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**MBHCs: Evidence after two
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MBHCs: Evidence after two decades of regulation

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Multibank holding companies (MBHCs) have grown at a rapid pace in the recent past. This growth has sustained a bitter controversy regarding the influence of MBHCs on the structure, conduct, and performance of the nation's banking system. Some states are currently contemplating relaxation of statutory restrictions on MBHCs while others have passed or have under consideration legislation to further restrict or prohibit MBHC activity. This article spotlights the findings of recent research on specific issues regarding MBHC banking operations, thereby providing a clearer picture of the position of MBHCs in today's financial world.

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MBHCs: Evidence after two decades of regulation

The history of the bank holding company movement and the legislative history of the Bank Holding Company Act of 1956 and its subsequent amendments have been traced in a series of previous Business Conditions articles: July 1970, August 1973, February 1975, and April 1975.

Although multibank holding companies have existed for approximately three-quarters of a century, they maintained a relatively low profile until recently. Multibank holding companies (MBHCs) were established as alternatives to branching systems in many states where branching was prohibited. In the 1940s the independent bankers associations and others focused attention on holding companies, seeing them as a threat to competition and free enterprise in the banking sector. Ultimately, the Bank Holding Company Act of 1956 was passed, defining a holding company (HC) as a company controlling two or more banks. One-bank holding companies, considered innocuous, were virtually ignored. This definition prevailed through the 1966 amendments to the act, and allowed one-bank holding companies to expand unencumbered into nonbanking areas, a loophole they did not take advantage of for over a decade. In 1966, however, one-bank holding companies began to grow at a rate that can only be described as "explosive." As a result, the 1970 amendments to the act redefined a bank holding company to include companies controlling only one bank. The rapid expansion program of MBHCs in the early 1970s has sustained

the bitter controversy regarding the merits of HCs and has led to attempts to either enact or broaden HC legislation.

Despite our historical experience the issues regarding MBHCs tend to be confused and the available evidence muddled by both opponents and proponents. This article examines the principal issues concerning the banking aspects of MBHCs in terms of both logic and recent evidence. Such issues include the availability of services, concentration and competition, pricing, operating efficiency, profitability, bank soundness, allocation of funds, and the benefits of regulations promulgated by the Board of Governors of the Federal Reserve System. A subsequent article will examine the nonbanking aspects of holding companies.

Availability of services

Incorporated in every multibank holding company application to acquire a banking firm is a statement describing the post-acquisition changes the MBHC plans to introduce and indicating how these changes will benefit the public served by the prospective affiliate. The proposed services frequently include new, improved or expanded types of credit (e.g., increased consumer credit and the introduction of

NOTE: Numbers in brackets [] refer to the numerically listed bibliography on pages 8 and 9. Citations are either to studies whose results are described in this article or to scholarly elaborations of topics discussed.

specialized business credit) and the establishment of trust and international services, and specialized deposit-type services.

How frequently the MBHC actually fulfills its preacquisition promises is, at present, a point of conjecture. The effect of MBHC affiliation on the availability of two typically proposed services, trust services and new types of credit, has been tested analytically by a number of researchers. Various measures of the volume or changes in the volume of such services have been examined. For example, increased trust department services might be suggested by an increase in the ratio of trust revenue to total revenue or total assets. One study found that MBHC affiliates have a significantly higher ratio of trust revenue to total revenue than independent banks [25], but another found no relation between affiliation and the ratio of trust revenue to total assets [21].

The evidence on the expansion of credit is clearer. If MBHC affiliation leads to an expansion of consumer credit, the ratios of consumer loans to total assets or total loans should rise. Several studies found this relationship does exist [25, 31, 44, 53]. The expansion of business credit would be reflected in an increase in the ratio of commercial and industrial loans to either total assets or total loans. Evidence indicates that affiliation produces a highly significant increase in the ratio of business loans to total loans [25], but a similar relation of such credit to total assets was not found [13, 21, 31, 39, 54].

The available evidence suggests that MBHC affiliation produces some slight enlargement in the availability of banking services, but most of the proposed changes have not been examined.

Concentration and competition

Opponents of MBHCs have long argued that restraints imposed on MBHC

growth benefit the public by providing safeguards against an "undue concentration of banking resources" while, at the same time, encouraging competition among banks. To determine the validity of this argument, the concept of concentration should be examined and clarified.

In economics concentration refers to the proportion of a given type of economic activity performed (and thus "controlled") by a few of the largest firms in an industry. Measures frequently used in industry studies to indicate concentration are the share of total assets or sales accounted for by the largest, typically four or eight, firms in the industry. Measures frequently used in studies of financial industries are the share of total assets and total deposits. The phrase "increased concentration" connotes that a given number of firms now control a larger portion of the measure than previously.

Concentration can be viewed at various levels, each corresponding to a different geographic delineation. First, concentration can be viewed in terms of the *national* economy where one might wish to investigate the magnitude of total U.S. commercial bank deposits held by the largest 100 or 200 banking organizations. Second, concentration can be examined at the *state* level to find the proportion of state banking deposits held by the three, four, or five largest banking organizations. Third, concentration can refer to the share of assets or deposits held by the largest three, four, or five banking organizations in a *local* banking market, with the market approximated by a standard metropolitan statistical area (SMSA) or county. These three concepts of concentration are significant for different reasons, and the inferences drawn from analysis of each of these measures need not be consistent.

