Competition, Monopoly and Electronic Banking

Donald I. Baker

When I hear people talking about *the* electronic funds transfer system (or EFTS), I worry. These people are apparently looking to a single system, remotely analogous, I suppose, to the check clearing system. But looking at EFTS in this way overlooks the profound changes now taking place in the financial sector. These changes proceed from radical advances in technology comparable to those of the Industrial Revolution — but in fact they are even more revolutionary because they are occurring far more rapidly. They raise questions that go to the very fabric of the financial system: not only *what* things are going to be done, and *how* — but *who* is going to do them. What I see coming is not a single EFTS, but a diversity of related electronic services and systems. Consumers will demand many different banking services; bankers and others will find many ways to serve them.

We must recognize that the particular form of consumer services depends heavily on the technology used to produce those services. When each bank, or group of banks, decides to offer a new service based on its own technical ability, the range of customer services will be great. It will go all the way from simple on-line check-guarantee systems to the elaborate point-of-sale debit-switching and inventory-control systems and more. So far, however, the electronic banking industry is still in its infancy. No one can yet foresee exactly what the public will want and think worth paying for, and accordingly no one can predict how the financial system will fulfill its demands.

We must also recognize that new technology can reduce everyone's costs. Credit card clearing offers a good example. The credit card slips in transit represent "float" from financial institutions to their customers. Every financial institution shares a desire to reduce or eliminate that "float":

Donald Baker is the Deputy Assistant Attorney General in the Antitrust Division of the U.S. Department of Justice.

if new techniques and new technology can do that job, all the institutions share our interest in developing those techniques and that technology. The check clearing system works somewhat differently, since increased or decreased "float" tends to favor certain institutions vis-à-vis others. Nevertheless, even check clearing float can impose costs on all institutions as it affects the flow of funds very erratically. Accordingly, all may share the desire to improve clearing technology as well.[1]

The financial world, however, is a world of compartments created by law. Financial services are divided between banks, thrift institutions, finance companies, insurance agents and stockbrokers, among others. They are divided between institutions in different states and communities. Although the legal compartments may have once responded to regulatory needs and technical capabilities, new technology is making the old barriers obsolete. The barriers are falling between those who have branch offices and those who do not; between commercial banks and thrift institutions; between depository institutions and other offerers of financial services; and between debit and credit offerings and offerers.[2]

Some people — usually those whose places in the old order were made secure by laws and regulations — are trying to rejigger the old rules to protect themselves from the opportunities and risks of this new, fluid world. The rest of us — particularly the regulators — should ask why we have the restrictions in the first place. In my view, law should serve the consumers (large and small) of financial services, and do so by promoting

[1]The number of checks written in the United States has increased from 12 billion in 1960 to an estimated 26 billion in 1973. At the current growth rate volume will double by 1985. The cost of the existing payments systems is high. It is estimated at $13.8 billion a year — $12.6 billion for writing and processing checks, and $1.2 billion for the production, safeguarding, storage and use of currency. See *Banking*, Journal of the American Bankers Association, May 1974, p. 36. Overall, there is every reason to believe that electronic transfer will cost far less than the current demand deposit operation. Mark J. Flannery and Dwight M. Jaffee, *The Economic Implications of an Electronic Monetary Transfer System*, (1973) pp. 60-63. The Atlanta Committee on Paperless Entries, relying on an earlier research study, estimated that a Bill Check payment will cost the banking system 25 percent less than a similar check transaction, and a paperless payroll deposit will save the banks over 60 percent of a check's cost. A 1960 study sponsored by the Bank Administration Institute (BAI) concluded that an electronic interbank system would reduce bank operating costs attributable to demand deposits by $500,000 a day. The BAI plan mechanizes only the communications aspect of payments; in other words, much of the inbank processing of payment information would still be done by hand. See Robert H. Long and Linda M. Fenner, *An Electronic Network for Interbank Payment Communications: A Design Study* (1969).

[2]The various Federal Reserve officials have stressed the need for restructuring the financial system to reflect the changes in circumstances wrought by technological developments. See Neil B. Murphy and Steven J. Weiss, "Restructuring Federal Regulation of Financial Institutions," *The Bankers Magazine*, Vol. 155, Winter 1972, 71-77; Statement by George W. Mitchell, before the Subcommittee on Financial Institutions of the Committee on Banking, Housing and Urban Affairs, United States Senate, March 21, 1973.

efficiency among competing organizations. The law should protect the organizations only where *necessary* to serve the consumer, not as an end in itself. And it should never be used simply to protect the inefficient, the incompetent, or the foolhardy from the bitter fruit of their own mistakes or inertia.

The Role of Competition

Competition forces engineers to design better systems. It forces businessmen to develop better services using new technology. It gives the consumer a voice in saying how he will be served, but without the penalty of regulatory lag. At the "wholesale" level, one electronic clearing system can compete against another, as the two bank credit card systems do, by cutting costs and improving equipment. At the retail level, different institutions can offer different services — credit cards *vs.* debit cards *vs.* check guarantee cards *vs.* cash-withdrawal cards *vs.* cards that do things we have not even thought of yet. In some instances, a distinctive product offered to the public will depend on the central clearance operation. In that event, the competitive pressures of the marketplace will reinforce the pressures of costs to make the central clearing systems more efficient.

Although we tend to think of competition in terms of present products and services, we must not lose sight of the longer view — that is, competition to meet demands which customers have not completely formulated. The free market effectively rewards those who take risks and succeed in new fields. Judge Wyzanski put the case elegantly in *the United States* v. *United Shoe Machinery:*

> . . . creativity in business as in other areas, is best nourished by multiple centers of activity, each following its unique pattern and developing its esprit de corps to respond to the challenge of competition. The dominance of any one enterprise inevitably unduly accentuates that enterprise's experience and views as to what is possible, practical, and desirable with respect to technological development, research, relations with producers, employees, and customers. And the preservation of any unregulated monopoly is hostile to the industrial and political ideals of an open society founded on the faith that tomorrow will produce a better than the best.[3]

Of course, there are cases where an enterprise enjoys such pervasive economies of scale that natural monopoly results. But this is in fact limited to a relatively few situations — including most notably local distribution of gas, electricity and telephone service.

[3] *United States* v. *United Shoe Machinery Corp.*, 110 F. Supp. 295,34 (D. Mass. 1953), *aff'd* 347 U.S. 521 (1954).

We should be careful not to *assume* natural monopoly in advance, particularly in an area of rapidly evolving technology. Relatively few types of genuine natural monopoly exist, and most of these involve local utility distribution. Regulators can do great damage if they assume that a newly evolving industry must inevitably turn out to be a monopoly, and then build a legal framework based on that assumption. All too often, rapidly developing technology has exploded that hypothesis when it seemed unshakeable. Thus, for example, the Communications Satellite Act of 1962[4] was based on the assumption that satellite communications would require a large system of revolving satellites, and many complicated earth stations to pick up each revolving satellite as it passed overhead. People said that it would be too expensive to duplicate such a system — it had to be a monopoly. But within a year, the so-called synchronous satellite was developed, which stayed in a single place in relation to the earth; this meant that a single satellite (with perhaps a spare in orbit) and much simpler ground stations could provide service on a single route. The "natural monopoly" element was thus eliminated by innovative engineering. The Canadians soon put up a synchronous satellite system; the United States, however, was left with all the legal complications of a statute which assumed a natural monopoly. This legal complexity was a factor which helped to delay domestic satellite development in the United States for many years.[5]

Trying to avoid laws that lock in a monopoly outlook is no mere theoretical problem. Businessmen are, in the the main, fairly cautious with their money. When they are faced with a new and untried system that requires a large capital outlay, they are very much given, as was Congress at the time of the 1962 Satellite Act, to assume that anything so large and new and difficult should be handled jointly by all competitors. In effect, they try to turn it into a monopoly in order to minimize their own competitive risks. If the new system works, they are guaranteed a piece of the reward; if it fails, they are not hurt very badly; but, above all, no one else will be able to take away their share of the business. A joint venture is a form of insurance against risk.

Minimizing competitive risk may be good for the competitors, but it is often bad for the public. Risk-taking — and the rewards that can flow from the taking of risk — lies at the heart of capitalism and the competitive process, and is altogether appropriate in the financial system. We have many regulatory tools to ensure that individual institutions do not take too many or too great risks. In view of these safeguards, public policy should encourage intelligent risk-taking in the financial sector: the alternative is less innovative products, delivery systems and merchandising methods.

[4]47 U.S.C. §§ 701 *et seq.* (1964).

[5]See *Domestic Satellite Services,* 35 F.C.C. 2d 844 (1972), which illustrates some of the issues.

A Conceptual Problem

There are two overlapping areas of EFTS development which raise clear competitive issues. One concerns automated clearing between financial institutions, both on a local and a national basis. The other concerns competitive development and offering to the public of new products based on electronic technology. I shall discuss each separately.

Running through both areas is a fundamental conceptual problem. It exists because of confusion as to what a "system" is or may be in the EFT context. In fact, there are two quite distinct types of "system" functions involved. Each can be regarded as a separate "system." One is what I shall call the "transportation" system — the means employed for hauling information between two different geographic points. This may involve physical transportation of checks or other instruments, or it may involve electronic transmission of computer bits or other data.

