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Automation and Banking Structure

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The advent of automation in banking and check transactions is now apparent to everyone. Nearly 90 per cent of the checks being written today are sorted and accounted for electronically. The Federal Reserve System has announced, for example, that after September 1, 1967, it will not accept checks or drafts for regular processing unless they are machinable, i.e., unless they can be handled by high-speed electronic equipment. Utilizing proven technology, we are moving rapidly toward an entirely different system of money settlement which will make Federal Funds transfers available for all non-local transactions of any significant size.

As these and related developments appear on the horizon a good many bankers and students of banking are trying to evaluate the impact of electronics and automation on the structure of banking itself. Will the economies and convenience of electronic accounting for money settlement be confined to large banks? When tied into bank customers' payroll, billing, and receivables bookkeeping and analysis, will the service package be of such size and dimension that smaller banks will be unable to compete? Even now packages of this sort are becoming an important feature of the services provided by some banks and the practice is spreading as rapidly as facilities, i.e., electronic hardware and software, become available. It seems possible that smaller banks through service bureaus, cooperatives, or correspondent facilities will not be seriously handicapped in competing with institutions that operate on a scale which permits on-premises electronic equipment and processing. There are some psychological, or perhaps fancied, advantages to keeping banking operations "under one roof," -- one corporate roof, that is. Control of quality, performance and confidentiality are often mentioned. The argument, however, seems a bit superficial, for all sorts of economic services are already being contracted by business to outside experts with an actual gain in quality and performance. A loss in confidentiality appears chimerical too--after all the computer offers a numbered account to everyone and while all of the attributes of a Swiss-type numbered account are not legally available, electronic bookkeeping is a large step toward anonymity from what we now have.

As I reflect on these and other emerging possibilities, it appears that the speculative component in any conclusion I might reach as to the influence of automation on banking structure begins to rise and the analytic component to diminish. Consequently, rather than venture any kind of a prediction at this time it seemed to me to be worthwhile to discuss the topic without conclusions, focusing on the nature of some of the pertinent data and basic assumptions.

The structure of banking in the United States is generally thought to reflect in a rather large way the constraints of State laws with respect to banking operations. These restrictions impair the freedom of banks to move from their original location, to branch, to merge, or to exploit opportunities outside of their immediate service areas. I am tempted to assert that the element of real truth in the presumption of statutory containment is no greater than the prevalence of the credo that the sin of "original location" should be borne by subsequent generations of bankers. But that would be going too far.

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Banks are multi-product or multi-service firms; they have not been inhibited from participation in many markets. A good example is in their asset acquisitions, where they can compete freely on a nationwide basis with the other banks, other financial institutions, nonfinancial businesses and individuals for Government securities, corporate securities, State and local securities, to some degree mortgages and consumer paper, and for business loans of the larger and more important corporations. In these markets, Pacific Coast banks compete with New York, Boston, Chicago, Philadelphia, or Dallas institutions. The ability of banks to make loans and investments and, to a lesser degree, to attract deposits from far beyond their immediate locations has served to relax significantly the performance constraints of State laws restricting bank location. And it raises the question of how far the structure of banking in the United States has been able to respond to the needs of our over-all economic system, to business practices and consumer habits, and the extent to which it has been circumscribed by regulatory policies and the confinement of State laws and conforming Federal practices. The easy answer is that both of these influences have been important. However, there should be enough evidence to reach a judgment as to the relative importance of each--given the time and energy to sift and evaluate actual area-by-area data for local banking structures and markets.

The term "banking structure" is used frequently and easily without specification as to its precise meaning, but generally the reference is to number, size and location of banks. This is the

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meaning I want to give to the term, recognizing, however, that a full expression of the concept should also consider the degree and nature of a bank's participation in various asset or deposit markets. Banks of similar size and location do not <u>necessarily</u> evidence similar operating policies or have similar operating opportunities--it is the structure of their assets and liabilities that may have to be examined in order to find the determining influence of various environmental conditions.

Sorting banks by size and location requires agreement on how to measure size and how to determine significant market areas.

