imply a relationship between monopoly power and profitability. High market shares can occur as a result of efficiency as well as market power. *See* Demsetz, *Industry Structure, Market Rivalry, and Public Policy*, 16 J.L. & ECON. 1 (1973). For a recent critique of the structure-performance studies in banking, see Gilbert, *Bank Market Structure and Competition: A Survey*, 16 J. MONEY, CREDIT & BANKING 617 (1984). One of the criticisms made is that even when significant relationships are found between market structure and profitability, such relationships are quantitatively small. Hence, even if there are monopoly rents associated with market concentration, they may not be very large.

another banking subsidiary. However, there may be some opportunities for such economies across banking firms. Banks may specialize in different portions of the financial intermediation process. A bank chartered in a deposit-rich state may be able to integrate the deposit gathering with lending in some other market area.[49] Such mergers may also permit banks to acquire data processing facilities, electronic funds transfer resources, check clearing facilities and to integrate some of the correspondent banking functions into a single entity. Banks without branch networks might acquire such delivery systems through merger. These acquisitions may generate synergistic benefits.

B. Financial Synergies

1. Diversification

The combination of two separate firms will increase the diversification of the firm's assets and its deposit or funding base. As long as the two firms do not have perfect positive correlation in their cash flows, the variability of the cash flows available to investors will be reduced. It particularly is likely that geographic diversification of banking firms' assets will reduce the variability of their cash flows. Banks operate in locally limited markets.[50] Deposit supply functions are related to local economies. Consequently, deposit supply varies independently for firms operating in different markets.

Similarly, there is potential to reduce the variability of returns on loans. A widely diversified loan portfolio is less sensitive to local problems. A locally limited bank may have a high concentration of its loans devoted to a common local industry or to the agricultural sector. By diversifying across several markets, the bank is less sensitive to local shocks.[51]

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49. Regulations on affiliate transactions limit the extent of such vertical economies. The Garn-St Germain Act of 1982 liberalized permissible transactions between banking affiliates and between banking firms and their subsidiaries. *See* Rose & Talley, *The Banking Affiliates Act of 1982: Amendments to Section 23A*, 68 Fed. Res. Bull. 693 (1982). Transactions between banks and non-bank subsidiaries of bank holding companies are somewhat more limited. Hence, if "non-bank" banks are viewed as non-banking subsidiaries, regulations may restrict these possibilities.

50. Nearly all empirical research on banking firms consider banking markets as locally limited. For a review of banking market determination, see J. WOLKEN, GEOGRAPHIC MARKET DELINEATION: A REVIEW OF THE LITERATURE, Staff Study No. 140 (1984) (Board of Governors of the Federal Reserve System).

51. For a similar view regarding bank holding company expansion, see Smirlock & Brown, *Multibank Holding Company Expansion and Cash Flow Diversification as a Motive for Merger*, in PROCEEDINGS OF A CONFERENCE ON BANK STRUCTURE AND COMPETITION 424 (May 1984) (Federal Reserve Bank of Chicago).

The reduced variability is definitely in the interest of depositors and other creditors of the firm as the probability of default falls.[52] The reduction of risk may also be in the interest of stockholders. In an efficient financial market, it has been shown that the shareholders will not pay a premium for reduced risk in cash flows as investors are able to reduce their own risk directly by buying shares in many independent firms. However, the stock of most commercial banks is not traded on organized exchanges. Many bank stocks are closely held and seldom traded. Consequently, it would be costly and difficult for individual investors to develop a diversified portfolio of bank stocks. However, a bank holding company may achieve this diversification by acquiring independent banks operating in a wide variety of markets. In this industry, the market may well place a premium on the stock of diversified companies since they have achieved a risk return configuration that is not available to individual investors.

Banks have generally attempted to achieve diversification synergies through acquisition rather than through de novo growth. The reason for this stems from bank regulations. Not all banking firms have equal access to all geographic markets. Most banks are not permitted to acquire banks across state lines and, in many states, banks can only expand geographically through the holding company organization. Hence, regulations create incentives to expand through acquisitions rather than through expansion of the existing firm (such as branching). Synergies exist because banks which are locally limited are likely to be valued differently than banks that are able to make acquisitions over wider geographic areas. The fact that restrictions on geographic expansion limit the number of potential bidders for any locally limited bank may cause the market value of these banks to be depressed.

