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Confrontation Within Banking.
Machines vs. Bankers or Bankers With Machines

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Confrontation Within Banking:
Machines vs. Bankers or Bankers With Machines

Man vs. the machine is a trite situation when posed as a frightening jeopardy in science fiction or as an academic dilemma in sociology. But in banking such a dramatic confrontation as "bankers vs. machines" is something novel; something that few of us are prepared for or have suspected we would ever have to face. In the banking industry's life span up to now, the pen, the high stool, the bank note, the check, the adding machine, and the proof machine evolved in a comparatively sedate and orderly march of technology without much disruption to the banker or his staff. These were tools and simple mechanical aids that bankers could keep under control and in the back room, always able to see what they did and how they did it.

Today, one of the most revolutionary and innovative-generating contraptions of our time, which I will call EDP & T, has invaded banking workshops across the country. Invaded them, moreover, with a disarming capacity to do the deposit and settlement accounting for banks and their customers in any way desired: i.e., with an automated replication of what has been done in the past, or with a modest reshaping of instruments and procedures and ensuing cost and time advantages, or with an unveiling of such business and profit opportunities to banking policymakers as they have never before experienced. My task today is to speculate on the depth, breadth, and resilience (to use a little Federalese) of that last alternative.

It is appropriate that I do so with machine tenders or controllers, for whether or not you are mastered by the machines you operate your principals cannot hope to escape machine domination unless they achieve an understanding, probably from you, of the full range of capabilities of electronic data processing and transmission.

For bankers these data handling methods are novel. They are scientific developments conceived and perfected completely outside of the banking industry. They do not employ skills or expertise common to banking, indeed they have an almost alchemistic aura in contrast to the image or reality of banking as we know it. In consequence, it is only after you and your principals have acquired an understanding of how EDP & T can be used to garner banking resources and put them to work more efficiently that we will know how effective this new tool can be in removing today's constraints and barriers on bank growth and profits and in revealing tomorrow's new opportunities.

Simply to avoid argument--and a fruitless one, too--I am going to assume that at some date in the future, EDP & T machinery and techniques will have the reliability coefficient of any widely used mechanical aid, and that there will be an ample supply of hardware and no particular shortage of skilled programmers, operators and managers. Given these conditions, I am trying to visualize the opportunities created for a bank that seeks to take the fullest advantage of EDP & T, not the one that resists change or prefers to let someone else take the risks and rewards of pioneering. If automation offers substantial growth and profit-making opportunities there are enough energetic, aggressive bankers to push ahead with a timetable and enthusiasm at least comparable to that which, we, as a nation, have for the race to the moon.

The first main point of this speech is to make clear that I am dealing with the effects of automation on banks as financial intermediaries and not on banks as community bookkeepers or vendors of accounting, billing, payroll or other services on a piecework or fixed fee basis. Obviously, these opportunities and others of a related nature can be exploited by banks that have the EDP & T equipment and know-how. Such exploitation could substantially modify the nature of a banking institution, if it also involved operating procedures that both de-emphasized credit granting and made deposit accumulation a secondary consideration.

Perhaps banks would be better off if so transformed that they became the community's account keepers first and financial institutions second. At some point bankers will have to make this choice. If they decide to make their institutions local binary factories, they may reap profits and perform numerous and needed local services cheaper and better than anyone has before. But, if the essential banking function is not the motivating and continuing reason for automating a bank's operation, the "machine" will win. It will transform banking and bankers because it is too powerful and too efficient to resist, once it is free to find its own opportunities and set its own goals.

It may be that in our economic development the commercial banking system is approaching obsolescence and EDP & T will make it clear that bank money in this system with a velocity approaching infinity is too ephemeral to invest. It is already true that many nonbankers are operating intermediaries with borrowed money. But I hope bankers do not lose out to machines. It's not that I couldn't live (i.e., hold my job) without commercial banks pretty much as we know them but life as a central banker would be one continuous Red Alert with demand deposits in a monetary cyclotron.

I may be nostalgic in thinking of banking's past role in the growth of the country, its necessitous though unsparing allegiance to local communities and its omnipresence in the economic life of our time. But a very small number of decades in a scientific age can witness a great deal of change--even bankers may have to retread.

