The effects of nationwide banking on concentration: Evidence from abroad

Herbert Baer and Larry R. Mote

In thinking about the liberalization of branching and product line restrictions on commercial banks, Americans should not ignore the banking history of other countries. Many observers have relied on casual appraisals of those experiences to conclude that the adoption of unrestricted interstate banking would lead us to duplicate the concentrated banking structures of other countries.[1] The following pages explore both this concern and the impact of product line restrictions on concentration by briefly examining the banking systems of five countries which have adopted some form of nationwide banking: Canada, France, Germany, Japan, and the United Kingdom.

Although data limitations make such a study difficult, the facts that were uncovered suggest that fears of excessive concentration resulting from nationwide branching are exaggerated. In several countries the apparent high levels of concentration are illusory, because many thrift institutions provide the same array of services that commercial banks provide. And in those countries where banking really is concentrated, this appears to result from the existence of barriers to entry which do not and would not exist in the United States.

The problem and its background

The chances for passage of federal legislation to permit interstate branching or interstate acquisitions of banks by bank holding companies appear to have increased greatly over the past decade. Compacts among the states in various regions of the country have already come into existence to achieve the same purpose on a smaller scale. The prospect of nationwide banking has led to considerable concern about the effects of such a development on the financial structure, in particular the number and size distribution of banks, and on the competitiveness and efficiency of the financial system. Many fear that the removal of all restrictions will lead to a highly concentrated banking structure.

Why concentration is of concern

Assuming that elimination of the barriers to interstate banking would in fact lead to sharply increased nationwide banking concentration, why is this a matter of concern? One reason is the potential effects of concentration on economic efficiency in local markets. By making implicit and explicit collusion in local markets easier, the creation of concentrated markets through merger and acquisition may foster economic inefficiency when economies of scale are not important. This collusion affects efficiency by driving a wedge between price and marginal cost and by inducing firms to expend resources inefficiently in order to maintain or increase their share of the oligopolistic rents.[2] While these effects of collusion also occur when economies of scale are significant, they may be partially or completely offset by price reductions due to cost savings. Concentration is most likely to lead to inefficiency when entry and exit are costly. Unfortunately, local banking markets have a number of characteristics that make entry and exit costly.[3]

Evidence from the United States

Nothing in the U.S. experience lends itself directly to predicting the structural effects of interstate banking. Nevertheless, some suggestive evidence is available in the form of studies of economies of scale in banking—the relationship between bank size and costs—and comparisons of states with different branching laws.

Economies of scale studies

Some students of banking have concluded that unrestricted interstate banking would not in fact lead to a highly concentrated banking structure in the United States. This conclusion

---

Herbert Baer is an economist and Larry R. Mote is an economic adviser and vice president at the Federal Reserve Bank of Chicago. The authors acknowledge the valuable research assistance provided by Elizabeth Pongracic.

is based on several studies of bank operating costs that failed to show any significant economies of scale beyond the modest asset size of $50-$100 million.[4] However, as was recently pointed out in a critical survey of the literature on bank costs, these studies ignore other possible advantages related to size, such as economies of scale in diversifying risk or in management of the bank's reserve position, and fail to take into account the effect of regulation in obscuring the importance of economies of scale.[5] Moreover, virtually all bank cost studies have shown economies with respect to the size, as opposed to the number, of bank loans, suggesting that large banks may be needed to serve large corporate borrowers.

Comparisons between states

Because the permissibility and geographic scope of branching within each state are governed by the laws of that state, comparisons of banking structures across states having different branching and multibank holding company laws can shed some light on the likely effects of permitting interstate banking. Several clearcut relationships are revealed by such comparisons. For example, Gilbert reports that in June 1982 the five-firm concentration ratio averaged 75 percent in states permitting statewide branching and 41 percent in states that do not permit statewide branching.[6] State comparisons by other authors show similar results and provide the basis for several additional generalizations.[7] States permitting statewide branching tend to have fewer and larger banking organizations and higher statewide concentration. Studies of banking structure in states that have liberalized their branching and multibank holding company laws report results that are broadly consistent with those based on interstate comparisons.[8] In general, states adopting statewide banking experienced increased rates of consolidation, increases in statewide concentration, and declines in the number of banking organizations.

Although these studies suggest that a substantial amount of consolidation is likely to occur if unrestricted interstate banking is permitted, they do not permit a reliable estimate of the ultimate increase in nationwide concentration that would result. There are several reasons for this. First, state measures ignore the importance of out-of-state suppliers of financial services through loan production offices and nonbank subsidiaries. Second, large banks in statewide branching states are protected from competition by large out-of-state banks. Third, to the extent that there are significant economies of scale in banking, but only up to some relatively moderate level of output, they will play a less important role in determining market structure the larger the market in which banks are permitted to operate. Fourth, the pattern of intrastate consolidation has been dictated in part by antitrust legislation. These considerations all suggest that analysis of differences in state banking structures related to differences in branching restrictions provides a useful but not fully adequate basis for forecasting the shape of the U.S. banking structure after the removal of interstate banking restrictions.

Evidence from foreign countries

The experiences of other countries provide the only alternative source of evidence on the effects of nationwide banking. A study based on these experiences has the advantage of using data for geographic areas that are both closer to the United States in size and that have similar conditions of entry for large banks. As was noted earlier, casual observation of the experience of foreign countries permitting nationwide banking suggests that geographic deregulation might lead to a massive increase in concentration of the U.S. banking system. However, such comparisons are not without their own problems. Countries have different policies concerning chartering, interest rate regulation, and permissible activities that may affect the structure of banking. Moreover, many of the comparisons that have been made have not been based on consistent and economically meaningful product market definitions. This increases the difficulty of using foreign experiences with nationwide banking to predict the outcome of its adoption in the United States.

This study is designed to take a more systematic look at foreign experiences, utilizing a more uniform and meaningful definition of "banking" in compiling the data and attempting to relate the structural changes in foreign banking systems to merger, branching, and entry policies. The purpose is to ascertain the degree to which foreign banking systems have been shaped by unimpeded market forces and the degree to which they have been shaped by regulatory intervention. The paper draws some conclusions relevant to the situation in the United States.