Banks unconstrained geographically may be able to take advantage of these potential synergies. This would imply, for example, that grandfathered interstate bank holding companies have greater synergies available to them than non-interstate bank holding companies, even though both types of organizations may operate in several markets.[53]

In addition to geographic diversification, larger banks are able to offer a wider range of products and services than smaller banks. These

52. *See* Galai & Masulis, *The Option Pricing Model and the Risk Factor of Stock*, 3 J. FIN. ECON. 53 (1976).

53. There is a limited evidence for such synergies. *See* A. HEGGESTAD, D. SHONE & J. WOLKEN, SYNERGIES IN INTERSTATE BANKING: PRELIMINARY RESULTS (Oct. 12, 1984) (paper presented at the Financial Management Association Meetings, Toronto, Canada) [hereinafter cited as A. HEGGESTAD]

firms are also able to diversify domestically and internationally. Such diversification may also reduce uncertainties regarding income flows and hence reduce the riskiness of the bank vis-a-vis smaller firms.[54]

2. Financial economies

There may be certain financial benefits associated with larger size. Larger banks may face lower costs for purchased funds (certificates of deposit, federal funds and Eurodollars) and have access to lower cost debt and equity. These benefits are partially due to transaction costs and partially because larger banks may be perceived as being somewhat less risky. The fact that it is widely felt that the regulators will not let larger banks fail means that effectively all deposit liabilities of larger banks are insured. This de facto insurance may in turn reduce the cost of the "uninsured" liabilities of the larger banks.[55]

Larger banks appear to be able to operate with greater leverage without regulatory interference. If true, then combining the resources of two banks permits additional expansion without the banks having to raise more equity capital. These banks are able to use greater proportions of lower cost deposits and debt relative to expensive equity capital to finance their operations. Thus, their costs of funds should be lower than that of smaller firms.

Lastly, it should be easier for larger banks to raise equity. Many smaller banks are unlisted corporations or closely held companies whose stocks trade infrequently. Consequently, there is much uncertainty regarding the value of their stocks. This limits the marketability of the firm's stock and may increase the costs of equity capital for these companies should the need arise. In contrast, the stock of most larger banks is listed on the major stock exchanges and is traded quite frequently. This should enhance their access to the equity markets.

54. For a study which found some evidence consistent with synergies from product differentiation, see Swary, *Bank Acquisition of Non-Bank Firms: An Empirical Analysis of Administrative Decisions*, 7 J. BANKING & FIN. 213 (1983). Swary found that positive abnormal returns followed the announcement of the acquisition of a non-bank subsidiary.

55. Without the insurance argument, the ability for larger firms to borrow at lower cost is the result of the efficient bond markets, and not due to any financial synergies. *See* Galai & Masulis, *supra* note 52. In R. BREALEY & S. MYERS, PRINCIPLES OF CORPORATE FINANCE 710 (1984), the authors argue that mergers increase bond values and therefore decrease the interest payments necessary to support a given bond only by reducing the value of the stockholders' option to default. When two firms merge, the fact that two parties guarantee the debt is the reason for the lower interest rate. However, the authors also point out that, if the merger permits increased borrowing and increased value from tax benefits, there may be a net gain from the merger. Larger banks, as discussed below, do operate with higher degrees of leverage.

If such financial economies exist, then these larger corporations should be more profitable, less risky, or both. The evidence supporting the existence of financial economies for larger banking firms is, however, somewhat inconclusive.[56]

From 1979 to 1983, net income (after taxes and securities gains or losses) for large money center banks averaged 0.53% of assets.[57] Return on assets for all commercial banks with assets less than $100 million averaged 1.104% of assets.[58] Hence, on the basis of return on assets, smaller banks were more profitable than large money center banks.