For today, however, I am adhering to the assumption that machines will not master bankers. Therefore, the balance of my remarks is confined to the effect of automation on banking relationships, banking structure, and banking competition--i.e., from here on I will be talking about bankers with machines--not bankers vs. machines.

Customer Relationships

Banking has inherited a strong orientation toward individuals of wealth and businesses of size, both as sources of demand deposits and users of funds. This is only natural given a past environment where the distribution of income and wealth and the levels of modal income limited the profit potential of attempting to intermediate the liquid holdings of middle and lower-middle income groups. In the postwar years, however, more and more financial intermediaries, including banks, have been finding that the hoards and savings of the "men in the street" can be swept up into aggregates of sufficient size and stability to be an important source of funds for the use of businesses, governments or consumers. These funds have principally been made available as time deposits or share accounts but there is no reason, given the new technique of EDP & T, why they should not be a much more significant share of the total of demand deposits. In 1961, the latest year for which we have data, they were about one-third of that total.

If we had more up-to-date information it would probably show the relative importance of individuals' deposits to be gaining, particularly if measured, not just by their dollar total, but by their contribution to bank profitability. Evidence supporting this inference is in the recent growth of corporate certificates of deposit and the rise in turnover of demand deposits at well-known "corporate business" banks.

Specifically, from June 30, 1961 to June 30, 1965, demand deposits of individuals, partnerships and corporations rose by about $15 billion, or 14 per cent; but private GNP, a proxy measure for activity in the sector of the economy using these deposits, rose more than twice as much--31 per cent. In the same period corporate CD's rose by $10 billion. Corporations were economizing on deposits and this accounted for the slack in IPC demand deposit growth. The same inference can be drawn from the behavior of turnover. From the levels prevailing in 1960, turnover at New York and other leading center banks, where large corporate accounts are concentrated, rose nearly 70 per cent, while turnover at lesser centers without the dominating influence of large accounts was rising only 33 per cent.

In some measure the increased economization of deposit money is a cyclical phenomena and in response to the higher levels of short-term interest rates--but the rising velocity of recent years has clearly been responding to a secular factor arising from the changing environment and greater capacity of corporate treasurers to manage closely their cash positions.

Corporate demand accounts are still highly prized by bank managements even when balances in them have been pared to or below operating minimums. Corporate time accounts are also much sought after even at ceiling prices and even though sensitive to the "tone and feel" of financial markets to an extraordinary degree. Corporate funds are at home everywhere, picking and choosing as a lender or a borrower the particular markets or institutions where large volume makes small margins between alternatives profitable, and of determining importance.

The competitive position of a bank with its large corporate customers is, in this environment, generally weak even though it may strengthen a bit in periods of monetary restraint. True, a bank may not be as defenseless as the supplier with a single customer who, without sufferance or good will, is exposed to more competitive uncertainties than he can possibly meet, since banks, fortunately, do have other customers. However, the outstanding fact is if banks want to sell credit services to corporations or to buy time funds from them they are up against the full-scale competition of the money and capital markets as well as that of other large financial intermediaries. Similarly, if they are selling demand deposit services to corporations the competition is not confined to local banks.

I look for automation to give banks a profitable alternative to the keen, if not over-keen, competition for large corporate deposits and loans. If they can escape their fixation for big customers and turn more to serving individuals and small businesses, whose borrowing and lending alternatives are much more restricted, not only will their profit opportunities be greater but their deposit base will be more stable and they will achieve the independence that goes with having more customer alternatives. If the accounts of a few customers are essential to a bank's profits and growth these accounts usually have to be retained on the customers' terms. If a bank's best customers are legion one customer more or less on the bank's terms serves only as an indication of how well its prices and services are being currently received in this market.

Automation can make this happy state of affairs in banking not only possible, but profitable. It can do so by giving the accounts and needs of individuals a larger role in the business of a commercial bank. In speaking to the American Economic Association last December, I noted how EDP & T gave banking a unique entry and position in consumer banking. Let me point up those remarks further.

With automation banks are able to solicit a contractual relationship with individuals, proprietors, professional men, nonprofit organizations, partnerships, and others with typically smaller accounts on much the same basis as insurance companies handle insurance contracts. Though banking customers are usually at least as stable in banking allegiance as their home or business location permits, the solicitation and retention of these types of accounts usually rests on the convenience of a branch or home office location. If an account salesman were substituted for the glassed-in emptiness of a posh branch on a high-rent corner, what might he be able to offer?

