

MAJOR ISSUES IN THE REGULATION OF FINANCIAL INSTITUTIONS

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ALL financial institutions in the United States are regulated to greater or lesser extent and are encumbered with restrictions that range from regulation of entry to restrictions on the purchase of particular assets and of the rate of interest paid on particular liabilities (Gies, Mayer, and Ettin, 1963). The owners of financial institutions are, in part, compensated by special treatment under the tax laws (Keith, 1963), so that the net effect of governmental laws and decisions on the volume of assets invested in financial institutions—as well as the relative effect on the various specialized institutions—is difficult to calculate. The effect on resource allocation of these restrictions and tax shelters is unknown also.

The major issue about regulation is whether regulation achieves a desirable social purpose when both the costs and benefits of the restrictions are considered. Broad issues of this kind cannot be resolved abstractly. They require analysis of the effect of each of the restrictions and of the combined effect, since some may partially or totally offset the effect of others and some may impose no constraint. Unfortunately, there is no verified theory which permits a searching examination of the effect of regulation, so we must use a less satisfactory meth-

od. I have chosen to discuss the issue by examining the principal arguments for regulation.

Since many of the arguments that are used to justify regulation of non-bank financial institutions are used to justify bank regulation or are based on a peculiar notion of equity—commercial banking is so regulated—I will deal, first, with the arguments for commercial bank regulation. Then, I will explore the principal arguments in more detail and reach conclusions about the regulation of commercial banking. Finally, I will consider the extent to which these conclusions furnish the basis for a policy of regulating banks and other financial institutions.

THE BASIS OF BANK REGULATION

Why is the number of banks or of branch banks a subject of national and state regulation? Why are banks permitted to underwrite municipal bonds but not corporate bonds? Why are banks permitted to buy municipal bonds but not stock in the American Telephone and Telegraph Company, in local utility companies, or in General Motors? Is there a rationale for a rule that permits a bank to lend money on a five-year term loan to a small unrated corporation, but prohibits the purchase of common stock in a larger more profitable corporation? Why, after all, is banking a regulated industry?

Five partly overlapping arguments are cited to justify banking regulation. Two

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are based on standard propositions in the theory of price: (1) a maximizing monopolist restricts output and raises price; and (2) in an industry subject to economies of scale, profit-maximizing behavior eliminates independent firms until only a monopolist remains. The first proposition is an important part of the economic justification of antitrust laws; the second furnishes a rationale for government regulation of public utilities. Banking has recently become subject to the antitrust laws¹ and, though not a public utility, has long been a regulated industry.

The first proposition does not apply to the banking industry. The industry produces money, or more exactly demand and time deposits, along with a by-product, bank credit. A principal factor of production is the monetary base—reserves plus currency—or non-interest bearing debt of the government. Since the output of nominal money is proximately determined by the output of base money (Brunner and Meltzer, 1964c, 1964d), the output of the industry is proximately determined by the government or its agency, the central bank. I will explore this argument in more detail in the following section.

Fear of a banking monopoly or "money trust" has had an important influence on U.S. history. The fact that the industry's output is restricted by the government's monetary policy does not assure that firms in the industry would not consolidate into a monopoly, or a few dominant firms, in the absence of regulations on branching and merger. However, since the output of the industry and the market prices of its many outputs are dominantly influenced by monetary policy, and since close substitutes for the in-

dustry's products are (or can be) produced,² it requires analysis to show that monopoly power can be exploited. Nevertheless, the argument that economies of scale lead to concentration and that concentration leads to monopoly has had increased influence on legislation and policy toward mergers and branching.³ I will consider this argument below and summarize some of the evidence on the relation of costs to output in banking.

A third justification for controls and regulation is based on an entirely different, and opposing, argument—the absence of monopoly. According to this argument, ease of entry and the prevalence of competition lead bankers to take "excessive" risks, encourage "overbanking," and thus produce an increased number of bank failures. To protect the public against these alleged consequences of competition in banking, restrictions have been placed on bank entry, on the type of assets that banks may purchase, on the rates of interest that they may pay on liabilities, and on a number of other details of the business. In addition, this argument has been used to justify both audit or examination of bank assets and deposit insurance.

The controls and regulations designed to prevent bank failures are often defended as a means of reducing the severity of recessions. The maintenance of inefficient banks is regarded as a small cost relative to the social benefits said to result from regulation and particularly from deposit insurance. However, Cagan's recent study (1965) suggests that there is no consistent relation between bank failures and the depth and severity

² Some of the industry's more important sources of revenue come from the adaptation of ideas developed by competing institutions, for example, consumer credit or term loans.

³ For a recent example see Celler (1963).

¹ *U.S. v. Philadelphia National Bank et al.*, 374 U.S. 321 (1963).

of a recession.⁴ His data suggest that high failure rates have occurred in mild cycles and even in periods of expansion, although bank failures have made recessions more severe at times. I will, therefore, suggest an alternative to the present system of controls, one that is designed to eliminate inefficient banks while reducing or eliminating the effect of bank failures on the severity of recessions.

The general argument for regulation based on overexpansion or "excessive risk taking" by bankers appears to rest on a misapplication of economic theory. If banks expanded output until price equals marginal cost, the value of a unit of money would fall almost to zero. The economic argument for the control of money by the state rests heavily on the very low marginal cost of production and on the expected consequences of unregulated, competitive production of money. But this argument for controlling the nominal stock of money does not imply (or even suggest) that the *number* of producers of money must be controlled. It seems obvious that once the determinants of a socially desirable rate of change of money are known, the desired quantity of money can be produced by a state monopoly, by a large number of relatively small banks, or by some combination of public and private producers. The desirable number of banks can be determined on grounds of economic and social efficiency. For example, if monetary controls are used to produce a desired rate of change of money, banking regulation can be used to minimize the cost of producing or distributing money.

⁴ Approximately 15 per cent of the banks existing in 1920 closed before the end of 1928, most of them during the relatively prosperous years 1924-28. One of the most severe recessions of this century, 1937-38, came after many of the present controls of banking were in effect.