Money center banks were much more leveraged than smaller banks. Over the same five year period, the ratio of assets to equity for money center banks averaged 24.87, whereas banks with assets less than $100 million had equity multipliers which averaged 11.85.[59] Return, as a percent of equity for these two groups of banks, was 13.2% and 13.16% respectively.[60] Thus, after accounting for differences in leverage, large money center banks and smaller banks on average are equally profitable. Over the same period, however, return on equity of money center banks varied somewhat less than that of smaller banks. The standard deviation of return on equity is .96% for money center banks and 1.12% for banks with assets less than $100 million.[61] Hence, these results suggest that if profitability is measured in terms of return on equity, money center banks and small commercial banks are equally profitable, although the return on equity of money center banks was less variable, at least over the 1979 to 1983 period. On net, the economic diseconomies of scale which apparently exist for larger banks are offset to some extent by the financial economies and the availability of greater leverage.

3. Tax considerations

Owners who have their wealth tied up in closely held, infrequently traded firms face two problems. First, their wealth may be tied up in a non-diversified investment and in one whose market value is only infrequently assessed. The latter condition may significantly impair the liquidity of their investment. Second, even if the stock of the firm could be easily sold, these owners may face significant tax liabilities. If they were unable to exchange their stock for the stock of a more diversified (with

56. *See* Danker & McLaughlin, *Profitability of Insured Commercial Banks in 1983*, 70 Fed. Res. Bull. 802 (1984).
57. *Id.* at 809 (Table 7).
58. *Id.*
59. *Id.*
60. *Id.*
61. *Id.*

regard to area, product, or both) banking concern's stock, they possibly could gain greater liquidity and a more diversified portfolio, and they perhaps could avoid capital gains taxes that otherwise would be assessed.

Acquiring firms may thus be able to capture part of the value of the potential tax liability. And even without the tax advantage, the lack of liquidity could induce the acquiring firm's owners to sacrifice some wealth in exchange for greater liquidity.

C. *Non-synergistic Merger Motives*

1. Bargaining

Any merger ultimately involves a bidding process between the acquiring firm and the acquired firm. Even if there are not synergies from the merger, the acquiring firm or the acquired firm may feel it is the better bargainer and is able to capture more than the market value of the firm through the bargaining process.

In efficient markets, there should be no discrepancy between the asking and selling price. The firm to be acquired should simply sell at its market value. However, the assumption of efficient markets may be less tenable when there are few potential buyers and sellers.

The banking industry may be characterized as an industry with few potential merger partners. Potential banking acquisitions are limited by branching laws, holding company acquisition laws and antitrust laws. Moreover, only banking organizations (banks or bank holding companies) generally can acquire banking firms.[62] This is not true in other industries. Consequently, price determination in bank mergers essentially may be bilateral bargaining situations. Firms which believe they are better bargainers may perceive that there are gains from acquisition, other than synergies, from being able to acquire the firm at a price less than the firm's true market value.

2. Avoiding regulation and reducing regulatory uncertainty

Some mergers may be stimulated by a desire to capture rents associated with regulatory avoidance. We have already discussed cases where mergers permit circumvention of geographic restrictions (and the capture

62. Some exceptions to this rule have occurred, but they are rare, especially since the passage of the Bank Holding Company Act Amendment of 1970, Pub. L. No. 91-607, § 103, 84 Stat. 1760 (applicable provisions are codified as amended at 12 U.S.C. § 1843 (1982)). In a few instances, non-bank firms have acquired chartered banks through the non-bank loophole in the Bank Holding Company Act.

of the benefits associated with this diversification), differential capital standards between large and small banks and de facto deposit insurance.

Other mergers which seem to have been motivated by the desire to circumvent regulations include acquisitions of limited purpose banks located in states which have different powers than those of nationally chartered banks or other state chartered banks. Such expansion has permitted some banking firms to engage in a more diversified set of activities, such as insurance and real estate development, or has allowed them to avoid ceilings and credit card fee limitations.