National market structures

The criteria for including a category of institutions in the market for banking services were that the firms in that category offer payments services and deposit-taking services and engage in consumer and/or commercial lending. Payments services include interest-bearing and non-interest-bearing checking accounts, Giro services, and, in the case of Japan, preauthorized debits.[9] In the case of Canada and the United States, this approach required us to distinguish between the wholesale and retail markets. In the other countries, this was not necessary.

It should be pointed out that the procedure followed here does not guarantee that the concentration figures relate to an economically meaningful product market or that they include all institutions effectively competing in any given product line. However, the approach used here goes beyond the "cluster of services" approach that has resulted in the exclusion of all institutions but commercial banks from the market in judging the competitive effects of bank mergers in the United States. By defining "banking" in terms of two essential products—transaction accounts and some form of non-real estate lending—this paper includes in the market a range of institutions that is broader than that yielded by the traditional cluster approach but narrower, at least in some cases, from that which would result from a strict product line by product line approach.

Because the degree of concentration varied between loan and deposit markets or between total and domestic lending, upper- and lower-bound estimates of national concentration ratios were developed using the most recent data available. In addition, market concentration histories were developed for each country including all the types of institutions believed to be in close competition with the banks. However, for reasons of data availability, all market concentration histories are based on deposit data.

The historical concentration measures were calculated at five-year intervals for the period 1930 to 1975 (excluding World War II) and yearly from 1975 to 1980. The measure of structure used was a five-firm concentration ratio. The levels and trends in this ratio for various countries are discussed in the following pages and summarized in Tables 1 and 2.

An overview

As the estimates of banking concentration in the first column of Table 1 suggest, nationwide concentration is extremely high in Canada, France, and the United Kingdom, all of which permit unrestricted nationwide branching by commercial banks. In Japan, which imposes some geographic restrictions on branching, and the United States, which generally limits branching to the individual state, concentration is considerably lower. In Germany, which permits nationwide branching by commercial banks, but restricts branching by its full-service savings banks, concentration lies between these extremes. In the analyses of individual countries that follow, an attempt is made to relate these differences in concentration levels and trends to differences in regulatory policies.

United Kingdom

There are three groups of institutions active in the British banking market. The first group, which may be referred to as the private banking system, is composed of both publicly traded and privately held institutions that engage in at least the basic commercial banking activities. This group is further subdivided according to the range and magnitude of the firms' banking activities into licensed deposit takers (LDTs), "recognized banks," and the 13 clearing banks.

The second major group of competitors in the financial arena consists of the mutual institutions. The building societies, mutual organizations that issue savings deposits and make residential mortgage loans, account for a majority of assets in this group, but can only make residential mortgage loans. The trustee savings banks (TSBs) are the other major form of mutual institution. Originally restricted to taking savings deposits and reinvesting them in government and other gilt edge securities, the TSBs have been evolving since the mid 1960s into bank-like institutions. In 1976 the TSBs

Table 1
Five-firm concentration ratios for the United States and five countries with nationwide branching

	Upper bound	Lower bound
Canada commercial[1]	85.0	70.7
Canada consumer[2]	60.0	38.0
France[3]	87.0	73.0
Germany[4]	56.8	26.0
Japan[5]	32.0	22.0
United Kingdom[6]	73.0	50.0
United States commercial[7]	19.0	14.0
United States consumer[8]	9.7	7.0

[1] Upper-bound estimates based on commercial loans and transactions accounts. Includes only chartered banks. Data from various tables in *Bank of Canada Review* (January, 1984), and *The Banker* (June, 1983).

Lower-bound estimates based on corporate non-transactions accounts. Includes chartered banks and trust companies. Data from *Bank of Canada Review* (January, 1984), *The Banker* (June, 1983), and H. H. Binhammer and Jane Williams, *Deposit-Taking Institutions: Innovation and the Process of Change* (Ottawa: Economic Council of Canada, 1976).

[2] Upper-bound estimate based on personal savings at chartered banks, credit unions and *caisse populaires.* The lower bound also includes trust companies and is based on checkable personal savings.

Data from *Bank of Canada Review* (January, 1984) *The Banker* (June, 1983), H. H. Binhammer and Jane Williams, *op. cit.,* and reports from the Canadian Cooperative Credit Society.

[3] Includes the *banques inscrites,* the *banques populaires,* the *caisses de crédit mutual,* and the *caisses de crédit Agricole.* The upper-bound estimate is based on foreign and domestic deposits. The lower-bound estimate is domestic sight deposits only. Data from the Banque de France, *Bulletin Trimestriel* (December, 1983), *Moody's Bank Stock Manual,* and various annual reports for 1983.

[4] Upper-bound estimates based on demand deposits at commercial banks only. Lower-bound estimates include demand deposits at commercial banks, 12 central Giro institutions, 592 savings banks, and 2253 credit cooperatives. Data from *Monthly Report of the Deutsche Bundesbank* (January, 1984) and *The Banker* (June, 1983).

[5] Upper-bound estimates based on commercial banks only. Lower-bound estimates based on demand type deposits at commercial banks, 71 *sogo* banks, 456 *shinkin* banks, and 6574 credit cooperatives. Data from the Bank of Japan, *Economic Statistics Monthly* (November, 1983) and Federation of Bankers Associations of Japan (1982).

[6] Upper-bound estimates based on sterling lending to U.K. borrowers by recognized banks. Lower-bound estimates are based on sterling and foreign currency lending to U.K. borrowers. Data from *Bank of England Quarterly Bulletin* (March, 1983).

[7] The upper bound is based on total foreign and domestic deposits while the lower bound is based on commercial and industrial loans to U.S. addressees. Data are from the December 31, 1983 *Report of Condition.*

[8] The upper bound is based on interest-bearing transactions accounts at commercial banks. The lower bound is based on such deposits at both commercial banks and thrifts. Data are from the December 31, 1983 *Report of Condition* and Federal Reserve Statistical Release H.6, *Money Stock, Liquid Assets and Debt Measures.*

were given permission to offer a full line of banking services.

The third and final group of competitors in the banking marketplace consists of two government-owned institutions, the National Savings Bank and the National Giro, which operate through the British post office. The National Savings Bank provides a savings vehicle while the Giro provides an alternative to the payments mechanism of the clearinghouse banks. Neither of these institutions engages in loan originations.