A separate though related argument for controls on banking assets is based on the proposition that either the venal behavior of unregulated bankers or "competitive pressures" is responsible for major inflations or depressions. In its simplest form, this argument says that, at times, unregulated bankers (1) permit the "quality of credit" to decline; (2) become fearful, call loans, and force liquidation on business; and (3) ultimately force failure on themselves or their competitors.

There are three problems with this argument as a defense of regulation and examination of bank assets. First, it presumes that bank examiners are more perceptive or more accurate judges of default risk than bankers. Second, it suggests that the quality of credit is independent of monetary policy and of the position of the economy. Third, it seeks to shift some, or all, of the responsibility for past errors and failures of public policy to banks or bankers.

This argument loses much of its force if inflation, severe contractions, and widespread bank failures are largely the result of inappropriate public policies. A strong case can be made to support the conclusion that many of the failures of monetary policy were the result of actions based on incorrect notions about the determinants of the quantity of money and incorrect assertions about the cause of changes in the quantity and "quality" of bank credit (Brunner and Meltzer, 1964a, 1964b). These notions were used to shift responsibility for bank failures from central to private bankers and to justify many of the controls introduced or strengthened by the Banking Act of 1935. Since it is time-consuming to deal with each of the assertions separately, I will point out only that many of them rest on a denial of the central

bank's ability to control the quantity of money and thus are contradicted by studies of the relation of central banking policy to the money supply.

Finally, there is the argument for controls designed to prevent the formation of local monopolies. It is alleged that the existence of a large number of banks in the United States and the rate of monetary expansion are irrelevant (or of little importance) to the problem of monopoly in banking. Various malefactors—city unit banks, chain banks, holding companies, branch banks—are said to threaten the survival of small, local banks and thus produce monopolies. The public interest is said to be served best by local ownership of local banks since such banks “best serve the needs of local consumers and business.”

One form of this argument is based on the proposition that there are economies of scale in banking. The branch, chain, or large bank is said to eliminate competition by pricing below the average cost of the small, local bank until the local bank is forced to withdraw or become a branch. Thereafter, the larger (branch, chain) bank raises prices and exploits its local monopoly position. In a variant of this argument, the more powerful bank enters, becomes the price leader, and permits the smaller bank to survive if it “follows the leader.”

A very different version of the argument makes the small, local banker the monopolist in isolated one-bank towns. Until recently, analysis has been limited by the absence of theory and evidence, and the argument has been waged by the method of plausible assertion and counterassertion. One side has pointed to the smaller number of services and lower loan/deposit ratios of smaller banks to claim that the degree of monopoly is inversely related to bank size. Others have

jumped from the assertion of increased bank concentration in local markets to a conclusion about increased monopoly power. These positions have been restated in a number of recent papers and have produced a growing literature on the effect of entry and branching, on the cost of providing banking services, on the definition of bank output, and related matters. While many of the studies are concerned with fact-gathering and do not present explicit theories of bank behavior (some exceptions will be noted), when combined they provide a reasonably consistent picture of the banking industry and of the effect of size and structure on output, profit, and the prices of banking services. I will discuss and interpret some of the main findings below.

To summarize, the many arguments for controls appear to fall into one of three categories which I shall call the macro, the micro, and the failure arguments. In the macro case, the output of the banking system is said to be (a) independent of—or relatively unaffected by—monetary policy, and the banking system is assumed to expand of its own volition; or (b) the *industry* is said to behave monopolistically, restricting output and raising price. The arguments or assertions about the inability of the central bank to control the quantity of money have been discussed elsewhere and will not be repeated here. Instead, I will discuss the effect of monetary policy on the output of the banking industry on the assumption that the industry is monopolized.

The micro case for controls rests on arguments about the effects of concentration, economies of scale, and banking structure, and on the evidence supporting the claims that local monopolies exist in small towns, large cities, or both. I will summarize the evidence and draw con-

clusions about the relation of the benefits to the costs of controls.

The "cost of bank failure" argument for controls has both micro and macro aspects. Controls that have become a part of deposit insurance arrangements have probably become more important as a means of preventing bank failures than as a method of safeguarding deposits. The costs and benefits of reducing the number of bank failures, however, can be separated from an analysis of the role of deposit insurance. I will discuss the effects of single and multiple bank failures and the case for deposit insurance after considering the arguments for controls designed to offset industry-wide or local monopoly.

BANKING AS A MONOPOLIZED INDUSTRY

The theory of monopoly implies that a maximizing monopolist restricts output and raises price. The proposition applies irrespective of the source of monopoly power, so that a monopoly based on government restrictions on entry into the industry is expected to have the same effect as any other restriction that sustains a monopoly. Entry into commercial banking is regulated by state and federal agencies. Nevertheless, the standard proposition of monopoly theory cannot be applied to banking without major qualifications.

The reason is that the government has a more powerful monopoly. A principal input for the production of bank deposits and earning assets is the monetary base, bank reserves plus currency, as noted above. This sum is produced by government at approximately zero marginal cost. The amount produced reflects decisions about the desired level or direction of change of output, prices, employment, or gold stock that are translated (using some unstated theory) into deci-

sions about the desired level or direction of change-of-interest rates, bank credit, or money. While there are important economic consequences arising from the decisions about the goal of policy and the choice of a policy target, these consequences are of limited importance for this discussion. Whatever decisions are made, the supply of base money is determined. Since the quantities of money and bank credit, the balance-sheet position of the banking system, and the level of interest rates depend on the volume of base money, the equilibrium values of these variables depend on monetary policy decisions.⁶

To see this point more clearly, assume that the banking system is a monopoly firm which maximizes wealth by eliminating the difference between desired and actual reserves. (Call this difference surplus reserves.) Each dollar change in the monetary base, resulting from gold flows, open market operations, etc., and any change in the public's desired holdings of currency raises or lowers the volume of surplus reserves and induces changes in money, bank credit (loans and investments), and market interest rates. If the monopolized banking system attempts to restrict output and raise interest rates by holding additions to reserves in the form of vault cash or non-interest bearing deposits at the central bank, changes in money, interest rates, and bank credit, per dollar change in the monetary base are smaller. To achieve its target level or rate of change of interest rates or money, the central bank can inject more base money at approximately zero mar-

⁶ To simplify the discussion, I make no mention of other variables that affect market interest rates, money, or bank credit. For example, increases in the stock of interest-bearing debt raise market interest rates and induce increases in money and bank credit. For further discussion and some estimates of the quantitative effects, see Brunner and Meltzer (1966).

ginal cost. The monopolist cannot restrict the quantity of money or raise the level of market interest rates independently of the government's policy unless it can offset the decisions of the central bank.⁶ By refusing to expand, the monopoly bank will eliminate the fractional reserve system, a main source of its profits.