Nationwide concentration. Measured by the percentage of total domestic deposits held by the 100 largest banking organizations, nationwide concentration

fell from 49 percent to 47 percent during the 1968-73 period [55]. This occurred despite a rapid increase in MBHC formations and acquisitions during this same period, in particular 1970-73. The share of total deposits held by MBHCs increased two and one-half times during the 1968-73 period and doubled in the 1970-73 period. This decline in national concentration reflects the fact that the total growth of the largest banking organizations was less than the growth in total deposits nationally and also less than the total growth of those banking organizations not in the top 100. It appears that national concentration is not, at the present time, a particularly pressing issue. This is not meant to suggest, however, that nationwide concentration and its relation to MBHCs can be ignored. HC acquisitions did have the effect of raising nationwide concentration in 1973 by approximately 2.3 percentage points above the level that otherwise would have prevailed [55].

Statewide concentration. In the 1968-73 period concentration at the state level, measured by the percentage of statewide deposits held by the largest five banking organizations, increased in 28 states, declined in 22 states, and remained unchanged in one state (the District of Columbia is treated as a state), with the average increase for all states about 1 percentage point [55].

Of those states allowing MBHCs, a larger percentage had increases in concentration than states which prohibited them. Conversely, the percentage of states experiencing decreases in concentration was much higher for those states prohibiting MBHCs than for states allowing MBHCs. In short, increases in state concentration tend to occur in states allowing MBHCs, while concentration tends to decline in states prohibiting MBHCs [55].

In the 38 states allowing MBHCs, concentration was higher in 1973 than it would have been in their absence [55]. In-

creases in concentration occurred most often in unit banking states and least often in statewide branching states, an expected result since MBHC affiliation is an alternative to branching. Additionally, the effect of MBHC acquisitions on concentration is greatest in states with previously low or moderate concentration and negligible in states with high concentration.

Thus, the effect of MBHC acquisition on statewide concentration is fairly clear. Its impact, in general, is either to increase concentration or to moderate its decline and is greatest in unit banking states and states with low to moderate levels of concentration [55].

Local market concentration. Despite the greater publicity given to trends in national and statewide concentration, local market concentration is, from an economic point of view, undoubtedly the most important of the three concentration measures. This is because the term "market" refers to a geographic area where buyers and sellers are in sufficiently close proximity to each other for exchange and competitive interaction to occur. Moreover, it is generally agreed that the greater the degree of concentration within a market thus defined, ceteris paribus, the lower the degree of competition. For this reason the Board of Governors sometimes rejects applications to acquire banks in markets where the HC is already represented.

Entry into new markets. An important factor affecting concentration at the local market level is the way MBHCs enter new markets. Three types of entry are available: de novo entry, acquisition of a small bank (foothold entry), and acquisition of a leading bank (i.e., a relatively large bank) in the market. Of the three the acquisition of a leading bank has the greatest potential for anticompetitive effects. Because all HC acquisitions must be approved by the Federal Reserve Board of Governors, which has not hesitated to deny applications where existing or poten-

tial anticompetitive effects are present, the number of leading bank acquisitions has been minimized [9, 50].

At the other extreme there is little question that the greatest potential for procompetitive effects is through de novo expansion, which either introduces a new competitor into a market or intensifies the already existing competition. This type of entry is the most difficult for the firm since it is expensive, entails considerable risk, and requires considerable time for the establishment of a clientele. Indeed, many markets simply may not be conducive to de novo entry. In recent years the number of de novo banks established by MBHCs has increased substantially, but the majority have been in markets where the MBHC is already represented [9, 16].

Because of the problems associated with de novo entry and Board-imposed regulatory constraints on leading bank acquisitions, the predominant type of entry is foothold entry. This type of entry can have procompetitive effects when the MBHC acquires a small bank in a market and uses its resources (e.g., management services, advertising, etc.) to strengthen the affiliate and make it a more viable competitor. If this occurs, the rate of growth of deposits and/or the market share of the affiliate will increase.

Numerous studies have attempted to ascertain whether banks acquired by MBHCs have grown at the expense of independent banks and what the impact of such growth on local market concentration has been. The results are essentially as follows: 1) No significant change in the market share of the affiliated banks vis-a-vis banks remaining independent was found in two studies [21, 62], while, according to two other studies, MBHC entry may have led to a decline in market concentration [35, 57]; 2) In a study utilizing banking "districts" (SMSAs and county areas) as proxies for markets in three states, it was found that, although MBHC

affiliation had minimal impact on concentration, markets experiencing MBHC activity had lower initial concentration than districts where no MBHC activity occurred [33]; 3) Neither leading bank nor foothold acquisitions by MBHCs were found to have a significant impact on market shares [15]; and 4) Neither the difference in deposit growth rates between affiliated and independent banks [31] nor the difference in the growth rates of acquired banks before and after affiliation was found to be significant [11].