There is another element of regulation that may motivate mergers as well. In an environment which is in a state of flux, due to economic and regulatory developments, firms may desire to reduce the uncertainty associated with future regulatory changes. For example, the current regulatory policy regarding bank acquisitions and antitrust policy is fairly well understood. In bank mergers, markets are defined as consisting of banks (or banks and thrifts), and concentration and market shares are evaluated in the context of a local geographic market. Yet, there are signs that markets may be increasing in geographic size, and debate continues regarding the appropriate definition of the line of commerce or product line. As long as the rules regarding bank mergers remain unchanged, it is fairly simple to evaluate the likelihood of an antitrust challenge. Trying to project when, how and if the antitrust enforcement will be modified is difficult. Hence, mergers which occur today are easier to evaluate. In addition, it is unlikely that acquisitions which are permitted today will have to be divested in the future.[63]

A similar phenomena exists regarding interstate expansion and non-bank bank acquisitions. The non-bank bank loophole exists in 1985. Most believe that eventually interstate banking in some form will be approved. However, in the interim, the non-bank bank loophole may be closed. Consequently, in order to reduce the uncertainty and to position the bank for the future world of interstate banking, mergers or acquisitions of non-bank firms may be desirable.

63. As an illustration of the uncertainty, consider a bank which contemplates acquiring another bank located in an adjacent county. Today, such a merger is likely to be viewed as a market extension merger and subject to less regulatory scrutiny than would a similar horizontal merger. If the market were redefined to encompass both counties, the proposed merger would become a horizontal merger and would have to pass the market concentration tests of such mergers. It is possible that under the new market definition, the proposed merger could be denied on horizontal grounds. Although the effect of a specific acquisition depends on the uncertain market definition, by merging today, the acquiring bank eliminates this uncertainty.

V. EMPIRICAL EVIDENCE ON THE BENEFITS OF MERGERS

There has been considerable attention in finance to the benefits of mergers and acquisitions.[64] This section discusses the likely benefits both to acquiring and to acquired firms of mergers and acquisitions among nonfinancial entities. Next, this section articulates why the unique nature of the banking industry may allow banking firms to obtain, by the acquisition of other banking entities, benefits not associated with acquisitions in other industries.

A. Mergers in the Corporate Sector

The most significant study of the impact of all corporate mergers was made by Mandelker.[65] Mandelker concluded that owners of acquired firms received premiums for their stocks. This suggests that their stock has greater value when acquired than when it was part of an independent firm. However, the shareholders of acquiring firms competed for these benefits against several other firms. The net effect was that, on average, shareholders of acquiring firms received no net benefit from acquisitions of their companies. They did not lose, however, which suggests that they paid competitive prices.

This result was supported by several more recent studies, such as those by Ellert in 1975, Langtieg in 1978 and Malatesta in 1982.[66] These representative studies used different statistical techniques, different assumptions about when the financial markets became aware of the merger and different samples of mergers and acquisitions. All of the studies found financial gains from mergers. Whatever the source of the gain, there appeared to be some unique value in the acquired firms that could only be captured by merger or acquisition. However, the gains did not appear to go to the acquiring firms, implying that there had been a sufficient number of acquiring firms in the market so that the potential increased value was bid into the acquisition price.

B. Banking Mergers Compared to Mergers of Nonfinancial Firms

The evidence in finance suggests strongly that there are generally

64. For an excellent survey of the critical issues regarding the benefits of mergers, see Jensen & Ruback, *The Market for Corporate Control: The Scientific Evidence*, 11 J. FIN. ECON. 5 (1983).

65. Mandelker, *Risk and Return: The Case of Merging Firms*, 1 J. FIN. ECON. 303 (1974).

66. Ellert, *Mergers, Antitrust Law Enforcement and the Stockholder Returns*, 31 J. FIN. 715 (1976); Langetieg, *An Application of a Three-Factor Performance Index to Measure Stockholder Gains from Merger*, 6 J. FIN. ECON. 365 (1978); Malatesta, *The Wealth Effect of Merger Activity and the Objective Functions of Merging Firms*, 11 J. FIN. ECON. 155 (1982).

benefits to be derived from mergers. However, the benefits apparently accrue to the shareholders of the acquired firms because competition among acquiring firms increases the acquisition price and eliminates the potential benefits to the ultimate buyers.

However, commercial banking may be different in this regard. Because the regulatory framework significantly has distorted banking operations, the pool for potential buyers for any given merger is fairly small. There are a number of reasons for this. First, the acquiring firm cannot have nonfinancial operations. An acquisition of a bank by a retailing or manufacturing firm would be illegal under the Bank Holding Company Amendment of 1970. Second, the pool of potential acquiring banking organizations is also limited because generally the acquiring firm must also be located in the same state and the merger must pass antitrust considerations. Third, the merger must pass regulatory restrictions on the financial terms of the merger.