Competitive environment. The British financial system displays all the hallmarks of a tight oligopoly. As indicated in Table 1, an upper-bound estimate of the five-firm concentration ratio is 73 percent. As long as non-mortgage sterling assets or liabilities are viewed as the relevant market, this estimate is not greatly affected by the inclusion or exclusion of the licensed deposit takers. The lower-bound estimate only comes into play when all non-mortgage lending (sterling and foreign currency) to persons and firms domiciled in the United Kingdom is considered.

The conclusion that the British banking system is highly oligopolistic is further supported by five additional observations concerning the behavior of market participants. First, British financial institutions have a long history of collusive activity. The clearing banks established a cartel in the 1930s which until 1971 restricted hours of operation, prohibited payment of interest on transaction accounts, and fixed the interest payments on demand deposits.[10] Building societies have also established cartel arrangements that tend to keep the interest rates on both deposits and mortgages below their market clearing levels. Second, the failure of many British households to have checking accounts at British banks (the major providers of such services) is prima facie evidence that the price of checking account services is extremely high. Somewhere between 30 and 50 percent of British households do not have a checking account as compared with only 21 percent in the United States.[11] Although the clearing banks' control of the payments mechanism is not absolute, as we will discuss below, their dominant position gives them a certain amount of control over prices charged by alternative suppliers. Third, where other suppliers are able to compete with the clearing banks on a more or less equal footing, the clearing banks' market shares have fallen sharply. The rapid growth of nonbank financial institutions in the 1960s, attributable in large part to their aggressive pricing, was made possible by their exclusion from the cartel.[12] However, oligopolistic pricing continued even after the cartel was formally disbanded by the Bank of England in 1971. Between 1970 and 1980 the London clearing banks' share of all deposits of nonbank residents and firms in the financial system (defined to include building societies, TSBs, and LDTs) fell from 67 percent to 43 percent, while deposits at other banks, LDTs, and building societies rose from 25 percent of the total to 50 percent. Fourth, foreign banks have made steady inroads in the corporate banking market. Finally, there have been some attempts by foreign banking organizations to penetrate the domestic retail banking market.

The numbers presented in Table 2 suggest that British banking has undergone a modest deconcentration since the 1950s. Between 1955 and 1980 the five-firm concentration ratio fell from 84 to 68. The major factor promoting this deconcentration was the entry of foreign banks into the corporate market. These figures also suggest that the merger wave of the late 1960s temporarily reversed the deconcentration trend, increasing the concentration ratio by 4 points over the period 1965-1970.

Table 2
Five-firm concentration ratios, 1930-1980

	Canada	France	Germany	Japan	U.K.	U.S.
1930	84	41	44	22	70	9
1935	85	44	51	27	65	11
1950	80	66		31	84	13
1955	80	70	27	29	84	14
1960	83	65	24	26	83	15
1965	86	66	25	23	81	14
1970	85	57	24	21	85	16
1975	81	60	24	20	70	18
1976	83	65	25	20	67	18
1977	82	66	25	20	66	18
1978	80	67	25	20	66	18
1979	79	76	26	20	68	19
1980	80	81	24	22	68	18

SOURCE: Herbert Baer and Elizabeth Pongracic, "The Development of Banking Structure Histories in Five Countries," unpublished paper, Federal Reserve Bank of Chicago, 1984.

Merger policy. The highly concentrated banking structure of the United Kingdom is a product of many past mergers. Beginning in the latter part of the 17th Century, the amalgamation movement was accelerated by an 1826 act that permitted the establishment of joint-stock banks and acts in 1858 and 1879 that limited shareholder liability.[13] At least 526 mergers had occurred by 1918, some 373 of which had been consummated in the preceding 60 years. Despite the indirect encouragement given to the merger movement by legislation favoring limited liability joint-stock banking, the government neither actively promoted or prohibited mergers prior to 1918.

Although concern was expressed by the Treasury Committee on Bank Amalgamations in 1918 regarding the potential adverse effects of the amalgamation process—including reduced competition, monopoly, and a further shrinkage of capital-to-deposit ratios—little was done to halt the process. There were 26 more mergers between 1919 and 1924, and the number of banks continued to decline through the early post-World War II years.

In a detailed analysis of the amalgamation movement in English banking published in 1926, Joseph Sykes strongly criticized the government's failure to take action to prevent the movement from leading to monopoly.[14] About the same time the government adopted a policy of discouraging mergers between large banks. In retrospect it appears that most of the damage had already been done. The domination of British banking by a few large firms has its roots in mergers that occurred during World War I. Moreover, as R.S. Sayers later noted, "Since 1918 governments have, in the interests of preserving adequate competition, had a settled policy of preventing any further merging of the great banks . . . ."[15] Thus, concentration in British banking increased only modestly over the half century following World War I.

However, in the mid 1960s, the government's attitude toward bank mergers became more hospitable. In 1968, National Provincial and Westminister Banks merged. This was followed by the merger of National Commercial Bank of Scotland with the Royal Bank of Scotland. This merger wave ended with the acquisition of Martins Bank by Barclays. Since 1968, acquisition programs have been directed at merchant banks, discount houses, and finance companies rather than banks.

Barriers to entry. There are five barriers of varying importance confronting firms wishing to compete with the British clearing banks. They are: restrictions on product lines, the preferential tax treatment afforded depositors of building societies, limited access to clearinghouse facilities, control of the use of the words "bank" and "banking", and the density of the existing branch networks. Restrictions on the activities of building societies pose the most important barrier to entry in British banking. Although building societies are the logical competitors of the British clearing banks, their inability to engage in non-mortgage lending not only closes them out of commercial and consumer lending but also makes it more difficult to offer transactions services since British checking accounts usually offer overdrafts, which are a form of lending.[16]

Control of clearinghouse arrangements also presents a significant barrier to entry. Non-members wishing to clear checks can do so only by arranging for clearing facilities with members. Fragmentary evidence suggests that when privileges are finally granted they are often accompanied by restrictions concerning the payment of interest on transaction accounts, the total amount of clearing that will be handled, and the price of the clearings. Taken together, these barriers to entry contribute to the high level of concentration in British banking and reinforce its anticompetitive effects.