Based on observations at the national and/or state level, adversaries of MBHCs contend that a consequence of allowing this type of organization is an increase in concentration and a reduction in competition [12, 23]. While increases in concentration at these levels are not unimportant and could potentially lead to problems (perhaps carrying more political than economic overtones), there is no evidence of any relationship between aggregate concentration and local market competition. Rather, with regard to most classes of customers and types of bank services, the localized geographic market definition is more appropriate for drawing inferences about the impact of changes in concentration upon the extent of competition. Moreover, research has not found a significant positive relationship between MBHC affiliation and increases in local market concentration, whether the affiliation is with a leading bank or a bank with a relatively small share of the market, as measured either directly by market share or indirectly by rate of growth of deposits. What local market concentration would be in the absence of the Bank Holding Company Act and regulation by the Board of Governors is a different question. One must suspect, however, that local market concentration would be higher in the absence of Board regulation, given the Board's inclination to deny anti-competitive acquisitions [49].

Prices of bank services

A number of aspects of bank performance are influenced by the degree of competition (and concentration), the most important being the pricing of bank services. In particular, it is generally believed that an increase in concentration produces higher prices (and poorer service) while deconcentration produces lower prices (and perhaps better service). (For some evidence on this see [19]). However, there are several ways this relation between concentration and pricing may be obscured unless several other factors, including MBHC affiliation, are taken into account.

One way in which MBHCs may affect the relationship between concentration and prices is through the threat of de novo entry into a market, a threat that is of maximum effectiveness in states not having geographic or home office protection. If the incumbent firms (or a monopoly firm) anticipate that charging the short-run profit maximizing price will result in profits large enough to induce de novo entry by MBHCs into that market, the incumbent firms may be induced by this "potential competition" to charge a price less than the profit maximizing one, accept a lower rate of profit in the short run (but perhaps enhancing long-run profitability), and possibly offer more services. In so doing, incumbent banks may be able to forestall entry and maintain their quasi-monopoly status. The threat of entry, nonetheless, has performed a useful purpose in that market performance is now more competitive. Potential entry by firms not presently competing in the market is not operative in states which prohibit MBHCs or have geographic or home office protection.

MBHC affiliation may also affect prices through its effect on bank operating efficiency (as discussed in more detail in the following section). If affiliation improves the bank's efficiency, prices charged

for bank services by MBHC subsidiaries should fall after affiliation (albeit not necessarily in proportion to the decline in costs) regardless of the market structure involved.

Still another way in which MBHC affiliation may affect the prices of bank services is through reduction in risk. By reducing default risk through geographic and portfolio diversification and reducing liquidity risk due to deposit variability [20], affiliation with an MBHC may enable a bank to reduce its liquid assets, thereby releasing funds for higher-yielding loans and lowering the interest rates it charges.

Finally, MBHC affiliation can affect prices through its impact on the allocation of funds. Affiliation can improve the flow of funds among the many markets served by an MBHC and allow funds to seek their most profitable uses. MBHC affiliation is not a necessary condition for redistributing credit across markets since independent banks can accomplish the same purpose through the federal funds market.

It is not possible, a priori, to determine the relative influence of each of the foregoing factors upon the pricing of bank services. It appears, nevertheless, that MBHCs have the *potential* for charging lower prices than independent banks.

Interest rates on loans. Proponents of MBHCs argue that increased operating efficiency and a more competitive spirit should result in lower average loan rates being charged by banks affiliated with MBHCs. Studies examining this question have focused on total loans without considering the component parts (i.e., consumer, mortgage, and commercial loans) largely because income data by component are not available. In addition, the mix or composition of loans has not been considered. For example, if HC affiliates are typically larger than independent banks and have a larger proportion of business loans, which usually carry lower interest rates than other loans, the relation