Frequently, it is suggested that a monopolized banking system restricts the output of loans by raising loan rates relative to other market rates rather than by restricting total earning assets and holding a larger proportion of assets as reserves. Again, it is difficult to make this monopoly power effective. The government controls the outstanding stock of interest-bearing debt. The likely consequences of an attempt by banks to raise interest rates on loans is that the monopoly banks will hold a larger share of the outstanding stock of government debt and have a lower ratio of loans to earning assets or deposits. But non-bank lenders then hold fewer securities and make more loans. There is little reason to believe that the interest rate on loans charged by non-bank financial institutions would be affected to any important extent by the attempt of commercial banks to raise loan rates, so it is difficult to find any important economic consequences of the possible preference of monopolists for government securities

⁶ The argument is slightly more complicated than the statement in the text suggests. An open market operation changes the stock supply of government debt held by the banks and/or the non-bank public and changes the market interest rate on government debt. If the monopoly banking system attempts to restore the status quo ante, it must restore the previous rate on government securities. If there is an open market purchase from bank or non-bank holders of government debt, market interest rates fall slightly. The monopoly bank must counter this effect on interest rates by adding to excess reserves an amount larger than the addition to reserves provided by the open market operation.

rather than loans.⁷ In any case, this does not happen. Branch banks and urban banks that hold a high proportion of a community's deposits generally have higher loan/deposit or loan/asset ratios, as I will note below.

These considerations of the effect of a monopoly in banking provide no basis for control on banking. At most, they suggest that controls which prevent non-bank financial institutions from offering loans of particular types may restrict the output of particular credit instruments. But it is difficult to see how the restriction of one type of credit instrument and the expansion of another can prevent the public from achieving its desired debt position. Loans that are ostensibly made for one purpose can be used for another.

It is the government or central bank, and not the commercial banks, that has the monopoly power to restrict the output of nominal money and raise interest rates. Like any other monopolist, the government can choose a desired level of output or a desired interest rate, but not both. Suppose the central bank chooses some level of interest rates as a policy target while the private banking monopoly restricts the use of bank services by raising service charges or reducing the services offered to depositors. Higher service charges on demand deposits raise the demand for currency, lower the demand for demand deposits and, as a result, change the composition of the nominal money stock, raise market interest rates and reduce bank credit and bank deposits.

I assume, as in most of the recent empirical studies, that the effects of higher service charges on the real demand for

⁷ Of course, I assume that the monopoly is in effect and ignore the adjustment costs that occur when monopoly comes into being. I will discuss the effect of differences in cost when I consider local monopolies in the following section.

currency and for demand deposits are equal in absolute value but of opposite sign. This makes the demand for real money balances independent of the change in service charges and centers attention on the supply side.

The central bank can choose to maintain the level of market interest rates that prevailed before service charges were raised. Or, the central bank can prevent prices from changing by controlling the quantity of nominal money, allowing nominal balances to fall until equilibrium is restored at the previous price level. Whether or not the banks realize profits as a result of higher service charges will, of course, depend on the policy decision of the central bank. In addition, the profitability of higher service charges to banks depends on the elasticities of the demand for deposits with respect to service charges, the interest elasticity of the public's supply of earning assets to banks, and—if prices are permitted to change—on the extent to which the banks are debtors or creditors. There is, therefore, no reason to believe that high service charges are a concomitant of monopoly.

Up to this point I have discussed the banking system as if it was a single monopoly firm. In fact, the banking system consists of more than ten thousand banks. However, analysis of the aggregate effect of monopoly in banking does not appear to be altered in any important way by aggregation,⁸ although the existence of a large number of banks provides an additional reason for believing that it is extremely difficult for the banking system to form a system-wide monopoly.

In short, analysis of the aggregate effects of monopoly does not provide an argument for controls on entry, branching, and merger, or support the assertions that are commonly made. If the central

bank controls the monetary base, it has proximate control of the money supply and the output of the banking industry. Since proximate control of the latter quantity does not depend on the number of banks or on the number of banking offices, arguments for controls based on potential over- or underproduction of banking output appear to be unfounded. For similar reasons, restrictions on the type of assets which banks may buy, or requirements for the examination of asset portfolios, cannot be defended on the grounds that the banking system would over- or underproduce if the regulations were removed. The government has sufficient power to control the industry's output.

If this analysis is correct, and the government can, to a first approximation, control the output of money and bank credit or the market interest rate, it does not follow that the restrictions imposed on the commercial banking system have no consequences. Some regulations, for example, Federal Reserve regulation Q, influence the size of the banking system relative to the size of non-bank financial institutions, reduce the rate at which commercial banks fail, or affect the type of individuals who choose to be called bankers. Still others, for example, deposit insurance, protect the owners of deposits against the destruction of a portion of their wealth through bank failures. Al-

⁸ In passing, it should be noted that if a monetary system had only a few monopoly banks, their average reserve ratio would be lower and the monetary multiplier would be larger than the average reserve ratio and monetary multiplier of the present banking system. The reason is that the increased concentration of deposits in the banking system reduces the expected loss of reserves per dollar of new deposits supplied by a bank. However, the increased "efficiency" that accompanies such increased concentration has little social value. The gain from producing a given money supply with a slightly lower monetary base and higher monetary multiplier is extremely small.

though the aggregate analysis does not show the presence of benefits equal to the cost of administering the controls, some of the other possible costs and benefits just noted remain to be considered.