Moreover, mergers among banking firms may provide the acquiring bank with benefits not associated with mergers among non-financial corporations, if the merger allows the bank to avoid limitations on multi-office operations. Banks are sharply limited in their ability to operate outside of their home state. Additionally, many states limit the ability of banks to expand across their home state. As a consequence, there are too many banking organizations in the United States, most of which are too small to be efficient. They are certainly too small to benefit from any economies that may exist from multi-office operations. As discussed above, these include lower deposit variability, possible lower marginal costs of funds and a greater opportunity to diversify their loan portfolios.

C. Evidence of Interstate Synergies

Some evidence regarding synergies resulting from interstate banking has recently been collected in a study by Heggestad, Shome and Wolken.[67] The purpose of this study was to develop a model to estimate the potential synergistic benefits captured by firms which were permitted to operate interstate banking firms either by virtue of their grandfathered status (i.e., they were operating banks interstate prior to the passage of the Douglas Amendment in 1956) or because they are operated banks in states which recently have relaxed restrictions regarding interstate bank acquisitions. Because interstate companies operate in clearly separate markets, any synergies that exist are likely to be financial. If financial

67. A. HEGGESTAD, *supra* note 53.

synergies are important, they will exist for all mergers in banking and will prove to be an important motivating force.

The technique utilized in the paper was an modification of the Pure Play techniques widely used in value estimation for firms without traded securities.[68] A valuation model was estimated from a sample of banking firms operating in a single state over the 1978 to 1982 period. This model was then used to estimate the value of the banking subsidiaries of the interstate banking firms. These estimates were necessary to obtain the market value of banking subsidiaries controlled by bank holding companies, since these subsidiaries' stocks do not generally trade independently of the stock of the holding company. The assumption made is that these estimates represent the value of the banking subsidiary if it was part of an organization operating in a single state.

If synergies exist, then the sum of the estimated market values of the subsidiaries should be less than the market value of the consolidated parent holding company. Although the results of this study are preliminary, the findings suggested that on average there are some synergies associated with interstate banking operations. The relative values varied from different banks and time periods. Because of the estimation technique, quantitative estimates of the size of synergies were not obtained. Future work is being conducted to measure the magnitude of the reasons behind these differences.

VI. Conclusions

This Article has considered the current merger movement in commercial banking from the viewpoint of the industry and from the viewpoint of public policy. The Article discusses the incentives for mergers and acquisitions and points out that they are quite varied in nature. Several conclusions seem to be evident from the analysis:

1. Deregulation will continue to put pressure on many firms in the industry to join larger institutions.

2. The disappearance of a large number of small firms through mergers and acquisitions is not necessarily undesirable. There are too many banks in the United States. There are over 10,000 commercial banks that have not achieved minimal optimal size. When thrifts that offer virtually similar products are considered, the problem is further complicated. Mergers reflect a rational way to consolidate an unnatural

68. *See* Fuller & Kerr, *Estimating the Divisional Cost of Capital: An Analysis of the Pure-Play Technique*, 36 J. FIN. 997 (1981).

industry structure that has grown out of the past regulatory environment.

3. Financial economies are more likely in mergers of banks than in mergers of non-financial corporations. Since banks are so highly leveraged, any reduction in the probability of default on debt that lowers the required return on debt will substantially increase profitability.

4. There may be non-economic factors involved in many mergers because management may be willing to pay a premium for growth in order to maximize firm size.