Bibliography

1. Baltensperger, Ernst. "Cost of Banking Activities: Interactions Between Risk and Operating Costs." *Journal of Money, Credit, and Banking*, IV (August, 1972), 595-611.
2. Baltensperger, Ernst. "Economies of Scale, Firm Size, and Concentration in Banking." *Journal of Money, Credit, and Banking*, IV (August, 1972), 467-88.
3. Bell, Frederick W. and Murphy, Neil B. *Costs in Commercial Banking: A Quantitative Analysis of Bank Behavior and its Relation to Bank Regulation*. Research Report No. 41. Boston: Federal Reserve Bank of Boston, 1968.
4. Benston, George J. "Economies of Scale of Financial Institutions." *Journal of Money, Credit, and Banking*, IV (May, 1972), 312-41.
5. Benston, George J. "The Optimal Banking Structure: Theory and Evidence." *Journal of Bank Research*, III (Winter, 1973), 220-37.
6. Boczar, Gregory E. "The Determinants of Multibank Holding Company Formations." *Southern Economic Journal*, XLI (July, 1975), 120-29.
7. Boczar, Gregory E. *The Growth of Multibank Holding Companies: 1956-73*. Washington, D.C.: Board of Governors of the Federal Reserve System, Staff Economic Study (85), 1975.
8. Chase, Samuel B. Jr., and Mingo, John J. "The Regulation of Bank Holding Companies." *Journal of Finance*, XXX (May, 1975), 281-92.
9. Coldwell, Philip E. "Statement before the Subcommittee on Financial Institutions Supervision, Regulation, and Insurance of the Committee on Banking, Currency, and Housing, U.S. House of Representatives." *Federal Reserve Bulletin*. Washington: Board of Governors of the Federal Reserve System, February, 1976, 113-19.
10. Daniel, Donnie L., Longbrake, William, A. and Murphy, Neil, B. "The Effect of Technology on Bank Economies of Scale for Demand Deposits." *Journal of Finance*, XXVIII (March, 1973), 131-46.
11. Darnell, Jerome C. and Keen, Howard. "Small Bank Survival: Is the Wolf at the Door?" *Business Review*, Federal Reserve Bank of Philadelphia, November, 1974, 16-23.
12. Dobson, L. Wayne. "The Effects of Multibank Holding Company Expansion." *The Independent Banker*, XXV (August, 1975), 12-13.
13. Fraas, Arthur G. *The Performance of Individual Bank Holding Companies*. Washington, D.C.: Board of Governors of the Federal Reserve System, Staff Economic Study (84), 1974.
14. Gilbert, Alton R. "Trust Revenue of Commercial Banks: The Influence of Bank Holding Companies." *Review*, Federal Reserve Bank of St. Louis, June, 1974, 8-15.
15. Goldberg, Lawrence G. "Bank Holding Company Acquisitions and Their Impact on Market Shares." *Journal of Money, Credit, and Banking*, VIII (February, 1976), 127-30.
16. Goodman, Nancy M. "Holding Company Developments in Michigan." *Business Conditions*, Federal Reserve Bank of Chicago, October, 1975, 10-15.
17. Heggstad, Arnold A. "Market Structure, Risk, and Profitability in the Banking Industry." In *Proceedings of a Conference on Bank Structure and Competition*. Chicago: Federal Reserve Bank of Chicago, 1972, 203-17. Heggstad,
18. Heggstad, Arnold A. and Mingo, John J. "Capital Management by Holding Company Banks." *Journal of Business*, XLVIII (October, 1975), 500-505.
19. Heggstad, Arnold A. and Mingo, John J. "Prices, Nonprices and Concentration in Commercial Banking." *Journal of Money, Credit, and Banking*, VIII (February, 1976), 107-17.
20. Herzig-Marx, Chayim. "Holding Companies and Deposit Variability." *Business Conditions*, Federal Reserve Bank of Chicago, March, 1976, 12-15.
21. Hoffman, Stuart G. *The Impact of Holding Company Affiliation on Bank Performance: A Case Study of Two Florida Multibank Holding Companies*. Working Paper Series, Federal Reserve Bank of Atlanta, 1976.
22. Holland, Robert C. "Bank Holding Companies and Financial Stability." *Journal of Financial and Quantitative Analysis*, X (November, 1975), 577-87..
23. Independent Bankers Association of America, *Independent Banking: An American Ideal*. Sauk Centre, Minn., 1973.
24. Jackson, William. "Commercial Banking Performance Sources: A Multivariate Model." In *Conference on Bank Structure and Competition*. Chicago: Federal Reserve Bank of Chicago, 1974, 93-113.
25. Jackson, William. *Multibank Holding Companies and Bank Behavior*. Working Paper 75-1, Federal Reserve Bank of Richmond, Richmond, Virginia, 1975.
26. Jacobs, Donald P., Beighley, H. Prescott, and Boyd, John H. *The Financial Structure of Bank Holding Companies*. Chicago: Association of Reserve City Bankers, 1975.
27. Jessee, Michael A. and Seelig, Steven A. "An Analysis of the Public Benefits Test of the Bank Holding Company Act." *Monthly Review*, Federal Reserve Bank of New York, June, 1974, 151-62.
28. Jessup, Paul F. "Acquisitions by Bank Holding Companies: Promise, Performance, Potential." In *Conference on Bank Structure and Competition*. Chicago: Federal Reserve Bank of Chicago, 1974, 15-28.
29. Johnson, Rodney D. and Meinster, David R. "An Analysis of Bank Holding Company Acquisitions: Some Methodological Issues." *Journal of Bank Research*, IV (Spring, 1973), 58-61.
30. Johnson, Rodney D. and Meinster, David R. "The Performance of Bank Holding Company Acquisitions: A Multivariate Analysis." *Journal of Business*, XLVIII (April, 1975), 204-12.
31. Lawrence, Robert J. *The Performance of Bank Holding Companies*. Washington, U.S. Board of Governors of the Federal Reserve System, 1967.