BANKING CONTROLS AND LOCAL MONOPOLY IN BANKING

Much regulation, and much of the literature, is concerned with the problem of local monopoly in banking. Existing legislation requires the federal banking authorities to consider the effect of competition when approving or disallowing entry, branching, or merger of state or national banks. The decision in the Philadelphia-Girard case⁹ and in subsequent merger cases aroused considerable interest in the problem of monopoly in banking among economists and policy makers. A series of articles discussed the courts' decisions and later spilled over into more detailed consideration of the effect of size, structure, and concentration on banking costs, profits, and services.

In the previous section, I concluded that it was government monopoly and not private monopoly that had the important influence on the prices and output of banking services. However, I noted that in principle a private monopolist could raise prices and restrict the output of deposits and bank credit by raising service charges on deposits. From this line of reasoning, it seems to follow that some useful evidence on the extent or absence of monopoly in banking can be obtained from the data on service charges and services.

Another justification for controls appears to rest on an argument similar to the following: Even if the banking system as a whole cannot restrict total output by raising loan rates, local monopoly

lists can restrict their output of loans by charging higher rates. There may not be sufficient competition in each area or banking market to produce a competitive solution in each and every market. Small, local borrowers may have few opportunities for search, may be inhibited by the cost of search and by the cost of providing information to bankers in distant cities. The aggregate volume of loans and securities held by the banking system may be unchanged, but in some areas monopoly banks will hold more government securities and offer fewer loans than in the absence of local monopoly; in other areas, characterized by competition in banking, financial institutions will hold more loans and fewer government securities.¹⁰ If, in addition, long-run costs rise with output, the weighted average loan rates will be higher in the long-run equilibrium position attained by the banking system.

There is no need to examine whether this argument provides a necessary or sufficient condition for higher loan rates and monopoly profits in banking or in local banking markets. One of the most frequently noted facts about the U.S. banking system is the diversity of bank sizes that persists in the industry. If there were significant economies or diseconomies of scale in banking, we would expect some sizes to disappear and new entrants to choose a particular size or range. Yet, more than half of the banks held deposits of less than \$5 million in the early 1960's, while one hundred large banks held approximately half of deposits.

¹⁰ I ignore the problem of local monopoly banks holding larger ratios of reserves to deposits. Since such action simply lowers the average monetary and asset multiplier and can be offset by a larger monetary base, it produces results very similar to those discussed in the text. The total stock of credit (or money) is unaffected. At worst, the distribution of types of earning assets among institutions is altered.

⁹ *U.S. v. Philadelphia National Bank et al.*, *ibid.*

its. New entrants into banking chose a range of sizes for initial capital which suggests that they expected to operate in most of the existing size groups (Shull and Horvitz, 1964, p. 116; Motter, 1965, Table 6, p. 242). Similarly, the data show that more than 20 per cent of the new national banks chartered in 1962 (fourteen of sixty-four) chose areas of the country with less than ten thousand population, the same size community in which ten thousand of the approximately twelve thousand existing banks were found, while seventeen of the sixty-four new entrants chose cities with population of one million or more (Shull and Horvitz, 1964, p. 122; Motter, 1965, p. 241).

Studies of costs, profitability, or rate of return generally support the inference obtained from examining the size distribution of new and existing banks. Costs have been found to decline until a bank reaches a size of \$2 to \$5 million in deposits, then remain approximately constant until a deposit size of \$100 to \$500 million is reached; thereafter, there is a slight further reduction in operating expenses per unit of assets as size increases. Shull and Horvitz (1964, p. 106) summarized these findings: "On the basis of available evidence, it is reasonable to conclude that a well-run bank with \$5 million in deposits can compete on a fairly even basis with much larger banks. . . . The data we have indicate a relatively steep decline in the long-run average cost curve over the very small bank sizes. Once banks are over, say, \$1 million in deposits, costs decline slowly to the minimum." A number of other studies have reached similar conclusions.

Studies of unit costs by size group do not, of course, correct for differences in the mix of output, in the mix of deposits, and in the services offered by individual banks. Some studies have attempted to

control for these differences and, of these, Benston's study (1965b) is particularly notable.¹¹ Using regression analysis, he computed the marginal cost of each of the principal banking operations and found a tendency for costs to decline slightly as *units* of output or service increased. But even this finding of slight economies of scale must be interpreted carefully, since larger banks generally make larger loans and accept larger deposits. Benston found that there were additions to cost associated with handling the same number of transactions when the average size of transaction is larger. The latter finding is consistent with the evidence, discussed below, that larger banks provide more services. It is not unlikely that large borrowers and large depositors are in a position to demand and receive more service.

In a study of loan rates, Benston (1964) found that most of the differences in the rate of interest on large and small loans could be explained by the marginal cost of lending and the marginal cost of risk. His conclusion is supported by analysis of the data from the Federal Reserve surveys of business loans (Flechsigt 1965). Flechsigt found that "within the range of existing concentration levels . . . no identifiable relation was discovered between concentration ratios and the level of interest rates on business loans. This is true even for small borrowers who are restricted to financing within their local areas and, therefore, would be more vulnerable to non-competitive pricing practices" (p. 311).¹²

¹¹ As Benston notes, the studies in which substantial economies of scale are found measure output in nominal units rather than in real units. The findings of such studies must be interpreted as showing only that it costs less per dollar to accept a fifty-dollar deposit than a ten-dollar deposit.

¹² The opposite conclusion is reached by Edwards (1965). Edwards finds some marginally significant ef-

Whitaker (1964, esp. pp. 41-42) studied the rate at which the equity market capitalizes the earnings of banks. Capitalization rates do not appear to be influenced by size of bank, so his data suggest that the market does not relate size of bank to expected future earnings. Although the earnings data which he used may be criticized and the class intervals into which he grouped capitalization rates are rather wide, his findings generally support the conclusion of the cost and profit studies discussed above. The only important exception is his finding that in areas of small population the capitalization rate is generally lower than in other areas, but this finding appears to reflect Whitaker's failure to separate growing and declining areas. Nevertheless, with the one exception, the data suggest that a well-run small bank in a small town has approximately the same cost of capital as a large city bank.