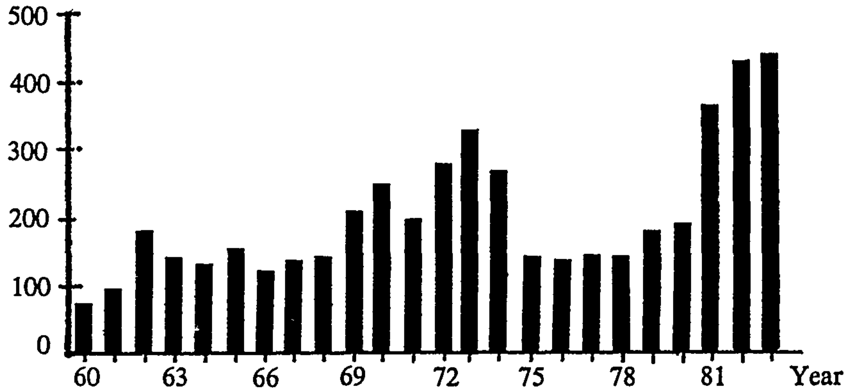
5. Since many mergers provide a vehicle to avoid regulatory limitations on geographic expansion, they will probably provide significant synergies. This result is considerably more likely than mergers in unregulated industries where management is free to choose its optimal geographic setting and product mix and need not rely on acquisition.

6. Initial evidence suggests that there is considerable value to operating across wide geographic markets. This is consistent with the concept of synergistic mergers.

7. The public and private interest is well served by a liberal regulatory position on mergers. These acquisitions have proved to be profitable for shareholders and provide a smooth transition to a more rational financial structure. Other than mergers that lead to direct reduction in competition, there is no public policy ground to restrict mergers further under the current environment.

Appendix A

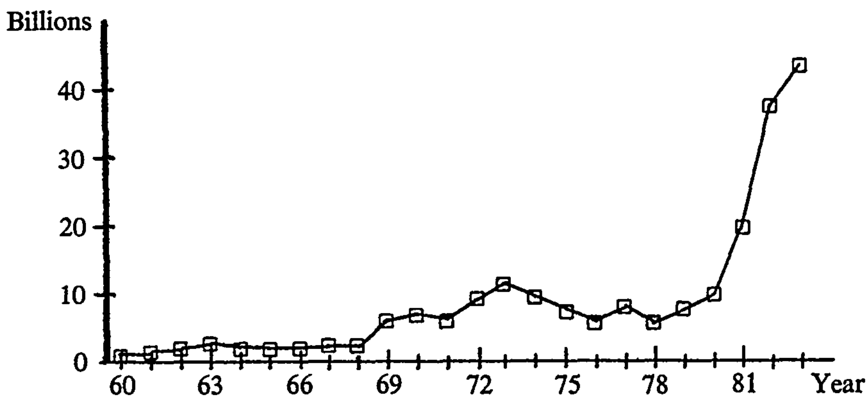
Number of Bank Acquisitions
(1960-1983)



Source: S. RHOADES, MERGERS AND ACQUISITIONS BY COMMERCIAL BANKS 1960-83, Staff Studies No. 142 (1984) (Board of Governors of the Federal Reserve System).

Appendix B

Value of Acquired Banks
(1960-1983)



Source: S. RHOADES, MERGERS AND ACQUISITIONS BY COMMERCIAL BANKS 1960-83, Staff Studies No. 142 (1984) (Board of Governors of the Federal Reserve System).

Appendix C

Sources of Funds—United States Commercial Banks
(Percent)

	1950	1960	1970	1983
Demand Deposits	69.7	60.1	42.8	16.6
Time and Savings Deposits	21.9	28.3	40.7	48.9
Other Liabilities	1.6	3.5	9.1	28.5
Capital	6.9	8.1	7.4	6.0
Total	100.0	100.0	100.0	100.0

Source: Board of Governors, Federal Reserve System.

Appendix D

Deposit Distribution—United States Commercial Banks
June 30, 1983

Size of Bank (millions)	Number of Banks	Number of Banking Offices	Percent of Banks	Percent of Total Deposits
0-9.9	2,294	2,528	15.8	1.0
10-24.9	4,481	6,250	30.9	5.2
25-49.9	3,657	7,543	25.2	8.9
50-99.9	2,233	7,050	15.4	10.5
100-499.9	1,500	11,196	10.3	19.5
500-999.9	168	4,249	1.2	8.1
1,000 or more	188	16,104	1.3	46.8

Source: FEDERAL DEPOSIT INSURANCE CORPORATION, DATA BOOK: OPERATING BANKS AND BRANCHES (June 30, 1983).