He would ask the customer to agree

(1) To have his salary, wage, dividend, interest and rental receipts deposited directly, where possible, into his account.

(2) To advise the bank, in writing, to whom he wants payments made from that account, and when.

The bank would agree

(1) To acknowledge instructions received and to process debits and credits to the account and furnish customer with daily, weekly, or monthly statements dependent on account activity.

(2) To extend the customer credit in an amount that is some multiple of the average, above service requirements, deposit balance.

(3) To supply the customer a charge-credit card to be used for both cash and credit transactions.

The bank and customer would work out

(1) Deposit levels at which the bank would automatically, or by specific instruction, transfer funds from demand status to passbook or CD status, and the condition under which the flow would be reversed.

(2) The terms for an established line of credit, including the rate of interest and the conditions of repayment.

What are some of the advantages for banks of a system along these lines?

1. The nonbank competition to it is nonexistent, limited or high-cost.
2. It can operate with minimal or no branching facilities, doing so by wire or mail, in whatever market areas bank management selects.
3. It can displace large amounts of coin and currency with deposits.
4. The compensating balance arrangements would enlarge bank resources significantly.
5. It can provide additional deposit stability by filling in more of the gaps in money flows as deposits move from employer to consumer to retailer to supplier, etc.
6. It offers an outstanding opportunity to profitably expand bank consumer instalment and non-instalment credit. The total of such credit is now approaching $90 billion--of which banks have only about $36 billion, $10 billion purchased.

What are the disadvantages? I see only two--cost and effort. The first is resolved by automation which brings this entire operation into practical focus. Electronic bookkeeping and operations research are essential tools--they are now becoming available for the first time.

The effort is an unknown. As I indicated earlier, I have no doubt, given the prospects there are some bankers with plenty of willingness to put forth the effort. Let me quote from a recent mail solicitation I received. It covers at least part of the package I am describing:

"The mechanics of your account are not complicated: The checks you write are simply loans. If you repay them with a new deposit by the middle of the following month, there is no charge. If you don't, there is a charge of only 1/2% per month until you do. When you deposit more, the rest goes into your savings, which always continue to earn you interest -- no matter how many checks you write. The checks are 10¢, and everything else is free. That's all there is to it.

"Thousands of account holders throughout the world are keenly aware of the interest they are earning on money that would otherwise be idle. Many of them also like the advantages of a convenient, confidential, out-of-town account."

Considering the time available to me I am going to skip over the potential changes in relationships with large business customers and bank correspondents as a result of automation. It seems probable that solid progress in cost-saving and convenience-enhancing arrangements will occur as bank-computer-to-customer-computer connections are made. The new technology will certainly enable settlement transactions (payment and the receipt of payment) to be completed on the day initiated through wire or satellite transmission. Business financial officers will be better serviced and better informed and so will their bankers. In the field of bank correspondent relationships, check clearing arrangements as a promotional device and a correspondent bank balance builder will be of declining importance. With same day service everywhere for everybody via the computer centers and the Federal Reserve there is not likely to be much left for correspondents to offer in settlement service.

Banking Structure

The potential effects of automation on banking structure appear, on the surface, to be far-reaching, some would say ominous. But the nature of the changes that lie ahead will fault many of these expectations because prevalent impressions of the existing banking structure are hazy, if not inaccurate, and because it is implicitly assumed small banks cannot enjoy the advantages of EDP.

It is true that although automation in banking has just gotten underway, a growing number of bankers, large and small, are now convinced that EDP for the demand deposit account in all except the very smallest banks will become an operational must. Fortunately in all except the sparcely populated areas of the country the smaller banks whose volume does not justify the minimum processing equipment in their own shop, have now, or in prospect, reasonably accessible computer service. It is available at service bureaus, processing centers of correspondent banks or at cooperative installations. In the majority of cases there are actually enough processing alternatives to afford the small bank an opportunity to realize the benefits of competitive bidding for its business. It does not appear likely that banks will be forced into branching system or holding company affiliation in order to have access to EDP facilities and at volume-priced unit rates.