West Germany

The West German financial. market is served by four types of depository institutions. The commercial banking sector is the largest, accounting for a half of all assets at depository institutions. This sector is dominated by the Big 3—Deutsche Bank, Dresdner Bank, and Commerzbank—which control about 20 percent of all assets at depository institutions. However, there are 237 other commercial banks, 9 of which held over $2.5 billion in assets in 1983. Two of the nine, with assets of $45 billion and $38 billion, are roughly the same size as Commerzbank though their branch networks are concentrated in southern Germany. Commercial banks have nationwide branching privileges.

Sparkassen, state or municipally owned savings banks, with a quarter of all assets, are the second most important group of depository institutions. The savings banks provide all the same services as the commercial banks and have developed an extensive commercial lending business that includes many large firms. Unlike commercial banks, savings banks may branch only within the state, county, or city in which they are organized and cannot branch outside the country. Of the 595 savings banks, 13 had assets in excess of $2.5 billion in 1983. An additional 148 savings banks each held between $400 million and $2 billion in assets. Mutually owned credit cooperatives are also important participants in the West German financial market, accounting for 20 percent of all banking system liabilities and 11 percent of all lending to nonbanks.

The importance of the last group of financial market participants is the most difficult to assess. This group is composed of the thirteen central institutions for savings banks (one for each state), or Girozentralen, and the nine central institutions for credit cooperatives. These institutions were set up to reinvest excess funds of their members and to act as clearing houses for Giro systems. These institutions are allowed to branch within their home state or states and may set up foreign branches. All of these institutions are quite large—five of the ten largest West German depository institutions fall in this category. Because the Girozentralen engage in significant amounts of lending and raise a large proportion of their funds from nonbank sources through the taking of deposits, they are treated as part of the banking system. However, the central institutions for credit cooperatives do not engage heavily in these activities and are therefore excluded.

Competitive environment. Considerable consolidation took place in German banking earlier in this century as the number of private banking firms fell from over 2,000 in 1928 to 209 in 1964 and the number of offices belonging to the Big 3 rose steadily.[17] However, the German banking system remains much less concentrated than the British system. If only commercial banks are included, the five largest account for about 57 percent of all deposits (see

Table 1). Including the savings banks, credit cooperatives, and the Girozentralen reduces this figure to 26 percent. The five-firm concentration ratio has been virtually constant throughout the postwar period, varying between a minimum of 24 and a maximum of 27.

Barriers to entry. There are relatively few barriers to entry into banking activities in Germany. No one group of institutions has a stranglehold on the payments mechanism, and there are also no major product line restrictions. This has permitted the savings banks and credit cooperatives to serve as alternatives to the commercial banks and helps to explain the lower concentration of the West German banking system relative to that of the United Kingdom.

Japan

The Japanese banking system bears a striking resemblance to the German system. As in the German system, commercial banks, mutual loan banks (sogo banks), and cooperative credit organizations (shinkin banks and credit cooperatives) are all important providers of banking services. Commercial banks are further subdivided into two groups, the 13 city banks and the 63 regional banks. As of 1981, the city banks ranged in asset size from $40 billion to $87 billion.

The Japanese commercial banks have a much larger share of the market for banking services than do German banks. City banks account for 41 percent of total loans, 40 percent of total transactions balances, and 33 percent of total time deposits. In Germany, in contrast, commercial banks account for only 21 percent of all loans, 35 percent of all transactions balances, and 19 percent of all time deposits.

Two other categories of banks, the seven trust banks and three long-term credit banks, were omitted from the analysis. The trust companies were excluded because a majority of their business is with trust accounts, while the long-term credit banks were excluded because they engage primarily in long-term lending and raise most of their funds through the issuance of debentures.

Merger and entry policy. The Japanese banking system evolved much later than the banking systems of Europe and North America. As late as 1868, most lending was done by a few large merchant families. In that year the first "exchange houses" (Kawase) were formed; these both accepted deposits and made loans. In 1872, after the failure of several exchange houses, the government abolished them in favor of a system of national banks modeled after that of the United States.[18] However, continued inflation and a number of bank failures led to disillusionment with the system, and legislation enacted in 1896 provided for the dissolution of the national banks or their conversion into joint-stock banks. Of 153 national banks, 132 continued in operation as joint-stock banks. The total number of banks (commercial, special, and savings banks) increased from 703 in 1893 to a peak of 2,359 in 1901.

Thereafter, the banking system of Japan underwent a major consolidation similar to that experienced in most European countries several decades earlier. In 1901 capital requirements for both new and existing banks were raised, restricting the establishment of small banks and encouraging amalgamations. The outbreak of World War I gave a further boost to amalgamations, and 150 commercial banks were absorbed by merger in six years. After the failure of 39 banks during the crisis of 1927, the treasury actively encouraged mergers through administrative means. Coupled with an increasingly restrictive entry policy, this encouragement of mergers reduced the number of commercial, special, and savings banks from 2,285 in 1918 to 1,163 in 1928, of which 1,031 were commercial banks. Thereafter, the number of commercial banks fell to 872 in 1930, 351 in 1940, and 245 in 1941. During World War II, the amalgamation movement was accelerated sharply by government actions dictated, in large part, by the war effort. Through the absorption of smaller banks the number of commercial banks was reduced sharply to 61 by the end of the war.

A U.S.-style anti-monopoly law enacted in 1947 slowed the amalgamation movement in Japanese banking and allowed the number of commercial banks to increase to 78 by 1951.[19] The law was revised after Japan regained its national independence in 1953, and since then, the number of ordinary banks has dropped slightly, from 78 to 77. During this same period, concentration has tended to decrease.

Japanese institutions currently face severe restrictions on de novo branching. For the fiscal year 1983-84 each commercial, sogo, or shinkin bank is permitted to set up one new branch. At this writing commercial banks and sogo banks may possess a branch anywhere in Japan. Shinkin banks are restricted by their articles of incorporation to a specific geographic area. As a result, new nationwide branching systems must be built primarily through mergers and branch acquisition.

Sogo banks and shinkin banks also face restrictions on whom they may lend to. As of 1982 business loans by sogo banks were restricted to customers with less than 300 employees and less than Y400 million in capital. Shinkin banks are restricted to firms with less than 300 employees and Y200 million.[20]

Competitive environment. The relative lateness of the bank consolidation movement in Japan, together with the restrictions on further amalgamation during the occupation, undoubtedly had much to do with the present structure of the Japanese banking system. As Table 1 indicates, that system is by any measure relatively unconcentrated. The upper-bound estimate of the five-firm concentration ratio is 32, while the lower-bound estimate is 22. Throughout the postwar period Japanese banking markets have tended to become less concentrated, as reflected in the decline of the five-firm concentration ratio from 31 in 1950 to 22 in 1980.