The second type of system is what one might call the "institutional" system — namely, a collection of rules, agreements, or operating procedures by which system members determine how they will handle the information sent across the "transportation" system. Many examples exist within the financial sector, with or without government involvement. An agreement among banks to accept each other's checks at par is a good example. Another would be the agreements between the Master Charge or BankAmericard banks as to how they will accept sales drafts drawn on cards issued by other members of the system. The "institutional" system may include computers and other devices for processing or switching data in accordance with the established procedures.

It is important to keep the "transportation" system and the "institutional" system separate for purposes of economic analysis. The "transportation" system is much more likely to involve natural monopoly characteristics than the "institutional" system.[6] However, an effective "transportation" system is often already provided by third parties — including most notably the telephone companies and the Post Office for electronic and paper communications respectively. This means that any scale economies in the "transportation" system may be achieved by traffic largely provided by non-financial users.

Conceptual confusion creeps into this area because the Fed-run "check clearing system" combines a "transportation" system and the "institutional" system into one. This occurred because the Post Office's physical "transportation" system turned out to be too slow for checks —

[6]This varies greatly depending on the transportation mode. Local telephone lines and nationwide switched telephone service are probably natural monopolies; long-haul data communications may or may not be a natural monopoly depending on scale economies in the current transmission system; and courier services and trucking services are clearly not natural monopolies.

where "float" is money — therefore the Federal Reserve has had to develop some of its own physical "transportation" system for checks. Clearly, this need not be the general rule as we move into the electronic age: a nationwide network of leased lines and dial up circuits is available from the telephone companies; and intercity leased line services are available from other carriers for EFT systems in some areas. This means that the "transportation" system in an electronic world is free to develop in a very different manner from the paper-based mode.

That the "transportation" and "institutional" elements need not be provided by the same party even in the paper-based mode is clear from looking at the bank credit card interchange arrangements for sales drafts. The "transportation" system is generally provided by the Post Office or common carriers; and the "institutional" system is provided jointly by BankAmericard and Interbank member banks for their respective systems. Similarly, the new electronic authorization systems for bank cards reveal the same type of division, and the "institutional" system consists heavily of computerized storage and switching at the end of those lines.

In some cases it may be desirable to combine the "transportation" and the "institutional" functions into a single organization. My point is simply that it need not be done in most instances — and that the monopoly characteristics of the "transportation" system need not dictate monopolies for the "institutional" system. Thus, several "institutional" systems may compete to turn out new products for the public (as with bank credit cards) or to carry out similar clearing functions, even though the "transportation" system is ultimately provided by the same carrier in both instances. This competition may be very important in a variety of different ways. At the retail level, it may result in differently tailored and priced products (e.g., cards, discounts, and terminals) and at the wholesale or clearing level it may cover prices and process modes. Moreover, at either level, "institutional" system competition may result in competitive efforts to seek out lower cost types of "transportation" systems — either by switching to other carriers or to other modes.

Competition and Clearing

Analysis must begin with the traditional clearing methods. As we all know, banks have historically cleared funds by sending pieces of paper from one institution to another. Such a piece of paper cannot conveniently be cut into pieces and sent to many institutions simultaneously; consequently the item has to be processed sequentially through the clearing system, with each institution handling the entire block of information and then transporting it on to the next institution. This process is slow and, because a single institution rarely needs to consider all the information transmitted, it is inherently inefficient.

The Federal Reserve System was created in part to help move and process the paper. It provides transportation for clearing at the national level; and it imposes a complicated but uniform set of rules for accepting

and transmitting funds. The Federal Reserve System is not always the most efficient way to clear paper; and banks have created a number of other outside clearing arrangements to meet particular needs. These include local clearing houses to serve local markets, direct clearing by correspondents, and direct sends to a particular bank by messenger or mail. Similar methods are used in the credit card field, where banks do not have the Fed; banks rely on the postal system and local clearing associations (in the case of Interbank) to effect the transfers of credit slips. Although the entire paper clearing structure, including the Federal Reserve System and the many by-pass channels, can be thought of as a single "system", it is not a monopoly. The various channels "compete" with one another for the bankers' business (although meaningful "competition" is reduced by the Fed's implicit system of pricing its clearing services[7]). The degree to which any given channel can attract traffic depends on its cost effectiveness. If the Federal Reserve were the only efficient clearing channel, then all traffic would flow through it, no matter how far apart the clearing banks stood.

Electronic clearing will also require national and local facilities. These facilities, however, need not involve sequential processing of irreducible items: instead, sending banks can transmit appropriate information to the various participants in the clearing process simultaneously over an electronic communications network. The number of intermediaries should thereby be reduced just as for direct sends by mail. Accordingly, the electronic clearing network may develop along quite different lines from the present paper-based network. No one can precisely predict what its structure and cost factors will be, just as no one could predict what the cost factors of satellite communications were in 1962. There is no reason to believe that the Federal Government will have to play so dominant a part in electronic clearing as it does in paper clearing. Furthermore, nothing suggests that competitive clearing systems are a logical absurdity — indeed, even the experience of paper clearing suggests that competing clearing channels can exist and many more would if government clearing services were priced on the basis of use.[8]

[7]The Department has already commented on this method of pricing, and pointed out its effects, in "Comments of the United States Department of Justice," *Proposed Amendment of Regulation J and Related Issues,* filed May 14, 1974. The Federal Reserve Bank of Boston filed similar comments on the long-range impact of this pricing system. Letter dated April 19, 1974 from Frank E. Morris to the Board of Governors regarding proposed amendment of Regulation J.

[8]Apparently, the Federal Reseve System does not see itself in a monopoly situation either. The Fed hoped initially to install and manage a nationwide communications network through which interregional settlements between financial institutions could be made. However, the Fed has recognized that a number of other networks might exist. In part, these would be local and regional funds transfer networks in which Federal Reserve involvement might be minimal. The Federal Reserve expected to monitor these regional and local networks to assure that a satisfactory degree of security was being maintained and that the capability for interfacing with the national network was obtained. See *Federal Reserve Bulletin,* December 1972, p. 1010.

Even at this early state of EFT development, however, some people argue that electronic clearing is a natural monopoly. They contend that for the Federal Reserve to leave these matters to private industry is to sentence us to private monopoly, and they point to the telephone company and the Post Office as economic models. I think it is still far too early to make such a claim[9], however, and as I have indicated, I believe it confuses the "transportation" and "institutional" elements. This being so, I am not willing to accept the "transportation" parallels without a great deal of further evidence. Moreover, even the "transportation" evidence is less than conclusive. The Post Office is busy trying to protect its legislative monopoly from the United Parcel Service and other private groups; the American Telephone and Telegraph Company has attracted a host of competitors, including microwave specialized carriers, satellite carriers, and a whole clutch of packet-switching companies. As I mentioned before, the Federal Reserve itself "competes" in a sense against private arrangements and even against the Post Office on the "transportation" function.

Furthermore, even if electronic clearing ultimately *proves* to be a natural monopoly either at the local or national level (notwithstanding the evidence against it), then it would still be a bad idea to *assume* the fact in advance. As competing clearing systems develop, and come to depend more and more on electronic equipment, their differences in hardware, programming and management will differentiate them more and more sharply, and competition between them will intensify. If one system inevitably must drive out the other, then the public is better served by a clearing system that has survived the strenuous test of an elimination bout than by a system that had never been forced to justify its techniques.

[9]Costing of even the *traditional* financial services has produced divergent results over a period of time. For example, George Benston has found highly "significant" economies of scale for most aspects of savings and loan association operations. Benston, "Costs of Operations and Economies of Scale in Savings and Loan Associations," in the Irwin Friend *Study of the Savings and Loan Industry,* Vol. II, Federal Home Loan Bank Board, Washington, D. C., July 1969, 677-762. On the other hand, Gilbert and Longbrake found that there was no concrete evidence that small banking institutions are at a competitive disadvantage relative to larger branch (banking) institutions with respect to operating costs. Gilbert and Longbrake, *The Effects of Branching by Financial Institutions on Competition, Productive Efficiency, and Stability: An Examination of the Evidence,* Federal Deposit Insurance Corporation, Working Paper No. 72-21, Washington, D. C., 1972. Bell and Murphy found significant economies for some banking functions, and not for others, especially in diffuse multi-office organizations. See Bell and Murphy, *Costs in Commercial Banking: A Quantitative Analysis of Bank Behavior and Its Relation to Bank Regulation,* Research Report No. 41 of the Federal Reserve Bank of Boston, 1968. Studies using aggregate measures of output have apparently not been controlled adequately for differences in product mix, while studies analyzing individual types of services separately have not been able to combine the results of the separate analyses adequately. These empirical problems of product mix are likely to carry over into analysis of EFT cost functions.

In fact, however, a number of factors strongly suggest that we will never have to face the prospect of a broad private monopoly operating at the Federal level. In the first place, there are already two private clearing organizations competing nationally in the credit-card field — Interbank and National BankAmericard, Inc. — and a chance that Citicorp will enter this field as a third force. There are also a number of other private credit systems, such as the American Express Company, which could provide the nucleus for even more national clearing systems.