However, there are other consequences of automation that will lead to changes in banking structure. The effect on unit banking, for example, probably will depend upon the section of the country and the degree of urbanization. In metropolitan areas of the East or the West unit banks today account for only 10 per cent of banking offices; in the South they make up 30 per cent and in the North Central region 37 per cent.

To the extent automation facilitates the extension of banking services throughout a natural metropolitan trading area, irrespective of State lines or branching restrictions, significant changes are most likely to occur in metropolitan areas near State lines and in the South and North Central states.

There is considerably less likelihood that the banking structure outside of the orbit of metropolitan areas will be similarly affected. Even in the regions where branching and holding company systems abound, the West and the East, unit banks still account for a third of the offices in non-metropolitan areas--the small town and cities under 50,000 population. The fact is that nearly 10,000 of the nation's 13,800 banks are outside of metropolitan areas and 7,500 are in one- and two-bank towns. These 7,500 banks have less than 10 per cent of U.S. total deposits. This is not a large enough deposit aggregate, considering it is widely scattered, to be a tempting target for nonlocal banks nor is it easily attracted by them.

How automation might affect the balance between large and small banks is far from clear, but environmental considerations suggest a minimal change. Four years ago the smallest 75 per cent of U.S. banks had 12.9 per cent of the deposit market; today they have 12.6 per cent. The largest bank in this group has deposits of only $10,100,000. Automation is unlikely to erode the market share of this group because so many of them are isolated or insulated from external factors. The small relative decline they have experienced in the past four years reflects the less-than-average population growth in the communities they serve.

At the other end of the scale, shifts in market shares among individual banks may be dramatic as the giants and near-giants come into closer competitive contact. This struggle will be limited only by the exhaustion of their ingenuity in tapping the retail banking market. For groups of large banks, on the other hand, market shares are likely to continue stable. If so, one per cent of the banks will continue to hold 50 per cent of the nation's deposits and 10 per cent of this group will have half of the group's share.

Automation will also release growth potentials for many banks that have been chained to a market area with stunted growth prospects or a size that has been arbitrarily limited; it will make it possible for the aggressive institution to, at least partially, surmount obstacles heretofore unsurmountable.

Banking Competition

There can be little doubt that automation will lead to much more competition in banking--more competition among banks and more competition between banks and other credit-extending agencies, particularly those concerned with consumer credit. But the change in competitive environment will be gradual, allowing time for orderly adjustments to take place.

I have already sketched the advantageous position that banks can occupy in the consumer and instalment credit field. The potential activity made possible by automation in this instance should result in greater availability of such credit and at significantly lower costs than are now typically charged by vendors and most specialized lending institutions. And EDP makes it easier to introduce in more transactions an incentive to cash payment--the discount--so that such buyers need not share in the cost of a service they do not use, namely, convenience credit.

It is more doubtful that automation will add much to banks' ability to compete with savings and loan associations and mutual savings banks because these institutions have the same opportunities in EDP and operation research as banks.

Bank-to-bank competition should become more pervasive and somewhat keener. If, in fact, banks extend their market areas by mail or wire or satellite, regardless of branching restrictions or State lines, to heretofore protected areas, the banks in those locations will have to raise their service standards and lower their charges. How far they may have to go will depend on what their customers can be persuaded is appropriate to expect of a bank and how much they will pay for infrequently used services, a friendly greeting and the satisfaction of knowing at least one solid citizen.

It seems to me that few of the present customers of banks in one- and two-bank towns are going to be defectors. The community banks in such locations offer, through their officers, a range of banking, business and financial advisory services mingled with social and community ties that will make their depositors hard to dislodge from a distance. Moreover, the "foreign" banker who might be regarded as a predator probably will quickly find, if he doesn't already know, there are many places other than small towns where depositors are easier to recruit and the yields from an equivalent selling effort are greater and more certain.

In the metropolitan areas where banking is more impersonal and locational ties are more transitory, competition will be tougher and services cheaper. But for the innovative bankers the rewards in growth and profits will be very satisfactory.

It must be apparent by now that my speculations, however incomplete, have gone far enough to show my respect for EDP & T. I am confident that automation can be used to revolutionize banking--and, in the process, greatly increase its efficiency, its social product, its share of the nation's business and its profits. On the other hand, automation is so powerful a tool that it can easily become master rather than servant and in that process so alter banking that the industry will not be recognizable within a generation. It is up to bankers to decide which road to follow.