This decline in concentration reflects primarily the decreasing importance of the city banks as a group rather than any significant changes in the relative sizes of the five largest banks. In fact, throughout the period of the study the five largest banks have remained more or less equal in size.

Unfortunately, the Japanese practice of regulating loan and deposit rates so distorts the market that it is difficult to make any definite statements concerning the degree of competition. Should these regulations be removed, it is likely that concentration would increase since smaller inefficient banks would be less protected from competition by more efficient but less conveniently located rivals. While there have been major shifts in the distribution of deposits among different types of institutions—often an indication that certain market players are exercising market power—they seem to have resulted from interest rate ceilings and the existence of a tax-free postal savings system.

Canada

In Canada, banking services are provided by three major groups of firms: chartered banks, trust companies, and cooperative credit organizations. At present there are 71 chartered banks, 13 of which are Canadian owned. Commercial banking is dominated by five large Canadian-owned banks whose deposit sizes in 1981 ranged from $34 billion to $69 billion. Canadian commercial banks provide a full line of banking services and are permitted to branch nationwide.

Trust companies specialize in using time deposits to fund holdings of mortgages and other long-term securities. They are not permitted to engage in commercial lending and, although they are permitted to offer transactions accounts, they account for only a small part (about 3 percent) of total liabilities.

The cooperative credit organizations—the credit unions and the caisses populaires—are the third force in Canadian banking. These institutions play an important role in the retail end of the banking market, providing significant competition to banks in the provision of transactions accounts and consumer credit. Branching regulations depend on the licensing authority. Trust companies may branch nationwide while credit unions, which are provincially chartered institutions, are restricted by their charters to a certain geographic area, always within their home province.

Competitive environment. The Canadian banking system represents a blend of the British system on the one hand and the German and Japanese systems on the other. Retail banking bears some resemblance to the German and Japanese systems, in that the eleven Canadian-owned chartered banks compete with trust companies, credit unions, and caisses populaires for transactions accounts, time and savings deposits, and consumer lending. As Table 1 suggests, this segment of the market is modestly concentrated. It is estimated that the five largest institutions control between 30 and 60 percent of the market. Wholesale banking in Canada more closely resembles the British system. In this segment of the market, the major players are the 11 domestically owned banks and the foreign-owned banks. However, trust companies provide important competition in the corporate time deposit market. In the wholesale market it is estimated that the five largest banks control 85 percent of all commercial lending and transactions accounts and 70 percent of all time deposits. These concentration ratios suggest that the retail banking market is modestly competitive while the wholesale market is a tight oligopoly.

The time series data in Table 2 provide a good picture of the level of concentration in Canadian banking. Throughout the entire period the five-firm concentration ratio has remained relatively steady, bumping around between a low of 79 and a high of 86. Increases in concentration were generally associated with mergers.

There is considerable evidence that the Canadian Bankers Association has tended to function as a cartel, fixing maximum rates on deposits and minimum rates on loans and establishing common fee schedules. These restrictions virtually eliminated price competition among the chartered banks.

In 1964, the Report of the Royal Commission on Banking and Finance recommended sweeping changes in the government's treatment of banking, including "[A]n alternative approach [that] recognizes the spread of competition and seeks to encourage it."[21] The Canadian Bank Act of 1967 introduced a number of provisions designed to increase competition, including the removal of the statutory ceiling on loan rates, authorization for commercial banks to hold conventional mortgages, and the prohibition of collusive setting of interest rates on loans and deposits. However, even after the prohibition of the cartel in 1967 there was little change in pricing behavior, presumably because the oligopolistic structure of the industry was unchanged. Throughout the period, Canadian chartered banks have managed to avoid paying interest on corporate demand deposits despite the absence of any legal prohibition.

Merger policy. As in the case of the United Kingdom, the highly concentrated banking system of Canada is in part the product of mergers. Prior to the turn of the century, Canada had a very strict merger policy; banks wishing to merge had to obtain permission from Parliament. In 1900 this process was simplified, and by 1930 there had been 28 bank mergers. In the postwar period further consolidation led to the creation of the Toronto-Dominion Bank in 1955, the Canadian Imperial Bank of Commerce in 1961, and the National Bank of Canada in 1979. The government's encouragement of mergers, in conjunction with nationwide branching and the more restrictive chartering policy, helped to produce the extremely high concentration of Canadian wholesale banking that exists today.[22]

Barriers to entry. While the banking structure in Canada strongly resembles that of the United Kingdom, there are some significant differences in the nature of the barriers to entry. Prior to 1980, banks in Canada seem to have had a stranglehold on the check clearing process. This was maintained through the control by the Canadian Bankers' Association of the 51 clearing houses in major cities.[23] However, unlike in the United Kingdom, de novo entrants face significant barriers to entry. Prior to 1980, domestic charters could be obtained only by an Act of Parliament, and the growth of foreign banks is still limited by law. It was also generally acknowledged that the effective capital requirement set by the authorities, which exceeded the statutory one, reduced the attractiveness of new entry.[24] Finally, in contrast to the United Kingdom, product line restrictions have not played an important role in preserving the retail market share of the chartered banks.

Since 1980, de novo domestic entry has been made easier. Charters can now be obtained without an Act of Parliament, trust companies can obtain a bank charter, other financial institutions are permitted to establish new banks, and provincial governments may hold up to a quarter of a bank's shares. The relaxation of entry restraints has already led to a substantial increase in the rate of entry. Between enactment and the end of 1982, five new domestic chartered banks have appeared, raising the total from 11 to 14. While this increase has not yet had a significant impact on performance, it is likely that over the ensuing decades the effects of the new policy will be significant.

France

In many respects, the French banking system is atypical of those found in most Western countries. Because of a greater degree of governmental intervention in the credit allocation process, the French banking structure reflects the impact of regulation much more, and the influences of market forces much less, than is the case in the other countries under consideration. This intervention has included the nationalization of banks accounting for about 90 percent of total commercial bank assets as well as a conscious governmental policy of regulating the number and size distribution of banks.