It is the two bank-card systems that offer the most likely chance for competing clearing systems, however, and both systems have recently begun converting their operations toward on-line direct funds transfer capability. Interbank has reportedly authorized nearly half a million dollars to develop an EFTS nationally. Its EFTS could allow card holders to get cash, make purchases, guarantee checks and transfer funds from one account to another. Interbank is anxious to preserve the identity of the system, and is developing a national EFT mark for its new evolving services card. Interbank intends to develop the standards and the national system: local banks would install and care for the terminals, and set their own price structure. Interbank contemplates allowing card holders to gain access to cash dispensing machines.[10]

National BankAmericard, Inc. (NBI) has also taken steps toward developing a national EFTS. Last March it announced it had committed $250,000 to develop specifications for a prototype retail POS system. The system would provide credit authorization for retail BankAmericard purchases. The system would credit the merchant's account while simultaneously debiting the card holder's account. Ultimately, it would be able to give direct access to consumers' checking and savings accounts.[11] Last June, NBI introduced its hotline complaint service for its own BankAmericard customers.[12]

In the second place, the vast bulk of interbank transfers occurs within a single Federal Reserve district. Each one need not be served by the same private system. In each area a private system could perform interbank transfers and, by means of its own line to the local Reserve Bank, notify the Federal Reserve System of credit-shifts for purposes of settlement. A particular private local system could face potential competitive pressures from entry by geographic expansion of clearing systems in other areas, product expansion by other types of clearing systems (e.g., credit card clearing systems) and from entirely new entrants into the local clearing market. The new entrants might come from several industries: a pair of

[10] *American Banker,* August 23, 1974, p. 1, col. 4.

[11] *American Banker,* March 14, 1974, p. 1, col. 4.

[12] *American Banker,* June 18, 1974, p. 1, col. 1.

banks that clear a great deal of volume between themselves might establish a direct line; existing data processing companies that offer other financial services might expand their capability to offer electronic clearing; new companies with advanced technology might directly challenge the existing clearing systems. Any of these potential competitors could penetrate the market gradually by offering cheaper or more efficient transfers to financial institutions.

Third, electronic clearing does not have to be confined to the financial industry: indeed, when one thinks of electronic data communications as a relevant line of commerce, financial information shrinks to a small portion of the whole. A private data communications company might offer a number of services to the business community, including the financial community, only one of which is specifically geared to transferring funds. A company that offers many services may be able to achieve economies of scale so great that the cost of the clearing function, taken by itself, would fall far below the cost of a network dedicated exclusively to clearing funds.

As electronic clearing arrangements evolve, one of the most important practical questions may concern the development of appropriate standards to permit reasonable and safe interchange between different systems. This is analogous to the standardized railway gauge which permits railroads both to compete and to exchange traffic; and to the standardized voltages and parallel operations used to permit high voltage interconnections between different electric power systems. The standards-making process becomes very difficult where new and evolving technology is involved and standards necessarily limit that technology. In such circumstances, the adoption of an obsolete (or obsolescent) standard can impose significant penalties on innovation, and raise costs to the public. This is well illustrated by the current controversy in banking over the magnetic stripe for credit cards. This has been adopted as the industry standard by the American Bankers Association, but at least one leading member of the industry has strongly resisted it on what appear to be purely technical grounds.[13] Clearly, the goal of competitive policy is to permit the greatest flexibility consistent with efficient interchange. Antitrust cases have occasionally arisen where it was alleged that standards-making (or technical certification) was used to foreclose competitors from a market and was not justified on technical grounds.[14]

[13]"Citibank Mails Out Bank Cards Coded Through New Process," *Wall Street Journal,* October 25, 1973, p. 23, col. 2.

[14]See, *e.g., Radiant Burners, Inc.* v. *Peoples Gas Light & Coke Co.,* 364 U.S. 656 (1960); *Structural Laminates, Inc.* v. *Douglas Fir Plywood Ass'n.,* 261 F. Supp. 154 (D. Ore. 1966), *aff'd,* 399 F.2d 155 (9th Cir. 1968), *cert. den.,* 393 U.S. 1024 (1969); and *United States* v. *American Society of Mechanical Engineers, Inc.,* No. 70 civ. 3141 (S.D.N.Y., filed July 22, 1970).

The Federal Reserve System may turn out to have an important responsibility and role in the standards-making area. It is, as a public body, more likely to be able to take an objective view of competing considerations; and it should have the technical capability to make reasonable judgments. The interchange standards problem is immensely difficult. How successfully it is resolved may have a lot to do with how competitive, efficient and flexible our various clearing arrangements turn out to be over the long run.

Accordingly, the government must approach the problem cautiously and with great flexibility. We must encourage initiative in the private sector. We must foster the growth of the clearing systems now in place, and attract the interest of outsiders to develop newer, better clearing systems. We must set forth the government's policy in clear terms: when businessmen are not sure what rule and public policies the government may adopt, they may be reluctant to risk their capital, and both the banking community and the public would suffer. The government must also, however, see to it that the payments process does not degenerate into chaos. The Department has urged the Federal Reserve Board to announce a policy of being a clearer only in the last resort, and to price the clearing services that it offers in a fashion that explicitly reflects the costs of doing so.

The advent of electronic clearing arrangements also raises some important questions on the competitive relationship between thrift institutions and commercial banks. Where several competitors offer clearing services, they are likely to have strong economic incentives to extend their service to thrift institutions, even if those who provide the clearing services are controlled by banks. Alternatively, some thrift institutions may prefer to develop their own clearing arrangements, and sell the service to other thrifts or to commercial banks. Thus, in a competitive environment, thrift institutions are likely to pose no particular problem for clearing arrangements.

However, where clearing is controlled by a monopoly — especially one dominated by commercial banks — access may become a major problem. Banks may well have an interest in excluding thrift institutions from direct participation in the clearing process, because the exclusion can give the banks an edge in competing for consumers' deposits. So far, this issue has only been considered in the context of local automated clearing houses, but it also applies to a national electronic clearing monopoly. One purpose of the antitrust laws in this sort of situation is to dissipate whatever monopoly power a joint venture may confer on any group of competitors, and to limit the monopoly to the area where it is justified by the forces of economics. But from the standpoint of overall antitrust policy, a monopolistic joint venture, even one to which all competitors have access, is a second-best solution, because it kills the competitive incentive to develop new ideas, processes and systems.

Courts have set out a number of principles to deal with joint-venture monopolies. These principles are generally designed to make sure that no group of competitors can use its power over the monopoly to injure other competitors, or to protect those presently operating in the field against outside competition. The first principle is that a monopolistic group should not be able to force its members to use its system exclusively and thereby foreclose development of outside competitors.[15] A corollary to this theorem is that the monopolist should also be prevented from filing its charges in such a way that they tend to compel exclusive use.[16] In the present context, this means that commercial-bank-dominated clearing arrangements could not be used to prevent members from using clearing provided by other systems, including a system operated by thrift institutions.

The second principle concerns access to a joint monopoly facility itself. The basic rule is that those who jointly control an essential facility, and who reap a competitive advantage from it, must grant access to it on reasonable and nondiscriminatory terms to all in the trade. This rule grew up in connection with local transportation facilities[17] and local produce markets.[18] More recently, it has been extended to national institutions that engage in clearing various types of information, such as the Associated Press[19] (whose members exchange news stories) and the New York Stock Exchange.[20] It has been recently applied as well to require access to a regional electric power transmission system.[21]

The rationale for the so-called "bottleneck" rule is easy to find. A group of firms, or even a single firm, that controls an essential facility can use it as a means to shut off or seriously inhibit competition from those who require the use of it. In the electric power case, the finding was that the power company had used its control of wholesale transmission as a means of foreclosing new competition in local retail power supply. In *Associated Press* v. *the United States,* the restrictive membership rules

[15] *Cf., Lorain Journal Co.* v. *United States,* 342 U.S. 143 (1951).

[16] See, *e.g., Advance Business Systems & Supply Co.* v. *SCM Corp.,* 415 F. 2d 55 (4th Cir. 1969), *cert. den.* 397 U.S. 920 (1970).

[17] See, *e.g., United States* v. *Terminal RR Ass'n,* 224 U.S. 383 (1912).

[18] *See, e.g., United States* v. *New England Fish Exchange,* 258 Fed. 732 (D. Mass. 1919); and also *Gameo, Inc.* v. *Providence Fruit & Produce Bldg.,* 194 F.2d 484 (1st Cir. 1952), *cert. den.,* 344 U.S. 817.

[19] *Associated Press* v. *United States,* 325 U.S. 1 (1945).

[20] *Silver* v. *New York Stock Exchange,* 373 U.S. 341 (1963).

[21] *Otter Tail Power Co.* v. *United States,* 331 F. Supp. 54 (D. Minn. 1971), *aff'd,* 410 U.S. 366 (1973).

were designed to favor each local AP member over any other newspapers in their same local areas. Monopoly power over an essential facility applied in this fashion is extended into the derivative or underlying industry, with resulting loss to efficiency, to technical innovation, and to the development and marketing of new alternative services in that industry. In the end, the consumer is the one who suffers.