32. Lawrence, Robert J. and Talley, Samuel H. "An Assessment of Bank Holding Companies." *Federal Reserve Bulletin*. Washington: Board of Governors of the Federal Reserve System, January, 1976, 15-21.
33. Light, Jack S. "Bank Holding Companies—Concentration Levels in Three District States." *Business Conditions*, Federal Reserve Bank of Chicago, June, 1975, 10-15.
34. Light, Jack S. "Effects of Holding Company Affiliation on De Novo Banks." In *Proceedings of a Conference on Bank Structure and Competition*. Chicago: Federal Reserve Bank of Chicago, 1976, 83-106.
35. Martell, Terrence F. and Hooks, Donald L. "Holding Company Affiliations and Economies of Scale." *Journal of the Midwest Finance Association*, 1975, 59-71.
36. Mayer, R. Charles and Sussna, Edward. "Registered Bank Holding Company Acquisition: A Cross-Section Analysis." *Journal of Financial and Quantitative Analysis*, VIII (September, 1973), 647-61.
37. McLeary, Joe W. "Bank Holding Companies: Their Growth and Performance." *Monthly Review*, Federal Reserve Bank of Atlanta, October, 1968, 131-38.
38. Mingo, John J. "Capital Management and Profitability of Prospective Holding Company Banks." *Journal of Financial and Quantitative Analysis*, (June, 1975), 191-203.
39. Mingo, John J. "Managerial Motives, Market Structures and the Performance of Holding Company Banks." *Economic Inquiry*, XIV (September, 1976), 411-24.
40. Mote, Larry R. "The Perennial Issue: Branch Banking." *Business Conditions*, Federal Reserve Bank of Chicago, February, 1974, 1-23.
41. Mullineaux, Donald J. "Branch Versus Unit Banking: An Analysis of Relative Costs." In *Changing Pennsylvania's Branching Laws: An Economic Analysis*. Technical Papers. Philadelphia: Federal Reserve Bank of Philadelphia, 1973.
42. Mullineaux, Donald J. "Economies of Scale of Financial Institutions." *Journal of Monetary Economics*, I (April, 1975), 233-40.
43. Murphy, Neil B. "Cost of Banking Activities: Interactions Between Risk and Operating Costs: Comment." *Journal of Money, Credit, and Banking*, IV (August, 1972), 614-15.
44. Murphy, Neil B. and Weiss, Steven J. "The Effect of Concentration on Performance: Evaluating Statistical Studies." *Magazine of Bank Administration*, XLV (November, 1969), 61-63.
45. Piper, Thomas R. *The Economics of Bank Acquisitions by Registered Bank Holding Companies*. Research Report No. 48. Boston: Federal Reserve Bank of Boston, 1971.
46. Piper, Thomas R. and Weiss, Steven J. "The Profitability of Bank Acquisitions by Multi-Bank Holding Companies." *New England Economic Review*, Federal Reserve Bank of Boston, September/October 1971, 2-12.
47. Piper, Thomas R. and Weiss, Steven J. "The Profitability of Multibank Holding Company Acquisitions." *Journal of Finance*, XXXIX (March, 1974), 163-74.
48. Rhoades, Stephen A. *Extending Merger Analysis Beyond the Single-Market Framework*. Washington: Board of Governors of the Federal Reserve System, Staff Economic Study (86), 1976.
49. Rosenblum, Harvey. "A Cost-Benefit Analysis of the Bank Holding Company Act of 1956." Unpublished paper presented at the Western Economic Association Conference, San Francisco, California, June, 1976.
50. Rosenblum, Harvey. "Bank Holding Companies—Part II." *Business Conditions*, Federal Reserve Bank of Chicago, April 1975, 13-15.
51. Schweitzer, Stuart A. "Economies of Scale and Holding Company Affiliation in Banking." *Southern Economic Journal*, XXXIX (October, 1972), 258-66.
52. Silverberg, Stanley C. "Bank Holding Companies and Capital Adequacy." *Journal of Bank Research*, VI (Autumn, 1975), 202-7.
53. Talley, Samuel H. "Developments in the Bank Holding Company Movement." In *Proceedings of a Conference on Bank Structure and Competition*. Chicago: Federal Reserve Bank of Chicago, 1972, 1-17.
54. Talley, Samuel H. *The Effect of Holding Company Acquisition on Bank Performance*. Washington: Board of Governors of the Federal Reserve System, Staff Economic Study (69), 1972.
55. Talley, Samuel H. *The Impact of Holding Company Acquisitions on Aggregate Concentration in Banking*. Washington: Board of Governors of the Federal Reserve System, Staff Economic Study (80), 1974.
56. Varvel, Walter A. "A Valuation Approach to Bank Holding Company Acquisitions." *Economic Review*, Federal Reserve Bank of Richmond, July/August, 1975, 9-15.
57. Ware, Robert F. "Banking Concentration in Ohio." *Economic Commentary*, Federal Reserve Bank of Cleveland, November 24, 1975.
58. Ware, Robert F. "Characteristics of Banks Acquired by Multiple Bank Holding Companies in Ohio." *Economic Review*, Federal Reserve Bank of Cleveland, August, 1971, 19-27.
59. Ware, Robert F. "Performance of Banks Acquired by Multi-Bank Holding Companies in Ohio." *Economic Review*, Federal Reserve Bank of Cleveland, March/April, 1973, 19-28.
60. Weiss, Steven J. "Bank Holding Companies and Public Policy." *New England Economic Review*, Federal Reserve Bank of Boston, January/February, 1969, 3-27.
61. Weiss, Steven J. "Factors Affecting Bank Structure Change: The New England Experience, 1963-74." *The New England Economic Review*, Federal Reserve Bank of Boston, July/August 1975, 16-25.
62. Whitehead, David D. and King, B. Frank. "Multibank Holding Companies and Local Market Concentration." *Monthly Review*, Federal Reserve Bank of Atlanta, April, 1976, 34-43.

between average interest on loans and MBHC affiliation will likely be negative.