If there are important economies of scale in banking, they are hard to detect and to realize. In states that do not permit branching, a bank can expand only by merging or growing. Merging is an expensive way to acquire new business since the acquiring bank must pay the capitalized value of a going business and cannot expect to retain all of the customers of the acquired bank when it attempts to move them to its own site. In states that permit branching a bank attempting to realize economies of scale can convert an existing bank into a branch if it obtains the approval of the

fects of concentration on loan rates and other variables and concludes that since concentration affects loan rates and loan rates affect loan/deposit ratios, concentration has an important effect on banking services. This study is much less carefully done than the studies by Benston and Flechsig and, in my judgment, its findings furnish very weak support for its conclusions.

banking authorities and the Department of Justice.

A number of studies have attempted to isolate differences in performance, profitability, cost, etc., between branch and unit banks. A comprehensive survey of banking in New York State (New York State Banking Department, 1964) found that, in general, branch banks provide more services than unit banks and have higher loan-to-deposit ratios, lower or equal interest rates on loans of similar size and type. Large banks and branch banks pay higher interest rates on time and savings deposits but charge higher service charges on demand deposits. These findings have been replicated in a number of studies, including some which examined the behavior of new branches and existing banks after branching or entry restrictions were relaxed (Horvitz and Shull, 1964; Motter and Carson, 1964; Weintraub and Jessup, 1964).

If banks could lower costs by branching, we would expect unit banks to be absorbed as branches in states that permit branch banking. Branch banking has grown very slowly, however. While the ratio of branch to unit plus branch banks has grown from 1 per cent to approximately 20 per cent in the past sixty years, the ratio has shown only a very slight tendency to accelerate (Shull and Horvitz, 1964, Table 12, p. 117). This finding might be interpreted as solely the result of regulation were it not for the fact that several studies show that branch banks have higher costs than unit banks of similar deposit size (Schweiger and McGee, 1961, pp. 323-24; Horvitz, 1963, p. 37; Benston, 1965a, p. 330). Benston found that the costs are primarily occupancy costs, hence a concomitant of branching, and Schweiger and McGee concluded that on the average, "a branch bank of \$5 million to \$10 million in de-

posits should be expected to achieve as low or lower expense rates as a unit bank of less than \$2 million deposits; one of \$200 million to \$500 million to compare favorably with unit banks of \$50 million to \$100 million size, etc."

These findings are inconsistent with the view that branch banks have substantial competitive advantage over unit banks of similar or smaller size. Moreover, the data suggest that, where branching is permitted, banking services are increased at both unit and branch banks. For example, higher interest rates are paid on time deposits at unit banks when branching is permitted even when a branch does not operate in an isolated one-bank town (Horvitz and Shull, 1964, p. 177).

A reasonable explanation of the data is that where branching is permitted, inefficient unit banks are absorbed as branches, become more efficient, or disappear. This explanation is consistent with the prediction of economic theory and the evidence that branching raises costs, since a bank could profitably purchase an inefficient unit bank and convert it into a more efficient branch. Apparently there is no expected profit to the branch bank from acquiring an efficient unit bank of moderate size.

One of the additional costs of a branch banking operation is the cost of acquiring information about the efficiency of unit banks. Branching apparently improves the efficiency of the banking system without imposing social costs. Some additional benefits of branching and merger will be considered below.

Service charges and depositor services were investigated in a survey of U.S. banking conducted by Weintraub and Jessup (1964, Tables 10A-10D, pp. 29-30) for the House Banking and Currency Committee. Their findings are of particu-

lar interest, since my earlier argument suggests that high service charges are one means by which a banking monopoly can restrict output and raise price. Weintraub and Jessup found that (1) large banks had higher service charges than small banks, (2) branch banks generally had higher service charges than unit banks of the same size; and (3) the differences between types of banks generally declined as the size of a depositor's average and minimum balance increased. Nevertheless, on the average, small depositors pay significantly higher service charges at city banks and particularly at branch banks in large cities.

Three qualifications must be noted before these findings are interpreted as an indication of monopoly in banking. First, the banks that have the highest service charges generally offer the largest range of services of interest to large and small depositors. The data can be interpreted as the outcome of a search, or selection, process by means of which depositors select banks that offer the package of services they desire. The higher service charges are the price of increased services. Second, the differences in average service charges, while often significant, are small. The largest cost reduction available to an average small depositor (\$200 minimum balance, \$300 average balance) who writes ten checks and makes two deposits per month is eighty-one cents per month and is obtained by moving his account from the (average) city unit bank with deposits of \$50 to \$100 million to the (average) country unit bank with deposits of less than \$10 million. On the average, the maximum addition to cost of doubling the activity of an account while keeping the size and location of the balance unchanged is sixty-seven cents per month. Third, if local monopolists restrict output by rais-

ing service charges, we would expect them to increase the value of their monopoly position by raising loan rates and restricting loans. Most of the data on loan/deposit ratios point in the opposite direction. On borrowing costs, the New York banking survey found:

New York City banks, particularly the larger ones, generally charged the lowest interest rates for the three specific types of loans discussed, with large branch banks in the suburban areas around New York close behind on two of the three rates. Outside the New York City metropolitan area, unit banks charged lower rates than branch banks on new car loans and, for the last several years, possibly also on small business loans after adjusting for the effect of compensating balances. Only for conventional mortgage loans on new houses have unit banks consistently charged higher rates than branch banks throughout the period 1950 to 1962 [New York State Banking Department, 1964, p. 131].

Furthermore, the Weintraub and Jessup data (1964, Tables 17A-17D, pp. 20-21) appear to reject the allegation that branch banks are reluctant to lend to local businessmen.