Since 1945, French banks have been divided into three broad categories for purposes of regulation: deposit or commercial banks, investment banks (banques d'affaires), and the banks of medium- and long-term credit. In addition, a number of the cooperative institutions—the popular banks (banques populaires) and agricultural banks (*caisses de credit agricole*)—engage in many banking activities, including the offering of transactions accounts. Collectively, these five types of institutions are known as banks. All of them compete in the short-term deposit and credit markets. Some competition is provided in the retail market by the savings banks (caisses d'epargne). Until recently, these institutions were limited to taking savings deposits, which were then invested for them by the Caisse Nationale d'Epargne in government securities. However, beginning in the late 1960s, the powers of the caisses d'epargne were broadened. In 1968, they began offering checking accounts. In 1971, they were permitted to begin offering mortgages and personal loans. The deposit banks are dominated by the three survivors of the large credit establishments (etablissements de credit), which were nationalized in 1946. Together, these three institutions maintain more than 5500 branches throughout France and account for over 60 percent of the total assets of the more than 270 deposit banks. In 1981 the Socialist government nationalized most of the remaining banks. Only foreign-owned banks and 53 small regional banks remain under private control.[25]

Also important as a source of credit, albeit much more specialized, are the agricultural banks, or caisses de credit agricole. Numbering about a hundred, they operate over 3,000 branches and have total assets equal to almost 40 percent of those of the deposit banks. Since 1926, they have been organized into a single system under the Caisse Nationale de Credit Agricole, which now ranks among the world's largest financial institutions. Until recently, they specialized in agricultural credit and obtained only about a third of their funds through the issue of deposits. But they have greatly expanded their commercial lending and international activities and are a major supplier of demand deposit services to customers in rural areas. Hence, the Credit Agricole must clearly be included with traditional banks in any meaningful definition of the product market.

Competitive environment. As Table 1 indicates, French banking is highly concentrated, with a five-firm concentration ratio ranging from 73 to 80. This was not always the case. The first major consolidation occurred during the war years, when concentration rose about 20 percentage points. The second major period of concentration begin in 1966 with the merger of Comptoir National d'Escompte de Paris and Banque National pour le Commerce et l' Industrie. The merger did little to increase concentration as measured by the five-firm concentration ratio (which actually fell between 1965 and 1970) but had a significant impact on concentration measured with a Herfindahl Index. A more important factor in explaining the increases in concentration after 1970 appears to have been the rapid internal growth of the big 3 banks.

Merger policy. Under the powers granted it by the Banking Act of 1945, the Conseil National du Credit (CNC) controlled mergers between banks. Early on, it made clear its position that a higher level of banking concentration was desirable. Between 1946 and 1964, it approved 101 bank mergers. In 1966, the CNC took the initiative in merging Banque Nationale pour le Commerce et l'Industrie with Comptoir National d'Escompte de Paris, reducing the number of large nationalized banks from four to three. This decision was based on the beliefs that greater efficiency could be achieved by the elimination of some duplication in branches and better utilization of equipment and that larger business firms needed larger banks to meet their credit needs. More recently, the government has begun to consolidate many of the newly nationalized banks.[26]

Barriers to entry. After its creation in 1946, one of the CNC's first actions was to declare a moratorium on the establishment of new branches while it studied the possible efficiencies to be achieved through closing some existing ones. In 1947, it announced plans to eliminate 10 percent of the branches already in existence. Except where local economic need could be clearly demonstrated it continued to be very restrictive in approving new branches until 1967.

A similarly restrictive policy was followed in chartering new banks. In combination with the liberal merger policy, this resulted in a decline in the number of banks from 444 in 1946 to 298 in 1970. However, a reversal of policy in the late 1960s permitted an increase in the number of banks to 389 in 1982. French credit control techniques also played a role in shaping the structure of the banking market. The French encadrement du credit attempted to control the size of the domestic banking system by limiting the rate of growth of each bank's portfolio. Such a strategy would clearly place limits on the rate at which entry could reduce anticompetitive behavior. The French eliminated the encadrement in 1984.

Local market structures

The comparison of national market structures has demonstrated that nationwide branching is consistent with a wide range of concentration at the national level, depending on the nature of other regulations. An unconcentrated national market is consistent with, but need not imply, unconcentrated local banking markets. Table 3 presents some evidence concerning the relationship between nationwide concentration and local market concentration.

The focus on the local market increases the difficulty of the analysis. Because individual bank deposit data are not generally available for local markets, it was necessary to use branch office concentration ratios. Data on the number and distribution of branch offices were obtained from bankers directories, yellow pages, foreign bank regulators, and foreign trade associations.

The results suggest that among countries with nationwide branching, higher nationwide concentration ratios are generally associated with higher local market concentration ratios. There are two exceptions.

The Canadian consumer market displays a relatively low nationwide concentration and relatively high local market concentration. This disparity probably occurs because credit unions are the most important payments system alternative to chartered banks. In Canada, credit union members must be united by a common bond. The existence of these bonds would cut down on the need for branches.

A similar disparity between national and local market structure in West Germany results from the policy of giving each savings bank an exclusive territory. Consequently, there is no interpenetration of markets through branching, and each savings bank ends up being the firm with the largest number of branches in its market. Often it has two or three times as many branches as the next largest bank.

In order to separate the effects of exclusive chartering of savings banks from the effects of nationwide banking, hypothetical local market structure measures were calculated assuming that the branches of savings banks were equally divided among three institutions. The adjusted figures are much closer to those one would expect to observe given the level of nationwide concentration in Germany. Making this adjustment illustrates the role played by restrictive chartering policy in determining local market structure.

Although the phenomenon is most pronounced in West Germany, local markets are also significantly more concentrated than the national market in the other countries. This reflects the fact that, even without statutory restrictions, most depository institutions tend to specialize to some degree geographically, and very few of them are represented uniformly in local markets throughout the country.