A number of studies have investigated this relation between MBHC affiliation and interest received on total loans. In several studies it was found that affiliates charge lower average rates on all loans than their independent counterparts [21, 30, 37]. Other studies, however, could find no significant relationship between HC affiliation and loan interest rates [31, 34, 54, 59]. On the other hand, a risk-adjusted average loan interest rate, defined as loan interest minus the loan loss provision, was found to possess a highly significant positive relation with MBHC affiliation [25]. Whether this variable actually measures a riskless loan rate is open to question. On balance, however, the evidence suggests that the effect of MBHC affiliation has in some instances resulted in lower interest charges on loans.

Interest rates on deposits. If MBHC affiliation does improve operating efficiency and/or increase competition, affiliates should be able to pay higher interest rates on time and savings deposits than independent banks. Evidence indicates that this is indeed the case [13, 25, 34]. This conclusion must be tentative, however, since the mix of time-to-savings deposits has not been taken into account. Past studies have assumed that affiliate and independent banks have the same proportion of each, which, while satisfactory as a first approximation, has not passed the test of statistical scrutiny. If this assumption is not valid, a systematic bias may be introduced into studies of the relationship between MBHC affiliation and interest on time and savings deposits. For example, if MBHC affiliates are more aggressive than independent banks in their attempts to acquire time deposits, the average interest rate paid on time and savings deposits will be overstated for affiliates relative to independent banks because time deposits generally carry higher interest rates than

savings deposits. Unfortunately, figures on the deposit mix became available only recently, and there is no breakdown of interest expense between time and savings deposits.

Service charges on demand deposits. Several studies have investigated service charges. While the evidence is not totally clear, it appears that MBHC affiliates have higher service charges than independent banks [13, 30, 31], although one study did find a weak negative relationship [54].

Previous studies have not examined the reasons for the higher service charges. In view of the repeated findings that MBHC affiliates tend to offer more services than independent banks, service charges may constitute reimbursement for these services. Without further evidence, explanations of this relationship amount to little more than informed speculation.

Operating efficiency

Proponents of MBHCs assert that one advantage of joining an MBHC organization is economies of affiliation, that is, improved operating efficiency for the acquired bank. This argument is usually couched in terms of the affiliate having greater flexibility in deciding whether to "produce or buy" various productive services. If this argument is correct, the per unit cost (or total cost) for a given level of output should be less for MBHC affiliates than for independent banks. The empirical results, however, do not entirely substantiate this view.

One study reported that affiliate banks in the \$3.5 million to \$25 million asset size class, particularly those belonging to a large HC group, are more efficient, i.e., subject to economies of affiliation [51]. This finding is contradicted somewhat by a second study [41] which found no significant change in cost when an MBHC acquired a unit bank, but did find a significant increase in cost when an MBHC ac-

quired a bank with branches. The latter finding is probably attributable to the duplication of functions involved in combined branch-holding company systems.

Other studies have investigated the same problem by examining different efficiency ratios rather than by estimating the cost functions directly. Evidence indicates that the ratio of total operating expense to total assets is significantly higher for affiliates than for independent banks [30, 31, 34]. Assets, however, are not a good measure of output.

The source of this higher cost has been traced to two areas. Several studies discovered highly significant increases in the ratio of "other" current expenses to total assets [21, 31, 34, 54]. Exactly why this category is higher for HCs is a question for further consideration, but lends itself to interesting conjecture. The answer may depend, in part, on whether MBHCs attempt to maximize the profits of each affiliate bank or of the consolidated HC. The assumption is typically the affiliate, but this need not be the case. The parent has considerable leeway in determining where profits appear by influencing the charges between subsidiaries and between the subsidiaries and the parent. That is, profits could show up at nonbanking rather than banking subsidiaries, or the parent company could withdraw revenue from banking affiliates in the form of expenses (particularly management fees) instead of or in addition to dividends and, in fact, may prefer to report lower profits at the subsidiary level and higher profits at the parent level. Whatever the case, this question is a difficult one to answer empirically.

MBHCs also incur higher employee benefit costs [30, 34]. This is not surprising since one would expect a large banking organization to have a more comprehensive benefit program for its employees than would an independent bank.

Finally, as indicated in the previous section, affiliates seem to pay higher in-

terest on time and savings deposits, by far the largest single expense for commercial banks. Because high interest rates on deposits reflect more intensive competition, rather than inefficiency, a more appropriate measure of costs for use in determining relative operating efficiency might be total operating expense less interest on savings and time deposits. Use of this alternative measure could significantly alter the foregoing results.