Most of the data I have cited do not take into account differences in taste for banking services, in the desired indebtedness of the public, in the risk preferences of individual banks, or in other variables that affect the quantity of banking services demanded and supplied. Nevertheless, these data show very little evidence of the type of behavior that is generally associated with monopoly. In part, evidence consistent with local monopoly in banking may be hidden by averaging rates of return, service charges, loan rates, etc. For example, the average rate of return earned by banks in one-bank towns may combine low rates of return to inefficient bankers, who have low opportunity costs, and high rates of return and monopoly rents to maximizing monopolists. It is less likely that branch banks capture monopoly profits in one-

bank towns, since studies of branch banking suggest that generally charges are uniform at all branches (Horvitz and Shull, 1964, p. 177). However, some of the dispersion of rates, services, and profits may reflect the presence of monopoly in particular communities.

Taken together, the studies provide little justification for control of entry, merger, and branching. Presumably, increased entry would eliminate, or at least reduce, the power of existing monopolies. Increased mergers, entry, and branching would eliminate inefficient banks. These conclusions are supported by the evidence, discussed earlier, which shows that existing banks offer more services where entry or branching is permitted and that, when small unit banks become branches, banking services generally increase.

The cumulative effect of restrictions on entry and branching has been large. Between 1941 and 1950, the Comptroller's office rejected 553 applications to organize national banks and establish branches (Shull and Horvitz, 1964, p. 107). Of the rejected applicants, 70 per cent were told that they had "unfavorable earnings prospects" or that the community had "insufficient need." The latter reason, often a euphemism for the former, was by far the most frequent reason for rejecting an application. Assuming that the Comptroller's office was not always incorrect, some of the applicants would have failed. Nevertheless, some of the banks would have remained, and it is likely that the public would now receive more banking services per dollar if all of the applications had been approved.

Additional evidence that the cumulative effect of banking regulations has been large comes from the parameter estimate of Peltzman's model of bank entry. He found that, from 1936 to 1961,

the marginal effect of restrictions on entry was a reduction of more than two thousand in the number of state and national banks (Peltzman, 1965).

As Peltzman notes, it is more difficult to find benefits than to find costs to the public of the existing restrictions on entry. My examination of the data leads me to similar conclusions about restrictions on mergers and branching. Since entry into banking would be relatively easy in the absence of regulation, entry, mergers, and branching would eliminate inefficient banks. Repeal of legal and administrative restrictions would not produce monopoly, unless economies of scale are more substantial than those that have been found.

There are two remaining arguments for controls that have not been considered. First, if there were no restrictions on entry, the number of bank failures would increase. This argument is discussed below. Second, the number of mergers between large banks in recent years is often taken as evidence of scale economies for banks of largest size. The increased concentration of deposits after mergers is taken as evidence of actual or potential monopoly in local banking markets. The fact that approximately half of all bank deposits are in one hundred large banks is used as an argument against further concentration.

There is, however, an alternative hypothesis which does not invoke economies of scale to explain the desire of large banks to merge or to explain the concentration of deposits. This explanation makes existing regulations and restrictions a principal force making for concentration in banking.

Present laws or regulations do not permit a bank to lend more than a fixed proportion of its capital—often no more than 10 per cent—to a single borrower.

The average size of loans has increased over time. Unless a bank's capital increases in proportion to the size of loans, the restrictions on loans to a single borrower force a bank to refuse to lend to large borrowers or to share such loans with other banks and financial institutions.

Inflation raised prices and increased the average size of new bank loans without increasing the capital and surplus of banks in proportion. On balance, banks are slight creditors, hence lose as a result of inflation (Kessel and Alchian, 1962). Legal lending limits became more restrictive and forced banks to share customers that they were able to service previously without assistance. By merging, banks increased their capital and thus were able to compete more effectively with other large banks.

The number of large borrowers is relatively small, but a large proportion of business loans is made to large borrowers. Some indication of the importance of large borrowers to large banks can be obtained from published data. At the end of 1965, only 408 of 175,000 taxpaying, manufacturing corporations had assets in excess of \$100 million. These corporations, however, borrowed 45 per cent of the total volume of loans (with original maturity of one year or less) made to all manufacturing corporations. The average of such loans per corporation was in excess of \$10 million for the 408 corporations. For the forty-one manufacturing corporations with assets in excess of \$250 million, the average balance of loans with less than one year to maturity was \$30 million.¹³ Such corporations also borrow for longer-term and, of course, some borrow more than the average.

¹³ Data are from *FTC-SEC Quarterly Financial Report for Manufacturing Corporations*, 4th Quarter, 1965.

This argument assigns an important role to lending restrictions and the increased size of loans to large firms in the explanation of mergers by large banks. It suggests that competition for large loans is not reduced if mergers are permitted, and it does not invoke economies of scale as a reason for merging. However, the argument does not establish that competition in banking markets increases or that banks of largest size do not realize economies of scale by merging.

We are left with the following general conclusions. Banks of different size, structure, and location offer a variety of services at varying charges. Many of the differences can be explained adequately without using monopoly power as a part of the explanation. Indeed, in many cases, the data provide no support for the monopoly argument.

Entry into banking, in the absence of legal restrictions, is relatively easy. To the extent that entry and branching occur, banking services increase at little additional cost to consumers and business. There is little support for the argument that existing or potential local monopoly requires government to control entry, branching, and merger. Instead, the findings suggest that monopoly in banking would be reduced if entry and branching were not regulated. The cost of restrictions seems high relative to the benefits.

BANK FAILURES AND CONTROLS ON BANK PORTFOLIOS

Fear of the consequences of bank failure is invoked frequently to defend bank portfolio regulations and the numerous restrictions on the amount of risk that bankers are permitted to accept. Similar arguments are used to justify deposit insurance. There is abun-

dant evidence that, at times, bank failures have made both the consequences of a recession and the recession itself more severe. Nevertheless, it is useful to consider the extent to which the prevention of bank failures makes it desirable to regulate the type of assets banks may buy.

There are two separable issues connected with bank failures. One is the cause and effect of multiple bank failures or, in the most extreme form, destruction of the banking system. The other is the effect of an individual bank failure.