Conclusions

The experience of other major industrial countries suggests that nationwide branching by commercial banks need not result in a highly concentrated national market for banking services. The actual outcome depends on

Table 3
Five-firm branch concentration ratios for cities in the United States and five countries with nationwide branching

	Population	Branches per thousand of population	Five-firm branch concentration[1] ratio	National five-firm demand deposit concentration ratio
Canada commercial[2]				
Hamilton	312,003	.24	.88	.85
Winnipeg	560,874	.34	.91	
Vancouver	410,188	.58	.97	
United Kingdom[3]				
Bristol	411,500	.42	.95	.73
Manchester	489,300	.46	.81	
Canada consumer[4]				
Hamilton	312,003	.35	.62	.38
Winnipeg	560,874	.43	.77	
Vancouver	410,188	.75	.71	
West Germany[5]				
Dusseldorf	607,560	.47	.64	.26
Kassel	199,450	.27	.64	
Saarbrucken	198,885	.40	.68	
Wurzburg	115,746	.73	.66	
France[6]				
Bordeaux	223,131	.45	.61	.73
Lyon	456,716	.28	.64	
Marseilles	908,600	.15	.53	
Tours	140,686	.35	.68	
Hypothetical[7] West Germany				
Dusseldorf	607,560	.47	.50	
Kassel	199,450	.27	.56	.26
Saar	198,885	.40	.53	
Wurzburg	115,746	.73	.61	
Japan[8]				
Kanazawa	407,318	(.43)[9]	(.54)[9]	.22
Nagoya	2,086,118	.23	.40	
United States[10]				
Atlanta	392,900	.48	.75	.13
Indianapolis	694,600	.28	.86	
Pittsburgh	416,200	.43	.52	
San Diego	844,000	.25	.53	
Seattle	481,000	.45	.60	

1 Proportion of branches owned by the five institutions with the largest branching system.
2 Includes chartered banks only.
3 Includes banks and trustee savings banks.
4 Includes chartered banks, trust companies, and credit unions.
5 Includes banks, *Sparkassen, Raifaissen,* and *Volksbanken.*
6 Includes banks and *caisse dépargne*
7 As above except that *Sparkasse* branches assumed to be divided among three institutions.
8 Includes commercial banks, *sogo* banks, *shinkin* banks, trust companies, and long-term credit banks.
9 Number of *sogo* bank branches estimated.
10 Includes commercial banks, savings banks, and savings and loans. Because FSLIC insured savings banks and savings and loans are less active in the provision of banking services, each savings bank or S&L branch was given 80% of the weight of a bank branch.

a number of other regulatory and economic factors.

Where government regulation makes entry difficult, nationwide concentration is high. Where entry is relatively free, nationwide concentration is relatively low. Moreover, there is a strong tendency for local market concentration in countries with nationwide branching to vary directly with concentration at the national level. In contrast, in countries which grant exclusive geographic franchises to certain types of depository institutions, local market concentration may be relatively high even when national concentration is low. West Germany is one example.

Disparities between national and local concentration can also occur when certain types of depository institutions are geographically restricted. West Germany and Japan both provide examples of this, but a more extreme one is the United States, where restrictions on both interstate and intrastate branching for years balkanized the country into a large number of semi-autonomous banking regions. In general, geographic restrictions on branching tend to increase measured concentration within the restricted area and decrease it in larger areas, i.e., the nation.

The three cases where banking is relatively unconcentrated—Germany, Japan, and the retail segment of the Canadian market—have five things in common. First, some of the nonbank (and, in Japan's case, bank) competitors are not permitted to branch nationwide. Second, nonbank intermediaries are not prohibited from engaging in bank-like activities. Third, it is possible for de novo entry to occur, at least through the formation of nonbanks. Fourth, the payments system is not under the exclusive control of a few institutions. Fifth, since many of the nonbanks are organized on a mutual or a cooperative basis, a large number of firms are ensured even when bank merger policy is fairly liberal.

In these three countries, many nonbanks face branching restrictions. It is likely that the number of firms operating is greater than it would have been if market forces were given free rein. While removing these restrictions would not necessarily increase concentration, permitting cross-industry mergers would. One of the problems in the United Kingdom is that the clearinghouse banks have been permitted to eliminate potential competitors through the acquisition of merchant banks and hire purchase companies (deposit takers specializing in consumer finance).

Conversely, banking at the national level seems to be most concentrated when geographic expansion is unrestricted, merger policy is liberal, product line restrictions are important, and the payments system is controlled by a few firms. The first two conditions exist in the United Kingdom, France, and the wholesale segment of the Canadian market, while the third exists only in the United Kingdom. More importantly, the British experience suggests that the elimination of legal impediments to entry by banks may not suffice to deconcentrate an already concentrated market. Deconcentration will be impeded if the payments system is monopolized and product line restrictions prevent existing nonbank intermediaries from providing many banking services. Absent this crucial link, however, completely free entry can rapidly erode the position of dominant firms. This occurred in the Canadian retail market between 1955 and 1965 with the rapid growth of the caisses populaires and the credit unions. It appears to be occurring in the Canadian wholesale market in the 1980s within the limits established by the statutory ceiling on assets of foreign banks.

Merger policy clearly played an important role in increasing the concentration of resources in the Canadian wholesale market as well as in the United Kingdom. In both cases, several competitors were merged out of existence after the industry had already become concentrated. Similarly, in France, where previously the concentration level had been lower than in Canada and the United Kingdom but higher than in Germany or Japan, concentration rose sharply after 1946 as a consequence of a policy that both restricted entry and actively encouraged mergers. A reversal of that policy in the late 1960s led to a temporary reversal of the trend towards increased concentration.

Implications for U.S. Policy

Regulatory differences in the five countries surveyed can be summarized according to the legal restrictions faced by thrift institutions and commercial banks. Thrifts may be subject to product line restrictions, branching restrictions, or no restrictions at all. Commercial banks may be subject to chartering or growth restrictions, branching restrictions, or no restrictions at all. The consequences for banking concentration of three plausible deregulatory scenarios are discussed below.

Eliminating bank branching restrictions

A policy of permitting interstate branching for commercial banks while retaining geographic and product restrictions for thrifts would likely expose the U.S. wholesale banking sector to the sorts of economic forces that have shaped banking in the United Kingdom. However, unlike in the United Kingdom, new U.S. entrants would have little problem obtaining access to the payments system. This suggests that the wholesale banking sector in the United States would become more concentrated than that in Germany and less concentrated than that in the United Kingdom.

Although the British experience is useful in predicting the impact on wholesale markets of a removal of commercial bank branching restrictions, the German and Japanese examples are clearly more useful in analyzing the impact of such a reform on retail banking. American thrifts have recently obtained substantial consumer lending powers as well as the right to offer transactions type accounts. Their branching restrictions also resemble those of German and Japanese thrifts. Given these powers, elimination of commercial bank branching restrictions would probably result in a higher but still relatively low level of national concentration in retail banking.