The question of compulsory access to any joint EFT clearing system will turn on specific facts — and the terms of any access will have to be tailored to those facts. As a rule, compulsory access would not be required unless the particular facility is found to be "essential" in the sense that exclusion would impose a significnt handicap. As noted above, the access question is usually raised with reference to thrift institutions or non-member commercial banks. Thrift institutions already are "fierce competitors" with commercial banks for certain types of deposits and services[22] and competition between them may increase in the future if current legal restrictions are relaxed. If *direct* access to an EFT system (including a system operated by the Federal Reserve System) provides a significant competitive advantage to a depository institution, then it should be granted to all competitors, as opposed to indirect access through a correspondent member bank.

Competition in Service Development and Delivery

Electronic technology and the consumer services will be closely related in the retail banking sector. Here competition is likely to be most intense, because the rewards that the public can offer, as well as the penalties that it can inflict, are greatest and most immediately evident. Here it is that differences in systems will become most obvious: the differences in systems design control the costs or form of different products that can be offered at the end of those systems. Accordingly, the electronic retail banking competitor will have to work long and hard to make his system better than the other systems, or face the risk of losing the consumer's business.

[22] *United States* v. *Connecticut National Bank,* U.S. (1974). *See also Fort Worth National Corp.* v. *FSLIC,* 469 F.2d 47 (5th Cir. 1972); *United States* v. *Phillipsburg National Bank,* 399 U.S. 350, 359-60 (1970). *See also,* Remarks of Robert E. Knight, *Changes in the Payments Mechanism: What It Will Mean to You?,* Bank Management Conference, Sponsored by Commerce Bank of Kansas City, April 18, 1974. As an example of this, the First Federal Savings and Loan of Nebraska installed remote terminals in two Hinky Dinky Supermarkets, a program first discontinued pending the outcome of two suits of litigation and then re-instituted. *American Banker,* Sept. 13, 1974, p. 1, col. 1. Thrift institutions in other sections of the country have already indicated a desire to institute similar plans. Minnesota's largest savings and loan association (the Twin City Federal Savings and Loan) announced in mid-September 1974 its intention to install a remote, off-premise teller machine in the Minneapolis-St. Paul International Airport. *American Banker,* September 23, 1974, p. 1, col. 1.

Competition at the systems level is healthy. It will produce a far greater variety in services than would otherwise be the case, and the consumer will be able to select those systems that best serve his needs. Some consumers and merchants may find that their customers prefer to use only credit-authorization or check-guarantee systems, because the relatively primitive system required to supply that service is also relatively cheap. Others may prefer to use a full-blown debit-transfer system that also provides credit authorization, inventory control, accounts receivable organization, and other services — indeed, the merchants may have their own computer systems that only incidentally communicate with bank systems. But in every case, the nature of the electronic infrastructure dictates the service that the consumer can use, and the cost at which it is provided. Only in a competitive environment can the various services find their proper economic level of use. A single monopoly system that provides all services necessarily inflicts excessive costs on those who use only the most primitive services, and who, but for the monopoly, would never pay for the cost of a large-scale computer system. Conversely, a monopoly may well limit the types of services available to those which only a large number of people want, and be incapable of providing more specialized services that cater to the needs of the few.

The most important form of competition in retail banking systems — and one of the most rapidly developing areas in EFT[23] is likely to be in point-of-sale card-activated systems. The national bank credit-card organizations are already preparing to offer electronic services within a year. They will no doubt be joined by the broadly based travel-and-entertainment cards. New card systems, such as the Citicard, are beginning to invade the national market.

In this area, the crucial competitive questions so far have concerned proposals by banks to run local electronic systems on a "public utility" basis, with all banks having access. As in the case of automated clearing houses, some people have raised the issue of access for thrift institutions. These proposals have not received great encouragement from the government — and rightly so. The Department has expressed its concern on antitrust grounds, and the Federal Reserve Board has declined to commit itself to funding a local point-of-sale utility in Atlanta.[24]

The Department's objections run to the very heart of the argument in favor of a local utility. There seems to be no evidence to support the notion that point-of-sale systems should be organized as monopolies — indeed, the case for "natural monopoly" here seems to proceed more from

[23] *Accord American Banker,* Sept. 23, 1974, p. 4, col. 1 (Editorial).

[24] See *American Banker,* Sept. 12, 1974, p. 1, col. 1.

the natural caution of bankers than it does from a close examination of economic structure. What evidence there is suggests that a series of competitive point-of-sale systems can survive so long as they can use the telephone network and can each accumulate an adequate customer base in the long run.[25]

There are certainly a number of systems now, each with its own customer base, and they are expanding and upgrading their services continuously, and others are emerging. For example, both the National BankAmericard, and the Interbank networks are developing independent electronic clearing facilities for their own members. In New York City, the First National City Bank has already begun deploying its own terminals in some stores and in its branches for check-verification and credit authorization. Its parent Citicorp also recently proposed to institute an electronic check-guarantee program that would guarantee the credit of a customer holding a Citicard, no matter what bank he kept his checking account in; and, while this was rejected by the Board,[26] other independent firms are proposing such systems. Meanwhile, in New York, a group of large banks are apparently on the verge of deploying a competing terminal system, using a technology that differs substantially from First National City's.[27] In addition, the American Express Company announced last year an automatic bill-paying service whereby cardholders would authorize American Express to debit their accounts automatically.[28]

In this new field of POS technology, it is especially important to see that as many competing systems as possible be given a chance for survival.[29] Accordingly, we will try to make sure that the joint ventures formed to offer local POS retail banking services are no larger than reasonably necessary. How large the ventures should be depends in large measure on how big the customer base needs to be to support a system over the long run. It seems reasonably likely, however, that a city the size of New York could support more than two competing systems.

The simple fact that all (or most of) the leading banks in a community have invested their own capital in a single system may retard product and technical innovation. Left to themselves, these banks are unlikely to switch to another system, even if it is somewhat better, because they have already invested both money and management pride in the first system.

[25]There are of course still stumbling blocks. See "Point-of-sale Systems: 'Still Testing,'" *Banking* (January 1974), 21-23, and 88-89, for discussion of the widely divergent POS pilot endeavors, and their economic feasibility, given the customer base.

[26]See *American Banker,* Aug. 28, 1974, p. 1, col. 1.

[27]*Business Week,* June 22, 1974, p. 102.

[28]*American Banker,* Nov. 16, 1973, p. 1, col. 1.

[29]This view is widely held. See Part Two, "Electronic Funds Transfer Systems: One, Two, or More? Bank-run or Fed-run?" *Banking,* May 1974, 29, 88 and 90.

One of the main problems with a single system, whether bank-run or run by anyone else, is that the central switch puts technical limits on what can be offered at the end of the line. Alternatively, the switch might not put any particular limits on what goes through it, but be excessively expensive and thereby impose high cost floors on any services using it.

The competitive problem is worse where the bank group that developed the system tries *collectively* to offer the terminals to the merchants; the merchants, and the public, would have to accept the entire system as a single package, on a take-it-or-leave-it basis. However, we understand that banks have generally backed away from this, and that even the local monopoly systems contemplate competition between members in offering terminals to merchants.

From the standpoint of competitive policy, we should differentiate clearly between (1) a system where the terminal was connected directly to the central switch, and (2) a system where the bank offering the service stood between the terminal and the central switch as a sort of interface device, or concentrator. In this latter case, the bank can offer a whole range of services over its terminal to its customer. Many such services would not require interbank transfers, however, and consequently the services (and the necessary equipment) could be tailored by the offering bank on a fully competitive basis, without any external constraints. With regard to those services that did require interbank communication, what would be required of the terminal is that it be able to speak the "least common denominator" language of the central switch. This may still impose extra costs or technical limitations, but it would be a lot better than a joint monopoly purveying only a homogeneous product. But of course, it is still only a second-best configuration.

It is still too early to tell just how point-of-sale systems will develop, and how they will interact with automated clearinghouses. To the extent that the offering of immediate electronic transfers of funds from one person's account to another's becomes a business in itself, and requires access to a central processing center such as an automated clearinghouse, then the antitrust access principles already discussed may require access to participants other than depository institutions in which the accounts are housed.

One should say something about smaller banks — who frequently argue for the "public utility" approach to POS development. Of course, the vast majority of banks in this country are quite small in absolute terms. Most would not be in a position to develop and run their own POS system alone, and a considerable number might not be able to run their own money machines alone. Yet this does not suggest that we should abandon competition in these areas in favor of an industry-wide monopoly claiming to protect small banks.

Efficient smaller banks should have a variety of competitive options open to them in this area. One will be to stress better live, human service for customers who hate haggling with a computer. Another will be to

form joint ventures to offer point-of-sale and money machine services. Some independent banks have been doing some of this for general data processing, and could expand their efforts. The third will be to buy access into one of the competing systems in their area (much as they buy correspondent services now).

As long as there are competing point-of-sale systems, each will have incentives to increase its coverage. This is what has happened in the credit card field, where card issuing banks have worked with and through smaller local banks in offering credit card services to local customers and merchants. The smaller banks have not themselves issued cards, but they have been an active and important element in the competitive credit card system which has developed.