The failure of an uninsured bank and the permanent loss of his deposit have long- and short-run effects on a depositor. The principal long-run effect is the once-and-for-all reduction in wealth which reduces consumption. In addition, the unexpected loss of wealth may affect the individual's expectations about the future or his attitude toward risk, although very little is known about the magnitude, direction, or duration of these effects. The principal short-run effect results from the unanticipated (and presumably large) change in portfolio composition which induces reallocation of a smaller stock of existing assets to obtain a desired portfolio. I find it difficult to believe that the cost of adjusting to a loss of deposits is substantially larger than the costs of adjusting to any other uninsured loss of wealth, such as the unanticipated failure of a corporation in which the individual is a stockholder, or the destruction of wealth resulting from a fire, from a natural disaster, or from some other random event.

Frequently, it is suggested that the short-term effect of a bank failure on the community is much larger than the sum of the effects on individual depositors. Again, the long-run effect of the

failure of a single bank does not differ from the loss of an equal amount of wealth that the depositors hold in another form. However, if the bank is a principal supplier of the community's means of payment, the cost of making transactions is increased, temporarily, and remains higher until new banking services become available.

Neither laws nor regulations require that every community have a bank, so there is no reason to consider, separately, the long-run effect on a community of a bank failure (or closing) that eliminates a bank of less than minimum efficient size. Our interest here is in bank failures resulting from incorrect perceptions of risk, preference for risk, poor collection procedures by bank management, or from dishonest practices. It is in these cases that insurance and asset regulation are defended as a means of protecting bank customers. Depositors are said to be unaware of—and unlikely to pay the cost of acquiring information about—the risk position accepted by the bank or the character of the banker.

Assume that the argument is correct and, further, that it is undesirable for individuals to bear the costs arising from lack of information. It does not follow (1) that banks should be required to make an all-or-nothing choice—all deposits insured or all uninsured; (2) that government should offer deposit insurance; or (3) that government should select the type of assets which banks purchase. As an alternative, individuals could be permitted to purchase insurance on the fraction of their deposits they desire to safeguard at the prevailing insurance premium. Insurance companies, whether privately or publicly owned, could collect information periodically on the risk position of banks and set pre-

miums that depend on their estimate of expected failure.

One important economic argument makes the system of private deposit insurance difficult to maintain: the possibility of multiple bank failures, and the destruction of a large part of the nation's means of payment in a short period of time. The probability of such an event is small, but the expected loss is large, so the cost of insurance would be high under a private system. Moreover, private insurance companies might lack the means of paying claims promptly, even if they survived the financial crisis. They, too, would be depositors.

The case for government insurance of deposits does not rest solely on the fact that government can insure deposits at lower cost. It rests on the responsibility of the government to maintain the growth rate of the money supply at a level that promotes full use of resources without inflation. Destruction of the means of payment through multiple bank failures is an indication that the government has not fulfilled its responsibility.

On this interpretation, bank failures that produce a decline in the money supply are the result of errors and misconceptions by central bankers. This view, which in one form goes back to Henry Thornton, receives strong support from recent studies of U.S. monetary history (Thornton, 1939; Friedman and Schwartz, 1963; Brunner and Meltzer, 1964*b*; Cagan, 1965). By requiring the central bank to prevent or promptly correct errors that force the money supply to contract sharply, deposit insurance forces the central bank or the insurance agency to arrest the decline in the money supply.

Regulation of banking assets is much

older than deposit insurance. Regulation did not prevent widespread bank failures and cannot be expected to do so unless bank examiners or banking agency officials are better judges of risk than bankers. The case for deposit insurance does not provide a rationale for restrictions on the assets banks may purchase. However, an argument can be made for audit or examination of bank assets as a part of the system of deposit insurance outlined in the following section.

OUTLINE OF A SYSTEM OF INSURANCE AND REGULATION

The principal purpose of controls on banking and financial institutions is said to be protection of the public. My analysis suggests, however, that the present system of controls protects some inefficient banks against competition, protects bankers against the consequences of poor judgment, and is an inefficient means of protecting the public against the errors (or in rare cases, moral failure) of individual bankers. However, some of the present restrictions on banking protect both the public and the bankers against some of the worst consequences of errors made by the monetary authorities. Deposit insurance prevents multiple bank failures from generating a precipitous decline in the money supply, if the public is promptly compensated for losses. It seems desirable to retain the public's defense against mistakes of this kind by central bankers. In this section, I suggest changes in the deposit-insurance system and in existing controls on banking and other financial institutions. These suggestions are no more than an outline of a system of regulation, which, I believe, deserves further discussion.

The present system of deposit insur-

ance is deficient in a number of important respects. It limits the maximum amount of insurance on an individual account; it forces banks to make all-or-nothing decisions, in effect requiring insurance on all accounts up to the legal maximum if banks or most depositors desire insurance, it does not relate the insurance premiums to the risk position of the individual bank, instead, it is used to justify controls that limit the risks accepted by bankers; and, most important of all, it has degenerated into a system for protecting depositors by preventing bank failures and maintaining inefficient banks. These deficiencies limit the community's ability to obtain an optimal allocation of resources; thus they reduce welfare.

The following suggestions are designed to retain the most important benefits of the present system and avoid some of its weaknesses:

1. Depositors should not be required to buy insurance, but should be permitted to choose the portion of their deposit balances which they desire to insure against loss.
2. Premiums should be paid by depositors at rates based on the risk of failure by the bank of their choice and should be changed as the risk position changes.
3. FDIC (or any company that desires to sell insurance) would inspect the assets of the bank periodically and assign assets to risk classes.
4. Banks would be permitted to purchase any asset—real or financial—without any restrictions on portfolio composition and would be permitted to pay interest on demand and time deposits without restriction.

The proposal permits individuals to choose their preferred combination of risk and return and provides them with information (prices) on which to base their decisions. Computation of deposit-insurance premiums poses little difficulty. Bank examiners have estab-

lished standards for judging assets and assigning them to classes that are akin to risk classes. The principal new problems that the insurance system would face arise from the wider range of assets that some banks would buy and the increased competition that banks would face if some of my other suggestions are adopted.