Until recently one would have predicted that the effects at the local level would be mixed. Little effect would be expected in unconcentrated markets, while in some concentrated markets, either actual or threatened entry through branching would limit the ability of intermediaries to exercise market power. In other concentrated markets, spatial entry-deterrence strategies designed to exploit the importance of convenience costs—e.g., the saturation of the local market with branches—would have made this sort of discipline relatively ineffective. However, this analysis ignores recent advances in electronic banking. By destroying the importance of spatial entry-deterrence strategies, shared ATM networks may greatly facilitate entry at the local market level.

Liberalizing bank branching and thrift asset powers

A second possible scenario involves the simultaneous relaxation of bank branching restrictions and thrift asset powers. Under this scenario both corporate and retail markets would tend to duplicate the German experience. However, it is once again important to keep in mind that in the larger U.S. market, concentration would probably be considerably lower than that prevailing in Germany.

Complete geographic and product deregulation

Finally, one might contemplate what would happen if all deposit-taking institutions were freed from branching and product line restrictions. Because no country has experienced such complete deregulation, this study provides no direct information concerning market behavior in this case. However, generalizing from the tendencies discerned above, it appears likely that national concentration levels would lie somewhere between those resulting from the two preceding scenarios. Although the consolidation of thrift institutions previously kept separate by branching restrictions would tend to increase concentration, the elimination of product restraints would increase the number of institutions included in the effective "banking" market. The net effect should be a reduction in concentration at the national level. This effect should be even more unambiguous and pronounced at the local market level.

---

[1] See Richard Syron, "Interstate Banking in New England," *New England Economic Review*, March/April 1984, pp. 5-17.

[2] A number of economists, including Richard Posner, Anne Krueger, and James Buchanan, have argued that the latter effect is more important.

[3] Lester V. Chandler, "Monopolistic Elements in Commercial Banking," *Journal of Political Economy*, 46 (February 1938): 7-10.

[4] See, in particular, George J. Benston, Gerald A. Hanweck, and David B. Humphrey, "Scale Economies in Banking: A Restructuring and Reassessment," *Journal of Money, Credit, and Banking*, 14 (November 1982, Part I): 435-56, and the studies

cited therein. One recent study asserts that "the broad elements of U.S. banking structure" can be explained by economies of scale and customer demands for convenience without reference to regulation. Richard W. Nelson, "Economies of Scale vs. Regulation as Determinants of U.S. Banking Structure," in *Proceedings of a Conference on Bank Structure and Competition* (Chicago: Federal Reserve Bank of Chicago, 1983), pp. 462-79. However, these factors explain at most the number and size distribution of banking offices, not of banking firms.

[5] R. Alton Gilbert, "Bank Market Structure and Competition: A Survey," *Journal of Money, Credit, and Banking*, 16 (November 1984): 617-44.

[6] R. Alton Gilbert, "Effects of Interstate Banking: Does the Evidence Support the Arguments?" unpublished manuscript, April 20, 1984, pp. 7-8.

[7] See, for example, Donald T. Savage, "Developments in Banking Structure, 1970-81," *Federal Reserve Bulletin*, 68 (February 1982): 77-85 and Stephen A. Rhoades, "Banking Structure and Performance at the State Level during the 1970s," Staff Study III, Board of Governors of the Federal Reserve System, 1981.

[8] Bernard Shull, "Multiple-Office Banking and the Structure of Banking Markets: The New York and Virginia Experience," in *Proceedings of a Conference on Bank Structure and Competition* (Chicago: Federal Reserve Bank of Chicago, 1972), pp. 30-40 and U.S. Department of the Treasury, *Geographic Restrictions on Commercial Banking in the United States*, January 1981, pp. 45-54.

[9] The giro is an alternative to the check that is popular in Europe. A bill together with payment, is presented to the giro operator who then credits the account of the billing company.

[10] See Brian Griffiths, *Competition in Banking* (Norwich, U.K.: The Institute for Economic Affairs, 1970) and National Board for Prices and Incomes, Bank Charges, Report No.34 (London: Her Majesty's Stationery Office, 1967).

[11] Robert B. Avery, Gregory E. Elliehausen, Glenn B. Canner, and Thomas A. Gustafson, "Survey of Consumer Finances, 1983," *Federal Reserve Bulletin*, 70 (September 1984): 685.

[12] Monopolies Commission, *Report on Proposed Mergers*, July, 1968.

[13] Joseph Sykes, *The Amalgamation Movement in English Banking, 1825-1924* (London: P.S. King & Son, Ltd., 1926).

[14] Ibid., pp. 160-61.

[15] R. S. Sayers, *Modern Banking*, 7th ed. (London: Oxford University Press, 1967).

[16] A recent government green paper has proposed broader lending and deposit powers for the building societies. Chancellor of the Exchequer, *Building Societies: A New Framework* (London: Her Majesty's Stationery Office, 1984).

[17] H. Rittershausen, "Banking in Western Germany," in *Comparative Banking*, 3rd ed., edited by H. W. Auburn (Dunstable: Waterloo & Sons, Ltd., 1966).

[18] Herbert M. Bratter, *Japanese Banking*, Trade Promotion Series, No. 116, U.S. Department of Commerce (Washington: USGPO, 1931).

[19] Hubert F. Schiffer, *The Modern Japanese Banking System* (New York: University Publishers Incorporated, 1962), p. 50.

[20] Stephen Bronte, *Japanese Finance: Markets and Institutions* (London: Euromoney Publications, 1982), pp. 56-57.

[21] Randall Pozdena and Alane Sullivan, "Nationwide Branching: The Canadian Case," Weekly Letter, Federal Reserve Bank of San Francisco, September 10, 1982.

[22] James W. Dean and Richard Schwindt, "Structure and Competition in the Canadian Financial Industry," Discussion Paper 74-4-3, Department of Economics and Commerce, Simon Fraser University, 1974.

[23] Royal Commission on Banking and Finance, *Report* (Ottawa: Queen's Printer, 1964), p. 114.

[24] "State Takeover," The Banker, August 1981, pp. 7-8.

[25] Linda Bernier, "What's Banking Like Under Mitterrand?" *Euromoney*, July 1983, pp. 66-67.