Remote tellers present many of the same competitive issues as POS systems. Remote teller units right now constitute the most rapidly growing area of electronic banking. Remote tellers cost roughly $35,000 to $50,000 to install,[30] and they are becoming increasingly popular as the pressures of competition spread them throughout the financial industry. As I see it, a remote teller is a logical — and often more efficient — extension of the individual bank's traditional network of offices and facilities. To allow them to be put up on a broad, joint basis by existing competitors in a market may eliminate an important part of an individual institution's service competition. They may be a particularly important tool where they are offered in a new location not already served, or served conveniently, by the bank putting them out. As such, they offer local customers not only longer hours, but a new choice. It is for this reason the Department of Justice has favored reasonable geographic diversity in the rules for these tellers — and specifically has supported a Home Loan Bank Board proposal to allow them to go some 50 miles, and even across state lines.[31] The Comptroller of the Currency, is, I understand, contemplating a similar approach for national banks.[32] We have, in general, urged that these new types of facilities not be treated as "branches" and subjected to restrictive state branch banking laws, but, instead, that they be allowed liberalized entry.

Several independent groups have been formed to offer remote teller systems to banks. For example, the Ohio Valley Data Control Co. has already begun offering its "Mr. Cash" service to banks in Ohio and West

[30]Some have suggested, however, that hidden costs may substantially raise the total costs of remote teller units. See B. Chamberlain, "Automated Tellers — To Not Install," in a panel discussion before the Banking Administration Institute Conference on Cash Dispensers and Automated Tellers Equipment, August 8-9, 1973, Chicago, Illinois.

[31]See "Comments of the United States Department of Justice," *Proposed Amendments Relating to Electronic Funds Transfer Through Remote Service Units,* filed June 24, 1974.

[32]*American Banker,* Sept. 17, 1974, p. 1, col. 2.

Virginia. Other groups in St. Louis and in Oregon have been contemplating the same sort of thing. In Bellevue, Washington, a group of thrift institutions have combined to set up a single free-standing teller as a pilot project. Here in New England, mutual savings banks have been developing a system called MINTS, whereby customers of participating savings banks up and down the East Coast could withdraw money from their savings accounts at remote teller units installed in shopping centers. The list goes on and on.

When competing banks pool their resources to set up a single remote teller unit or system of units, they raise a variety of fairly standard antitrust issues. The chief issue is whether the shared facilities tend to reduce competition among the participating banks generally or in developing services based on remote-teller systems. Competitive problems are more serious if two major competing banks share remote teller facilities than if two tiny banks do so. This is essentially the same sort of question that is raised by shared point-of-sale banking systems. Joint ventures are not illegal *per se*: it is only when they threaten the competitive vigor of an industry that they transgress the antitrust laws.

Conclusion

The electronic financial world is complex and changing. Technology promises to change the ways in which financial institutions deal with their customers and deal with each other. It promises to break down the barriers between banks and thrift institutions, and it promises us greater diversity in the ways that financial services are defined and offered. I have great confidence in the capability of the marketplace, spurred by customer demand, to produce new or better services. I have somewhat less confidence in the ability of government to let the process evolve on the basis of entrepreneurial skill, foresight and industry — especially when certain types of institutions may claim that they are being hurt by the electronic revolution. But we should foreswear regulatory protectionism, and modify old institutional arrangements to reduce the risks that regulatory arrangements will be used to suppress progress.

EFTS or EVE

Dee W. Hock

Introductory Comments

It has been most interesting to listen to the initial part of this conference, particularly references to the continuing viability of the check clearing system, and views as to the social cost, economic justification and impact on the public interest of electronic alternatives.

It has made me most grateful to have a job whereby I can meet with the rest of the gods here on Mount Olympus to discuss how we shall hurl electronic thunderbolts on the populace below and thereby insure their worship of our wisdom. It would be well to keep in mind, however, that they may have little faith in what we say, nor should they, for pronouncements about how others should live their economic lives is presumptuous, if not dangerous.

While much has been said and written here with which to agree, there is an essential point on which my views depart strongly from some. The proponents of several views seem to make an assumption that such matters as the public interest and social cost can best be judged by whatever entity they deem suited to the task ahead. The real question is, who is best suited to judge such matters? Congress? The executive branch of Government? The Federal Reserve? Commercial banks? Savings banks? Bank card organizations? The Consumers Union? The Justice Department? Or is it the public? And if the public, how can it have any opportunity to exercise its judgment except by the only effective method which has ever been found; that is, by choosing freely among a variety of competing services with complete information about the costs, practices, and benefits of each. My strong conviction is that the public should choose and my great fear is that they may never have the opportunity. If solutions are forced upon them it matters little which organization does so, for ultimate abuse of such power will be inevitable.

Dee Hock is the President of National BankAmericard.

The Substance of Banking

Discussed with much vigor and even more profundity under the great gray canopy of "Electronic Funds Transfer" have been magnetic encoding, embossing, plastic cards, paper cards, money, computers (minis and maxis), telephones, radio waves, satellites, modems, nodes, software, COBOL, mainframes, core storage, BPI's, currency, cash, consumers, checks, drafts, terminals (intelligent, on-line, off-line, attended, unattended), automated payroll, imprinters, thumbprints, voiceprints, merchants, inventory, retailers, wholesalers, banks, branches, savings associations, credit unions, Federal Reserve, SCOPE, COPE, NBI, Interbank, Justice, cash, credits, debits, preauthorized payment, deposits, withdrawals, balances, bills, billchecks, Culpepper, bank wire, Western Union, lasers, and so on ad infinitum. And if you try to make sense of the list, great power to you, for it is endless and I shall not attempt to do so.

Many of the misunderstandings in this world arise because the words in the mind of the speaker are conditioned by one set of experiences and thoughts, and in the mind of the listener by another. It is unfortunate that an agreed-upon vocabulary for EFTS does not exist. Therefore, the possibility of real communication is small, and while much may be known, little is understood and less agreed upon.

At the risk of being accused of imprecise response to the subject matter, I would like to avoid detail, share some concerns, and probe a few assumptions which seem prevalent.

Of considerable concern is the basic context in which electronic funds transfer is usually discussed. That it is strongly tied to the traditional structure of bank clearings, to reliance upon Federal Reserve assistance in automated clearing houses, and to the present function of checks, is considerable evidence that banking may be in danger of a course of conduct which has caused many industries to become anachronisms in the marketplace, that is, to forget the essence of their business and thus confuse form with substance and cause with effect. It is particularly dangerous for service industries.

In my view, the substance of banking is not lending, accumulation of deposits, safeguarding of valuables, establishment of branches, administration of trusts, or moving of checks through clearing houses or the Federal Reserve. They are the form, not the function, of banking.

A combination of three brief definitions from Webster states the matter well:

Bank: An establishment for the custody, loan, exchange or issue of *money.*

Money: Anything customarily used as a measure of *value* and a medium of exchange.

Value: The amount of a commodity, service or medium of exchange that is the equivalent of something else.

Substituting the meaning of money and value in the definition of bank, the substance of banking can be stated as:

The custody, loan, exchange or issue of anything customarily used as the measure of equivalent value.

If we really believe that the "anything customarily used as a measure" will be electronic data, the question ought to be, "Is banking capable of providing a complete electronic means by which commodities or services can be measured and exchanged?" Our most pressing concern should be how to best assure that merchants and consumers will customarily use and depend upon that system.

It suggests that discussions about how accumulations of electronic value (funds) are to be transferred are inextricably interwoven with who owns value, when they wish to transact, for what purpose, and how electronic technology can best serve their needs.

The real subject is electronic value exchange and, in discussing it, we should not forget that banking is a great manipulator but a small owner of value, and that manipulation of electronic value differs radically from that of paper value.

Clarity of thought may be improved if various means of value exchange are thought of in component parts rather than as totalities in order that differences, if any, may be distinguished. The following table may prove useful:

FORMS OR METHODS OF EXCHANGING VALUE

Element	Coin	Currency	Check	Bank Card	Electronic
(1) Value	Alpha/ Numeric Data	Alpha/ Numeric Data	Alpha/ Numeric Data	(4) Alpha/ Numeric Data	Alpha/ Numeric Data
Vehicle	Metal	Paper	Paper	Paper	(5) Electronic Impulse
(2) Guarantor	Government	Government	Depositor	Banks	Unknown
Manipulator	Virtually Anyone	Virtually Anyone	Commercial Banking System	Commercial Banking System	Unknown
(3) Transport	Mechanical (Road/rail and air)	Mechanical (Road/rail and air)	Mechanical (Road/rail and air)	Mechanical (Road/rail and air)	Present Utilities (Telephone Co., Western Union, etc.)

(1) Since all forms are based on reliance on value not intrinsic to the form but represented by the data, the expression can be in any standard (i.e., U.S. dollars).

(2) Guarantor is used in the sense of assurances to the recipient of the form (generally the seller of merchandise or service).

(3) In the most accurate sense, the Federal Reserve has never been the delivery mechanism for checks but rather a manipulator.

(4) The plastic card is not the vehicle. Rather it serves to identify the owner of value and create the alpha/numeric data on paper or on electronic impulse. It has more of the nature of the pen with which the check is written combined with the driver's license, etc., used for identification.