Bank size can be defined, for example, in terms of total resources, or total deposits, or demand deposits, or demand deposits IPC, or demand deposits IPC under \$100,000, or demand deposits IPC under \$10,000. These are alternative measures; some are better than others, given a particular purpose. I have selected total deposits to measure size despite its shortcomings as an indication of local activity; that is, it includes local and non-local deposits, and, as is well known, many banks have deposits from firms and individuals far removed from their home office, sometimes as far removed as another country or nation.

If a measure of size in a local market is needed, helpful proxies are the number of demand deposit accounts or the amount of demand deposits in accounts with balances of less than \$100,000 or \$25,000 or \$10,000. I mention these alternate size ceilings because they are the size ceilings that the F.D.I.C. compiles in its <u>Survey of Deposits</u>. The logic of the proxies using size of account

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data is that while there is no sure way of knowing how many deposit accounts over \$100,000 are non-local it is fairly sure that many of them are of this character. And as to the accounts under \$10,000, we can be quite sure that most of these deposits are of a strictly local character--owned by local individuals, businesses, or corporations. This fact makes the size group of under \$10,000 (or perhaps under \$25,000, or even under \$100,000) a reasonable proxy for bank participation in the local deposit and credit markets.

If our interest in banking structure arises from its impact on banking competition we should be interested in geographical areas that encompass important banking markets--local, regional or national. The local market may be a metropolitan area, a city, a county or town, or it may be a neighborhood. The regional markets can be approximated by regarding a State or group of States as a significant area. The advantage of using a State as a market area is that we have pertinent economic and demographic data by States that is not similarly available for smaller areas. Moreover, aggregate State data can be viewed as an average structure, reflecting both the over-all economic environment of the State and the statutory freedom or constraint imposed by the State's banking laws.

With the geographical areas in mind and the criteria of size established we are now ready to apply a technique for measuring structure. As you know, on every call date all insured banks in the United States supply Federal authorities with a uniform balance sheet and supplemental exhibits detailing a variety of asset and liability items. These

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reports are carefully edited and put into a form (electronic tape) from which a great variety of tabulations can be prepared. It is possible, therefore, using any set of call date reports, to crossclassify and array banks by location and size and then to tabulate subtotals for each such group, any asset or liability category on the call.

In the accompanying chart labeled "U.S. Banking Concentration" all insured commercial banks in the nation have been divided into two size groups--the largest banks and the smallest banks. Each of these size groups has been subclassified as follows:

The largest banks:

	Largest	.1 per cent	
	11	1	11
	**	5	11
	**	15	11
The smallest banks:			
	Smallest	25	11
	11	50	**
	88	75	11
	"	85	11

With this explanation the chart is self-explanatory. It shows, for example, that a tenth of one per cent of the banks have twice as much in total deposits as the smallest 75 per cent of the banks. It also shows that about 130 banks are needed to account for over half of the deposits and nearly 2,000 are needed to account for a little over 80 per cent of the total.

While this chart spells out a fairly prevalent impression of the nation's banking structure the next two, which contain similar data for each State having 60 or more banks, may be as surprising to some, as they were to me--surprising because of the similarities they show in the banking structures of States with dissimilar laws. Note that the only States where as much as 50 per cent of the deposits are held in 1 per cent of the banks are as diversified in banking structure as California, Georgia, Illinois, Minnesota and New York, and that the next States in order of concentration are Pennsylvania, Michigan and Montana. It is probably more noteworthy that in three-fourths of the States shown, 50 per cent or more deposits are in 5 per cent of the banks. On the other hand, there are instances, particularly in the South and Southeast, where branching restrictions, or their absence, seem to have had a marked effect on structure. The Carolinas and Virginia, for example, are in contrast to Arkansas, Mississippi and West Virginia.

Turning to the smallest banks--there are only a few States in which the smallest 50 per cent of the banks account for more than 12 or 13 per cent of deposits--these are widely scattered--New Hampshire, Arkansas, Mississippi, West Virginia and Iowa.