In short, the preponderance of evidence on operating efficiency suggests that affiliation with an HC entails *diseconomies* rather than economies.

Profitability

Having examined the pricing and cost aspects of MBHC affiliation, it is now time to turn our attention to the net of these two—the profitability of MBHC affiliates. A priori, the impact of affiliation on profitability is difficult to assess. On the revenue side MBHC affiliates levy significantly higher service charges on demand deposits. On the cost side both total operating expense and its major component—interest rates on time and savings deposits—are higher for affiliates. The resultant impact on profits is indeterminate and the evidence does not seem to clarify the picture significantly.

A number of studies have examined the profitability of MBHCs through the use of performance ratios. It appears that MBHC affiliation has a negative impact on the ratio of net income to total assets [13, 34].

On the other hand, the results of comparisons of the ratio of net income to equity have been mixed, with one study finding a highly positive relationship with MBHC affiliation [25], but another finding a significant negative relation [34].

Also of interest are two studies [38, 39], one of which found that MBHCs tend to purchase banks having earnings-to-

capital ratios lower than banks remaining independent [38], which is to be expected since owners of highly profitable banks would be less likely to dispose of their stock than owners of relatively unprofitable banks. Moreover, it has been found that banks tend to have higher net earnings-to-capital ratios after acquisition [39]. Together, these two studies imply that MBHCs have improved the profitability of acquired banks. The higher profit potential would explain why MBHCs are willing to pay a premium for an acquisition. In view of the finding of other research, however, that, due to "overly generous purchase prices," acquisitions by MBHCs have not increased earnings per share of the parent [46], one must conclude that the average premiums paid have not been justified by post-acquisition performance.

The evidence on affiliate profitability, as with several other performance characteristics, is mixed. While subsidiaries of MBHCs are less profitable than their independent counterparts, it must be kept in mind that MBHCs acquire banks of below-average profitability and tend to improve the level of profitability over time. Whether parent HCs choose to maximize the profitability of the parent or the subsidiary is crucial to the interpretation of these findings.

Bank soundness and portfolio composition

It has often been alleged that MBHCs acquire relatively small banks (implied by foothold entry) frequently afflicted with some internal problem such as undercapitalization (implied by the MBHC's promise to inject new capital into the acquired bank) or a management or management succession problem. It is also asserted that, once the bank becomes an affiliate, the MBHC can use its resources to solve these problems. It appears, however, that these alleged benefits of affiliation are

somewhat exaggerated.

While there is no evidence concerning prior management problems of acquired banks, it is fairly clear that the capital positions of the banks acquired by MBHCs seldom improve and frequently deteriorate, as evidenced by the ratios of several capital measures to either total assets or deposits. In only one study has the ratio of capital to deposits been shown to improve after affiliation, and then only in the third year after acquisition [59]. Several studies, however, have shown that the ratio of equity capital to total assets is significantly lower for affiliated than for independent banks [13, 25, 39]. (Whether affiliated banks had significantly lower capital ratios prior to their affiliation with MBHCs has been examined in only one study, which did not find a significant difference between acquired and independent banks [58].) Moreover, it has been found that affiliation tends to increase the payout ratio (dividends to net income) [21, 25]. A reduction in the equity capital-to-total-asset ratio coupled with a higher payout ratio combine to produce substantially higher current return to shareholders (i.e., the MBHC) per dollar of equity in affiliated banks.

In addition, as noted previously, affiliates have higher "other" expenses than do independents. If some portion of these "other" expenses comprise fee payments to the parent company (management, legal, and directors' fees), then the parent could, in effect, be draining additional profits from the affiliate in this manner [34].

However, it is not clear whether the above findings reflect measurement problems or the MBHC's ability to shift capital among subsidiaries and between subsidiaries and the parent.

Empirical evidence also indicates that MBHC affiliation tends to increase the risk exposure of acquired banks as reflected in the changed composition of the affiliate bank's asset portfolio [21, 25, 30, 31, 34, 39,

54]. As the MBHC diversifies geographically, its combined portfolio typically becomes more diversified than the portfolio of each individual affiliate. Because this diversification reduces the parent's risk, MBHCs tend to encourage each affiliate to assume greater portfolio risk than it otherwise would. Offsetting the increased risk in its portfolio, the individual affiliate could reasonably expect help from its coaffiliates or its parent should a problem arise.

Evidence indicates that following affiliation, banks shift from low-risk, low-return assets (e.g., cash and U.S. Government securities) toward higher risk assets such as state and local securities and loans to the private sector, particularly consumer and business loans. However, since banks are not chartered to act as warehouses for the national debt, the attendant increase in risk from higher loan-to-deposit ratios following affiliation can be viewed as serving the interests of the acquired bank's existing and potential customers.