(5) There will always be some use of paper vehicles since even a descriptive billing system eventually presents the alpha/numeric value data to the customer on paper.

Recognition that the advent of electronic value does not change the essential element of alpha/numeric data expressed in dollars; that other elements may change drastically; that whatever organizations compete to serve the public with electronic value will utilize the same vehicle and the same means of transport; and that the principal element essential to success will be to make the owners of value customarily use and depend upon an electronic form is to realize that the manipulators and guarantors are of necessity unknown until it is determined who has the greatest expertise, the most effective national organizations, and the greatest will to create the necessary systems and persuade the public they can be safely used.

If our primary concern remains the transfer of accumulated value (funds), but the expertise and systems by which electronic value is transacted in the marketplace are provided by others, our future is grim, since the systems which transact can easily accumulate, sort, switch and transport. This capitulation to outside competition greatly limits opportunities for banking as the need of the owner of value for banking accumulation and transfer diminishes, and with it deposits.

If banking meets that competition by means of monopoly in any segment of the marketplace or banking system, the prospects are slim, since that virtually assures either regulation as a utility, or antitrust suits with treble damage liability, unless evidence proves no competitive alternative was available.

If we place undue reliance on the Federal Reserve or invite its extension into the marketplace, the future is dim, for that invites ownership or domination of banking services by government intervention.

Development of the Present System

If banking is to have a future in electronic value exchange which is other than grim, slim or dim, it must act swiftly in a much broader area, with competition in every segment, and without increased government intervention or control.

It is perhaps understandable that the massive, somewhat preemptory, check clearing activities of the Federal Reserve should have evolved. It is less understandable that they be electronically perpetuated. For if any industry uses radically new technology in a manner that perpetuates existing form rather than enhancing function, it may swiftly be hooting in the commercial graveyard where the ghosts of form, which did not follow function, are buried.

It makes no more sense for electronic value exchange to be patterned after the present Federal Reserve check clearing system, and managed, owned or subsidized by the Fed, than it would had the airlines put steel wheels on 747's and jetted them down the Penn Central tracks.

There is considerable evidence to support a conclusion that present levels and methods of competition between banks and other commercial

organizations, and between banks themselves, as well as Federal Reserve activity, will change substantially with electronic value exchange. There is even more evidence to support a conclusion that every segment can be competitive.

It may help to compare the nature and magnitude of problems which had to be solved in structuring the present paper system, and how they changed with the advent of electronics. Greatly oversimplified, they might be described as:

The periphery:

1. *The transaction:* that which takes place in the marketplace when value is exchanged between individuals and/or organizations.
2. *The entry:* the methods by which value requiring bank services enters the banking system.

The median:

3. *The primary handling:* the manipulation of value in the banking organization at which value enters.
4. *The primary exchange:* that which occurs when value passes between primary banking organizations.

The core:

5. *The secondary handling:* the manipulation of value by organizations such as the Federal Reserve which act between primary entities.
6. *The secondary exchange:* that which occurs when value passes between secondary entities.

In a paper system, the technology and expertise required in the transaction is so rudimentary as to permit unlimited competition. The individual or organization wishing commodities or services presents currency, or an order to pay on his account, generally a check, and receives value. The maximum requirement is a government bill, or a check any printer can produce, a pen, a customer who can write, a clerk who can read and count, and perhaps a cash register to accumulate and store the individual value items. The costs and requirements are so low as to make every transaction competitive.

To achieve entry, the merchant requires a deposit slip, a clerk who can do simple sums, a means of transportation to the nearest bank, and the arithmetical ability to confirm the bank's handling as reflected on the statement. At the bank, the original requirements were for clerks with enough simple reading, arithmetical and writing skills to post and balance a ledger, prepare a statement and sort checks.

The simple requirements, together with an immobile public having no great need to transact value outside the community, permitted an almost unlimited number of competitive entities and a minimal number of value items requiring exchange or secondary handling.

The explosive growth of goods and services and the change to a mobile society, leveraged against the number of banking entities, created immense concentrations of items beyond the capacity of the primary handling organizations. Private banking, lacking a suitable structure beyond the primary level, turned to the Federal Reserve, which stepped into the breach and largely preempted the function. The evolution is too well-known to need retelling, except to make a single significant point:

Under a system of value symbols which requires a paper vehicle, the magnitude of the problem to be solved and the degree of technology and organization required for its solution increase inexorably and geometrically from the periphery to the core of the system.

The first impact of electronics is long past. Computers, MICR reader sorters, and on-line terminal input are already beyond the capacity of small banks and, while not the most significant factor, have heavily influenced banks to purchase basic services from competitors, growth of bank holding companies, creation of bank service companies, formation of external service bureaus and a host of other actions, all of which have irrevocably altered the nature and structure of bank competition.

However, nearly all applications of electronic technology, other than bank wire and the Federal Reserve wire transfer system, have been directed toward the sorting, accounting and transporting of paper value vehicles, rather than creation of services which do not require such handling.

The magnitude of the problem to be solved and the effort required at each level change drastically when electronic value exchange is analyzed. The problem of receiving, sorting, transporting and settling vast numbers of items is not a complex matter nor is the cost excessive, assuming usuable electronic data are created near the periphery of the system. If it is created in the median, the problems there are greatly magnified. Median problems can be reduced if usable electronic data are created at point of sale. But therein lies the rub, for if most data originate on paper, electronic entry must be the first point of primary handling with reliable, cost effective methods of translating paper symbols into electronic symbols. That capacity exists today in considerable measure in larger banks, for automated checking accounts and bank cards require no less, whether input is achieved on-line, by keypunch, or MICR encoding; and whether or not the end-billing product is descriptive or involves return of paper. A notable banking exception is the Master Charge system wherein this capacity has largely been placed in the hands of huge processing associations. It exists in even greater measure in large commercial organizations outside banking.

However, if the problem of primary handling is simplified by creating usable electronic data at point of sale, the problems there are immensely magnified. For the customer must now possess a machine-readable device which requires highly sophisticated and specialized companies to produce, issue and encode; and the merchant must have expensive, sophisticated

equipment to read that device and originate, then transmit, an appropriate electronic message.

This iteration is to make a single essential point: that a complete system of electronic value exchange will initiate a reverse flow in the magnitude of problems to be solved which will require substantial alteration in the structure of banking if maximum competition is to prevail.

At the core of the system, it may now be practical to have a substantial increase in the number, types and functions of secondary handling and exchange systems. In the median, the situation will vary depending on the functions and expertise at the core and on the extent to which usable data are developed at point of transaction or in organizations external to banking. Present concentrations of combined processing effort by large banks (such as bank card processing associations) may not be competitively necessary or desirable. More combined effort by smaller banks, particularly in unit banking states, may be essential and pro-competitive. The need for joint venture and combined effort at transaction point will be immensely greater everywhere but does not justify monopoly.

The Need for Changes in Banking

It seems clear that the forms of banking and the degrees and levels of competition will be drastically realigned; will be caused to a great degree by competitive activities external to banking; and if maximum competition is to prevail, will require less centralization at the core and more at the periphery.

It was Dostoevski who said, "Taking a new step, uttering a new word is what people fear most."

From long, valuable experience, banking, like most industries with a long, stable tradition, has developed ways of thinking which I have heard Governor Mitchell of the Federal Reserve refer to as the "Theology" of banking, which economist Galbraith has labeled "Conventional Wisdom," and which Bob Long of the Bank Administration Institute has called, "The things bankers know which are no longer so."

It may be productive to challenge some Conventional Banking Wisdom.

> *Conventional Wisdom: Vast sums of money, much time and great volumes of transactions are required for development and cost effective operation of nationwide funds transfer systems.*

Reality: The first major nationwide electronic funds transfer segment of an electronic value exchange system is now in operation. On November 1, 1974, all 87 BankAmericard Centers interchanging items must accept electronic rather than paper items from any other member, and may transmit all outgoing items electronically. By March 1, 1975, all members will be required to send all items electronically. All BankAmericard drafts will then reside under NBI regulations at the sending bank. The entire system was developed from conception to implementation in 18 months. It

cost less than $7 million dollars, including central computers, 90 minicomputer tape transmission units used in member Centers, central software, edit software for member banks, audit procedures, training and operating manuals and customer educational materials. This does not include one-time internal preparation costs at each member bank.

The system, called BASE II, will handle over 200 million items, representing over $4 billion during its first full year of operation. Cost to members will be 2.5 cents for each item cleared through the system, which is sufficient to pay all operating costs and recoup the initial investment within four years. On a conservative basis, the savings will be over 6 cents per item, or $12 million in the first year of operation. In addition, the system will permit the direct exchange of electronic data between consenting members, at 1 cent per item, which represents a share of fixed costs. Should volume increase substantially, the cost to members could be reduced.

Among other things, this system will provide nonpar clearings, net settlement between members (less than 80 clearing drafts daily through the traditional banking system as opposed to the present 6,000), overseas clearance with Alaska and Hawaii, 24-hour turnaround on all items, administrative messages between members to request original documents, and transmission of charge-back items. The system is in negotiation with banks in other countries for similar international clearing. What it can be modified to do in the future, we cannot discuss for competitive reasons. It is interesting to note that the system can operate effectively on less than 1 percent of present U.S. check clearing volume.