The fourth chart in the series shows the size of the largest bank in each of the smaller size groups. It is another way of emphasizing how small the great majority of the banks are in every State. There is something of a regional pattern in these data. In the East, for example, the largest bank in the 50 per cent group was usually \$10 million; in the South and Midwest it ranged from \$3 to \$7 million, averaging about

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\$5 million; in the West and Plains it ran a pretty steady \$3 to \$4 million, except in California and New Mexico.

Returning now to the question of how the banking system evolved with the state-to-state similarities and dissimilarities revealed in these charts, there are obviously powerful factors working toward uniformity of adaptation to the economic environment. Some of these forces can be uncovered by breaking bank deposits down into three categories and charting their relationship to personal income. These categories are:

- 1. Demand deposits IPC in accounts under \$100,000
- 2. Time and savings deposits in accounts under \$10,000
- 3. Total deposits in accounts over \$100,000

The total of demand deposits IPC in accounts under \$100,000 is a rough measure of a bank's role as a processor of the community's money settlements--the familiar cycling and recycling of payments that provides much of the stability to demand deposits and commercial bank's identification with the economic prospects of the community in which it is located. The balances kept in such accounts and the prevalence of accounts relative to population depends on the community's affluence, its money habits, and financial sophistication. Using the personal income series by States as an index of wealth as well as income and expressing our proxy for local deposits as a percentage of it, we find reasonably consistent relationships on a state-by-state basis. In the industrial States the proportion runs between 12-15 per cent. In the South it runs somewhat higher on the average and in the agricultural West and Plains States is quite consistently at 20-25 per cent. (See Chart V or VI)

Bank competition for savings and small consumer-type time accounts has been keen in the recent past. In some degree commercial banks have been competing against their own demand deposits as well as against deposits in mutual savings banks, share accounts in savings and loan associations and market instruments. Chart V shows how the competition among these intermediaries stands by states. In the Eastern States, where mutual savings banks are well established, they, along with savings and loan associations, outpace bank savings and time accounts under \$10,000 by as much as 6 to 1. In the rest of the country, banks in several unit-banking States seem to fare better with respect to savings accounts than banks in similarly situated branching States. Michigan and Virginia are exceptions.

The competition for large deposits in contrast to that for small deposits is not significantly inhibited by statutory restrictions. Consequently, many aggressive banks have grown and prospered by expanding their resources through the purchase of large deposits (CD's), the solicitation of large active demand deposits and correspondent bank balances. Chart VI shows how effective these measures have been in adding to the total of deposits attributable to each State. The States shown in the two top panels of Chart VI have one or more large metropolitan areas and, hence, large unit or branching systems which can attract large deposits. Thus, they are able to match, or more than match, the total of their demand deposits under \$100,000.

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On the other hand, the States in the two bottom panels, with lesser concentrations of population, seldom match, or fall far short of matching, the aggregate of their local deposits.

At the outset of my remarks I disclaimed any intention of drawing conclusions about the effect of automation on banking structure. But I am forming a tentative impression from as much study as I have been able to give the structural data referred to in this speech that most of us have probably overstated the role of regulation and statutory constraints on the banking system. The state-by-state structure data seem to show a considerable measure of responsiveness to similar economic conditions and environments and to the efforts of bankers to overcome statutory deterrents to growth and expansion. If on closer examination this turns out to be the case, I think it follows that automation would be still another effective tool for the aggressive banking institution seeking to overcome statutory and regulatory restraints on the extension of its local market.



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2. IN ALL CHARTS FIGURES ARE CONSOLIDATED FOR BANK HOLDING COMPANIES.





1.STATES ARE GROUPED BY RATIO OF URBAN POPULATION TO TOTAL POPULATION. GROUP I: 75-89%; II: 66-74%; III: 50-65%; IV: 35-49%. 3. STATES WITH FEWER THAN 60 BANKING ORGANIZATIONS ARE NOT REPRESENTED IN CHARTS 2 THROUGH 6.

2.STATES ARE RANKED WITHIN GROUPS BY RATIO OF IPC DEMAND DEPOSITS<\$100,000 TO PERSONAL INCOME.

4. IN ALL CHARTS FIGURES ARE CONSOLIDATED FOR BANK HOLDING COMPANIES.