Allocation of funds

The higher loan-to-deposit or loan-to-asset ratios of MBHC affiliates suggest that they supply a greater amount of private credit than an independent bank would offer [25, 30, 31, 54]. Assuming that the borrowers' creditworthiness is unchanged, this would tend to reduce loan interest rates if this extra credit stays in the acquired bank's market. Credit tends to flow toward markets having a higher net (risk-adjusted) return. If risk is the same in all banking markets, funds will flow toward the market offering the highest interest rate (i.e., move from credit surplus to credit deficient markets). Therefore, the effect on the market of the newly affiliated bank cannot be foretold. Interest rates may rise, fall, or stay the same, depending upon how much credit flows out of or into a par-

ticular market. Credit deficient markets would benefit through lower interest rates and greater credit availability, while credit surplus markets might be hurt by higher rates of interest and lesser credit availability. Nevertheless, this is a necessary condition for an efficient allocation of resources to be accomplished.

While there may be some real or contrived "moral" objections to this potential "siphoning off" of credit, such a value judgment is beyond the scope of this study. Since there is no evidence suggesting credit is being allocated across markets as a result of MBHC affiliation, it can be concluded that the previously mentioned finding of lower loan rates resulting from affiliation has resulted from an expansion of credit within the existing market served by acquired banks. This increase, in all likelihood, was funded by selling off U.S. Government and agency securities.

Benefits of Board regulation

Some benefits have accrued to the public as a result of the Board of Governors' decisions on HC applications. The Board is charged by the act with balancing any anticompetitive effects of a proposed acquisition against the public benefits the acquisition might offer. This biases the Board against approving acquisitions of relatively large banks not only in markets where the MBHC already operates, but also in markets which might be considered attractive for de novo entry. While not all de novo and foothold entry by MBHCs is a result of the threat of Board denial, the Board's strict interpretation of its mandate regarding the actual and potential competitive effects of an acquisition has clearly encouraged these types of entry. Both of them stimulate competition, especially in markets where the MBHC is not already represented [9, 27, 48, 49].

The actions of the Board have contributed to strengthening the banking

system in other ways. For example, many MBHCs have been induced to inject new capital into their bank subsidiaries. While not all such capital injection is attributable to the Board and its policies, it has been estimated that holding companies have injected around \$2 billion, primarily into undercapitalized and small banks, largely at the urging of the Board [9]. In somewhat the same vein the management or management succession problems of some banks have been alleviated by acquisitions which might not have been possible had MBHCs been prohibited [9, 27].

A third effect of the Board's administration of the MBHC act is the introduction or expansion of bank services by newly acquired subsidiaries. This, it is hoped, will stimulate competition and perhaps economic growth in an area [9, 27].

Summary and conclusions

While the results found here seem to offer something for everyone—opponents and proponents of MBHCs can cite results supporting their positions—the weight of the evidence seems to indicate that MBHCs have had a slightly favorable impact upon the banking system. Had HC acquisitions not been regulated since 1956, however, this conclusion might be less favorable.

In brief, MBHCs do seem to offer a slightly wider range of services and increased consumer and business credit. MBHCs increased aggregate national and state concentration slightly above what it would have been in their absence, with increased state concentration occurring more often in unit banking states than in statewide branching states. Where concentration is really meaningful—at the local market level—no significant MBHC impact has been found.

In the area of pricing, MBHC affiliation seems to have resulted in slightly reduced interest rates charged on loans

and has led to payment of higher interest rates on time and savings deposits. Affiliates also have higher service charges on demand deposits, but this may be due to the provision of more services.

There appear to be some “diseconomies” associated with affiliation, meaning that the per unit cost of a given level of output is higher for affiliated than for independent banks. These higher costs are partly the result of the fact that MBHCs pay higher rates on time and savings deposits, the largest single expense category for commercial banks and may partially explain why affiliates are less profitable than independent banks. But there are additional cost elements to be considered. Since the “other” expense category is one of the costs found to be higher for affiliates and contains a number of expense categories that could be used to drain profits from the affiliates to the HC, the significance of these findings depends on whether profit maximization takes place at the parent level or the affiliate level (or whether profit maximization is the appropriate assumption at all).

Finally, the evidence indicates that MBHCs are not as well capitalized as independent banks. In addition, risk exposure is increased through affiliation as the MBHC tends to move the affiliate away from low-risk, low-return assets such as U.S. Treasury securities toward higher-risk, higher-return assets. This is not, in and of itself, necessarily bad since the low-risk investments seem to be replaced by increased lending, presumably to local customers.

At the same time the evidence does not suggest that independent banks have been harmed appreciably, if at all, by MBHCs. In general, independent banks have exceeded equivalent-sized MBHC affiliates in growth and appear to be more profitable.

Pending the availability of more definitive knowledge of the effects of MBHCs, it does not appear that those

states which have adopted a "go slow" approach to MBHCs—whether intentionally or by default—have foregone significant benefits. Each side can "accentuate the positive," but at this point it does not appear that the scales are tipped decisively in either direction. Consequently, a cau-

tious approach to the problem seems to have as much merit as change for change's sake. But the uncertainty of even this weak generalization suggests the great value of additional research on this continuing issue of public policy.

Dale S. Drum

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