If you want clearer evidence, you should know that our interim draft transfer test, which preceded the full system, involved seven scattered banks from Alaska to Colorado and South Carolina; was conceived July, 1973; specifications were completed in August; software was written in September; it was acceptance tested in October; and was in full operation November, 1973. The entire development and installation cost was less than $5,000. Those seven members have cleared all items between themselves through our BASE facility, using eight tape transmission units and telephone company lines. In 10 months, they have cleared an average of 40,000 items per month and over $8 million. Some bill descriptively and others return facsimile items. The total operating costs have been about $7,200 per month. That amounts to 18 cents per item, with the most ridiculously poor geographical configuration and equipment utilization which could be devised. It is interesting to note that the volume of items cleared was double that of the most active automated clearing house.

One could discuss for a long time the fine points of where comparisons may not be perfectly valid, but the significance is obvious and overwhelming. The magnitude of effort and systems required for secondary electronic handling and clearings is enormously lower than that of paper systems and, therefore, creates substantial opportunity for competitive ventures if the market is not preempted by government or Federal

Reserve actions, or by joint ventures which monopolize geographical or functional segments of the market.

Electronics should greatly reduce the need for, or justification of, preemptive joint ventures or Federal intervention in the areas of secondary handling and clearings.

Conventional Wisdom: It will take major changes in present laws to permit anyone other than banks to transfer electronic value.

Reality: The law, whether legislative, regulatory or judicial, rarely precedes change, social or commercial. It historically arises to regulate and interpret that which has already happened.

Commercial and criminal law did not anticipate, nor do they fit, electronic value exchange. While legal practitioners may prove helpful in applying certain tested principles to new facts, they cannot be expected to either authorize or forbid most change to electronic value exchange. They can be expected to incorporate new practices in the code, curb excesses that are punitive to society, and modify past laws which hinder beneficial new activity. In most cases, it would be foolish to expect the law to be an ally protecting banking's self-interest.

In the context of electronic value exchange, banking law may not be applicable since it primarily controls that which is deposited for use by and exchanged among banks. It may not cover the means by which it reaches the bank or the means by which it is extended from the bank to the marketplace. In the marketplace, subject only to the willingness of the parties to rely upon it, value data may be verbal or visual (remember — anything customarily used). Anyone familiar with the operation of produce markets would agree that huge value transactions are consummated by spoken word. Currency traders and investment brokers certainly extend that principle geographically by use of the telephone.

If that be true, then it follows that any electronic device, by which spoken value data are transmitted (telephone); any electronic device by which visual or verbal value data are translated into electronic impulse (cathode ray tube with keyboard); in fact, any instrument, device or means by which value symbols are recorded, transported, or recognized becomes part of an electronic value exchange system.

Let's assume one store of a major national merchant accepts various paper symbols representing value from its customers in exchange for goods or services. They are totaled by the store and put into the hands of a bank for collection and the total credited to the merchant. A thousand other branch stores do likewise. To make the most effective use of what it now owns, the merchant needs immediate centralized knowledge of that value. At various times, an employee in each store picks up an electronic instrument which connects over the telephone system to a similar instrument. The employee transmits verbal value data regarding the amount deposited, store and bank identification, and related information, to another person who immediately translates it via a keyboard to electronic

value impulses which are transmitted over wires or radio waves to a central national computer, where it is captured on tape or disk. The central computer daily combines data from the thousand branch stores, sorts it by bank, by store, or in any other way the organization desires; then reverses the electronic procedure, makes the value data available to the merchant headquarters in any form best suited to its use. The merchant, by manipulating bank clearings, is able to make use of the value it owns two to six days sooner than otherwise possible had it used only bank facilities. Is that electronic funds transfer? Certainly it caused funds to move faster. Certainly it changed the flow and use of value. Certainly it affected the movement of money. Certainly it used electronic means.

The description is, of course, nothing but one of the services of National Data Corporation in Atlanta, Georgia, a commercial enterprise begun by a single entrepreneur and a handful of investors. The service now claims to move electronic value data of more than $1-1/2 billion a day, and banking has nothing to do with it, except that many banks encourage their large national customers to use it since it puts the value owned by those customers into the banks' hands, hence their customers' hands, much quicker than would otherwise be possible.

The significance is all too apparent. An enterprising company provided a means whereby the *owner* can more effectively manage his value, and whereby the use of that value by various banking organizations can be altered. Profitable financial service business thus flows to the expert who can assist the owner, and away from banking, the traditional source of financial service. Such is competition. Another example is the Validata System, owned by TRW, which essentially uses NSF checking information provided by banks and sells it in organized fashion to prevent check losses.

Suppose a major retail organization should install nationwide electronic communications systems capable of handling value symbols connected with electronic cash registers at point of sale in every store (they have and are, of course); and should contract with a bank to encourage the merchant's customers who wish to do so to open an account by mail (banks now legally open accounts by mail, do they not?). And suppose the customer, the merchant and the bank jointly agreed that the bank could accept funds from the merchant for deposit to the customer's account, and pay from the account to the merchant upon recognition of a confirmation device (credit card?) under the customer's control, and utilized only when he has delivered to or received from the merchant value (service, merchandise, currency, paycheck) comparable to the deposit or withdrawal authorized (remember — money is anything customarily used).

Against the law? Certainly, in some instances. But is the law all that clear or that universal? Would it be changed in the face of strong public desire for the service? It can be argued that the examples contain many assumptions and a convergence of many independent actions must precede any major movement which could adversely impact banking. That is

true. It is equally true that it requires a convergence of many small streams to make a flood in the desert. If you look about, there is an electronic stream already running in every gully and the storm has barely begun. Many of the legal dams banking reaction has hastily thrown up have already been swept away. Wisdom suggests we devote all our efforts to building canals.

We could go on for days about ways in which electronic value could gradually bypass the banking system without change in banking law. It is increasingly apparent that it is more likely to take major change in banking law to prevent the entry of non-banking organizations into electronic funds transfer than to permit it.

Conventional Wisdom: It will require nationwide standardization of message content, format, transmission techniques and identity devices before electronic funds transfer is either cost effective or practical.

Reality: Excess standardization will be the least practical, most expensive method of approaching electronic value exchange systems. The need has been vastly overemphasized.

Let us assume for a moment that a substantial retailer develops an internal electronic system using certain data techniques and formats not consistent with our BASE II system, or perhaps the five major Canadian banks which are members of IBANCO, the new international corporation, develop an electronic clearing system not wholly compatible with BASE II. Provided that a reasonable amount of data is accumulated at a central point for manipulation (a given in almost any system which can be conceived), it is a relatively inexpensive and simple software procedure to sort and reformat the data for effective entry into our system.

In fact, that is the technique used to develop the BASE II system. Every clearing member is, in effect, a separate electronic value system, since there are few common methods of data entry or software processing. Each member either has the required data in some electronic form, or is modifying its procedures to obtain it; however, in each system it may be in entirely different format. It is read in each bank's format to tape or disc; edited by a relatively simple software program developed by NBI to conform the data to BASE II requirements; and then entered into the system through a BASE II tape transmission unit. The procedure is reversed for transforming value data received from BASE into processable format. In time, should it prove advantageous to each bank, internal processing can be brought into compatibility with the system. In most cases, it is unlikely to prove desirable and is certainly not necessary.

It will generally prove far more cost effective, and cause far better and more competitive services to develop, if electronic systems are designed to meet the unique needs of industry segments or to create unique new service for customers, reformatting the value data where necessary for interchange, than to incur the expense and rigidity of massive standardization.

Conventional Wisdom: The public is happy with the present checking account system and will resist any change.

Reality: One might ask, compared to what? Other than the use of currency, which is dangerous to carry and unsafe in the mails, what choice has the consumer been given as a modern means of value exchange? With respect to their function of exchanging value in the marketplace, what differentiates one check from another? Does the customer find merchants more willing to take a check drawn on X bank rather than Y? Do merchants even look at which bank issued the check, and do customers find it easier to get checks accepted now than a year ago? Five? Ten? Twenty? Have merchants any less risk in taking them now than a year ago? Five? Ten? Twenty? And, if so, how much has to do with their own systems and expertise or use of services developed external to banking, such as the Validata system, than with significant change in the banking system?

Even more important is the context in which most of this conventional wisdom has been confirmed. It often involves a study to determine the acceptability of preauthorized payments, wherein the customer is essentially asked how he would enjoy losing a considerable degree of control over his value without offsetting improvement in its acceptability in the marketplace, the general thrust of which is to permit greater bank use of the customer's value at lower operating costs. Should we be surprised that he expresses satisfaction with the service as it exists?

Suppose a customer could obtain a banking account, at reasonable cost, with assurance that merchants nationwide would transact value against that account 24 hours a day, 7 days a week, without hesitation; that the customer could elect at time of sale whether to use current, reserve or future value (another way of saying demand, savings or credit assets); and could manipulate those assets from his home for his own maximum financial aggrandizement? Does anyone really believe that present satisfaction with checking accounts might not disappear like snow in the desert?