Elimination of controls on entry, branching, and merger appears to be desirable. There is little economic justification for present restrictions which prevent banks from branching or entering, and there are few gains to the public to offset the loss in efficiency resulting from present controls. Furthermore, there is no economic justification for present laws that permit national banks to branch only to the extent that state-chartered banks are permitted to branch, or for laws that permit U.S. banks to open branches in foreign countries but not in their own or other states. The federal government can eliminate these costly restrictions by removing controls on entry and by permitting national banks to branch nationally.

Current laws and regulations prohibit savings and loan associations and mutual savings banks from selecting the assets they choose to purchase and from issuing demand deposits. These restrictions impose costs on the public that do not appear to be offset by any comparable benefits. Recent experience provides an example of the kind of difficulties that are produced by conflicts between regulations on banks and savings institutions during a period of rising market interest rates, rising rates of interest on time and savings deposits, and a decline in the growth rate of mortgages. If savings and loan associations were permitted to buy any financial or real asset, the cost to the public of reallocating assets would

be reduced and policy makers would have less reason to fear the consequences of their actions or to avoid taking appropriate action.

It is worth investigating whether there is any net benefit to the public from distinguishing between banks and non-bank financial institutions. If not—and I suspect there is not—savings and loan associations should not be prevented from offering the same services as commercial banks.

Competition in financial markets would increase substantially if regulations and legal restrictions that make for arbitrary differences between types of institutions were eliminated and all institutions were permitted to offer a wider range of services. The absence of legal restrictions does not mean, however, that only large banks, offering "all" services, would survive. Acquiring information about a wide range of assets and of increasing the number of services offered raises costs. Specialization and division of labor are characteristic of financial institutions in countries that regulate far less than the United States. The benefits of removing controls come from the lower costs of adjusting to variations in the supply of specialized financial instruments and the lower costs and increased services offered to the public. The customers of all the new banks would, of course, be permitted to buy deposit insurance.

The public also gains from the proposed system through a reduction in the cost of maintaining a number of regulatory agencies. Under the suggested plan, the Federal Home Loan Banks, the Office of the Comptroller of the Currency, the Federal Savings and Loan Insurance Corporation, and a number of other state and federal agencies, departments, or divisions would be abolished.

The FDIC, reduced in scope and authority, would be responsible for deposit insurance and bank examination. The Federal Reserve would be responsible for monetary, but not banking, regulation. Banking corporations would be treated like any other corporations under the tax and antitrust laws.

Even if these far-reaching changes prove undesirable after further examination, some minor but important improvements in regulatory procedures should be made. None of the regulatory agencies has produced an unambiguous statement of the criteria used to make decisions about branching, merger, or entry, or the relation of these criteria to a theory of banking markets. Decisions about what is "sufficient need" or what is regarded as a local monopoly appear to vary from time to time without any explicit statement of the reason for the variations. Decision makers use some set of criteria; arbitrary decisions can best be avoided if the rules are clearly stated and subject to public scrutiny. The Comptroller has made an effort to provide guidance to bankers about the procedures used in his office and about his philosophy of regulation. Other regulatory agencies should follow his lead.

Regulations such as Federal Reserve regulation Q and differences in reserve requirement ratios for different classes of banks do not appear to serve a useful purpose. Others—for example, lending limits, restrictions on loans to bank officers, restrictions on the type of assets banks purchase—can be replaced by less costly institutional arrangements like the deposit insurance system discussed above.

Finally, there are some aspects of financial markets that can be improved by government action at relatively low cost. Government agencies now pur-

chase and sell particular types of home mortgages, but they have not used their power to develop an active secondary market. By specifying a "conventional" mortgage instrument which they would be willing to buy or sell, the cost of the many restrictions on mortgage contracts imposed by the various states would be increased, inducing the public to demand their removal. The costs of acquiring information about these restrictions and of buying and selling mortgages would be reduced also. The development of other secondary markets, through the encouragement and assistance of the federal credit agencies, would have similar benefits for the public.

CONCLUSION

If banking regulations are to serve a useful purpose, the benefits to the public must exceed the costs of the controls. The chief benefits of controls are said to be (1) the prevention of over- or under-expansion of money and bank credit through a system-wide monopoly or through "excessive" competition, (2) the elimination of local monopoly, and (3) the protection of depositors against the consequences of bank failure.

My examination of the arguments for controls, however, suggests that many of the controls imposed on banking fail to achieve their purposes, impose costs that appear to exceed the benefits or create the problem that they are said to eliminate. It would seem desirable, therefore, to eliminate many of the existing controls and to replace them with a new set of institutional arrangements. The most casual inspection of the present mass of conflicting and overlapping regulations suggests that the present system is unlikely to produce an optimal—or even improved—allocation of resources.

Attempts to regulate banking should

take into account the unique features of the industry. The uniqueness results from the government's responsibility for controlling the money supply, a responsibility that gives the government an important role in the determination of the industry's output and in the pricing of the industry's products. Since the government's monopoly is more powerful than any possible private monopoly in banking, the government can force expansion or contraction on the industry.

In the past, errors by the central banks or government have caused multiple bank failures and destruction of the public's deposits. Deposit insurance is a means of protecting the industry and the public against some of the worst consequences of future errors and a repetition of past mistakes. Since private companies cannot be expected to insure the public against the widespread consequences of incorrect public policy decisions at equivalent cost, it is desirable to have government offer deposit insurance. Government insurance provides a partial safeguard against a precipitous decline in the money supply.

However, the present system of deposit insurance and the accompanying regulation of bank assets can be improved. I have outlined a proposal that encourages competition between financial institutions and which permits individuals to choose their desired combination of risk and return from money holding. More detailed analysis and discussion of the proposal and other alternatives to the present system appear desirable (Commission on Money and Credit, 1961, chap. vi).

Analysis and the recent accumulation of evidence on bank behavior both suggest that present controls on entry, branching, and merger have costs that exceed their benefits. If this analysis is correct, arbitrary and costly restrictions should be eliminated along with controls on portfolios and interest payments and distinctions between banks and other financial institutions. It is to the credit of Mr. James Saxon—and perhaps the most damaging indictment of the present system—that increased competition in banking depends on the individuals chosen as regulators.

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