Does anyone really doubt that merchants would pay a reasonable charge to be able to transact value with customers throughout the country if they were guaranteed that the value symbol received from the customer could be converted to their use within 24 hours without fear of loss? And if we doubt, what are we doing to find out?

It is entirely practical through the use of electronics to offer such services today. The great lesson to be learned from the bank card business is that no matter how poorly operated, a system which puts a customer's assets at his disposal, under his control, for his use, 24 hours a day, 7 days a week, and which guarantees acceptance to the customer and value to the merchant, will receive overwhelming public acceptance.

Conventional Wisdom: Funds transfer systems are just delivery mechanisms and do not affect the creation, nature, quality, cost and competitiveness of services rendered.

Reality: This is so obviously wrong and so inimical to competition that it is hard to know where to begin. It argues that Federal Reserve policy and activity in clearing checks does not affect the nature and extent of checking services provided. Without arguing the benefits of the system, which I believe to be very great indeed, it is patently absurd to argue that the constraints and requirements of clearing do not largely determine the nature and extent of service rendered. If not, then why are all checks so similar; and why do they clear at the same speed, the same cost?

When national bank card service developed, it required a nonpar clearing system with charge-back procedures, rights and obligations differing widely from those required by checks. Had the Federal Reserve agreed when asked (and they were) to clear bank card activity, would the service have evolved as it subsequently has? Through fortuitous circumstance, the check clearing system was so structured that it forced development of two completely different competitive nonpar clearing systems, which use different methodology, rates and expertise and are competing intensely for supremacy through use of electronic technology. It is clear there would be no BASE II and no INAS today had the Federal Reserve said yes, and clear that present bank card service would be radically different.

And were the Federal Reserve par clearing system the only alternative, I question whether present groups of banks, now deeply into studies and market research to assess the feasibility of nationwide asset cards, would have yet started their first discussions.

Whether it be reservation systems of hotels or car rental firms, airline ticketing procedures, the mail you receive, the water you drink, or the food you buy; the ultimate product or service is the net result of every element of how it is produced, sold, delivered and serviced.

Value exchange is a labor-intensive service industry faced with increasing customer demand for wider geographic access, greater control and better guarantees of acceptance. It can only meet those demands with increased applications of computer and communications technology. It is hard to imagine anything which can place greater restraints than the communications and software systems with which the various components of the market are connected and the services rendered.

> *Conventional Wisdom: Checks and similar value items will always enter the banking system through a bank near where the transaction took place for delivery to its ultimate destination.*

Reality: It is by no means clear where and how a value symbol should be converted to electronics or where, how, and even if it should enter the banking system.

The largest retailers have ample resources and volume to install nationwide electronic systems to capture, accumulate, sort and transport value data along with necessary merchandise data. Presuming Sears had such a system combined with internal automated payroll, there is no valid reason they should not sell merchandise and services to their employees with appropriate electronic value deducted from the value owed employees for services rendered. And if United Airlines were similarly equipped,

there is no reason why, by common agreement, employees of either could not purchase from the other, with value deducted from the respective payrolls and balances struck between the companies long before anything reached the bank. It is equally apparent that should both be willing to issue value devices to the general public and guarantee the goodness of such devices, one company to the other, electronic value data could flow between them in great amount, completely bypassing the banking system.

The possibility for reciprocal acceptance of value instruments is limited only by the willingness of the issuers to enter into such agreements and the compatibility of the technology involved. Should a major merchant owner of such a system elect to accept bank cards or other banking value instruments, the value data could enter the banking system at virtually any point. It could be routed from the store to the local bank, or from the merchant's regional computer center to a bank or a regional switch owned by participating banks; or more logically to the central computer of the retailer for analysis and control, thence to a bank or a central distribution computer owned by many banks.

The significant point is that with the advent of electronics, distance and routing of the value item are of much less significance than the ability to manipulate, sort, account for and manage the item.

The basic capacities of the National Data Corporation system or the TRW Validata system could swiftly be modified for that purpose.

The realities are inescapable. When electronic value is generally acceptable within any segment of banking for exchange within the system and billing to the customer, other commercial organizations will compete with banking in the sorting, handling and transporting of value. Anyone who read the comments of Gordon R. Worley, Vice President, Finance, Montgomery Ward, in the September 16 issue of *U.S. News and World Report,* with respect to Ward's ability to move electronic value nationwide and to accept deposits or make withdrawals through electronic cash registers, wherein he stated, "I think the banks should really cooperate with us on this because if they force us to go our own way, they could find themselves locked out," must realize that it is unlikely they were lightly spoken or unfounded. We should never forget that railroad control of the right of way by government fiat did not protect their highly lucrative monopolistic hold on transportation when technology made other options available to their customers.

Technology is about to make many options available to ours, and hundreds of organizations sense that banking is neither structured nor yet strongly inclined to seize the opportunities those options provide.

Conventional Wisdom: Customers are unwilling to pay for new financial services when they are offered.

Reality: Much that banks have offered as new services are not really new in the sense of enhancing exchange of value in the marketplace. Often, they are the same old forms bundled, repackaged, repriced and sailed into the market under a new banner such as the "Pink Account," the

"Red Ribbon" or "Everything everyone wants in one account" (names changed to protect the innocent).

Those which provide some element of new services such as debit cards, cash dispensing machines, and check guarantee cards are usually given away in the hope of getting more deposits, in the hope of making more loans, in the hope of gettting more income, etc.

Users have nearly always demonstrated willingness to pay for new financial services which materially improved their ability to exchange value, whether developed within or without banking. Travelers checks (American Express), revolving credit accounts (retailers), multiple merchant accounts (Diner's Club) and BankAmericard are all examples.

I suspect the reality may be that customers are more willing to accept and pay for new services than banks are willing to accept the risks of creating and charging for them.

Conventional Wisdom: It is necessary to provide more free services in order to attract more money, in order to make more loans, in order to obtain more income, in order to make adequate profits.

Reality: Providing more and more free service in an effort to obtain and warehouse sufficient value in the form of deposits for investment in loans contains two increasingly questionable assumptions.

First: That the options for use of that value by the owner are so limited as to permit initial attraction as a deposit.

Second: And far more important, that the mobility of those funds are so limited as to insure their retention for periods of time required for safe investment in loans.

The validity of both assumptions is determined by alternatives available to the owner of value and the ease with which he can select among them. The owner can always be expected to seek his self-interest, and competitors, if they are not foreclosed by monopoly and/or government intervention, will always be there to point it out.

It appears to me that the immensely valuable services banks have traditionally provided in accumulating, warehousing and managing surplus value have given rise to policies which may be on a direct collision course with the changing desires, abilities and needs of the owners of value.

It may be exaggerated, though not totally unfair, to characterize the past form of banking as one which accumulates excess value for interim use by the bank and eventual use by others, through persuasion of the owners that they have no immediate use for it and that it would be more secure in the hands of the bank. From that premise and from a purely selfish view, an ideal bank would be one that induces the maximum number of owners to place in the bank the maximum amount of value for the least return and with minimum access. If everyone could be induced to place his entire cash and credit assets, for no return, in a bank open between 1:30 and 2:00 P.M., costs would be minimal and the possibility of profits enhanced.

I indulge in this exaggeration only to illustrate that as long as the principal thrust of banking is conceived to be an accumulation of value owned by others, to be managed by the bank and provided to third parties for their use, banks generally cannot be expected to welcome any movement which tends to leave value in the hands of the owners, or provide maximum mobility at the owner's discretion.

This creates a natural conflict with sophistication of commercial organizations which increasingly manipulate the value they own with reduced bank involvement. Thus, banks turn increasingly to less sophisticated sources of business, generally consumers, only to find that they too are becoming more sophisticated and less willing to have their assets immobilized and used or managed by others.

It appears unlikely that banking can resist the desire of the owners of value for immediate and continual access to that value, for better options for its investment, for more mobility in moving it between options. If banking is to continue to be the primary intermediary between the owners of value, it may have to adopt a policy of developing, owning, and charging services which the owner can use at his discretion, at his convenience, for purposes of managing his own value, perhaps with the advice of the bank, but certainly without its custody, dominion or control.

There is great talk in banks about the importance of asset management. Most of it presumes the management of assets of others since the percentage actually owned by banks is small. I suspect that there should be less talk of how banks can manage the assets of others and more talk of how banks can develop services which permit the owners to manage their own assets.

For if banks do not, someone else will. Whoever does may not have control but they will have great influence. If banks insist on control and resist the creation of more options and greater flexibility, I suspect they will find themselves with little control and less influence.

Therein, to my mind, lies the real significance of the application of electronic technology to value exchange. For if value symbols can be sorted and transported worldwide within 24 hours, and they can; and if parties can be identified one to the other worldwide in order that both can receive guaranteed value, and they can; and if distance becomes relatively meaningless in selecting the financial service organization with which to do business, and that is rapidly happening; and if equivalent value can be exchanged with limited need for its warehousing in banks; what, then, is the role of banking if not that of a service organization which provides the facilities and services to permit those values to be exchanged and those balances to be struck?

And how ready is banking for that role? Does it have the research and development budgets, the expertise, and how well is its structure suited to the user's need for national and international service?

In his book, *The New Industrial State,* economist Galbraith defines technology as "the systematic application of organized knowledge to practical tasks," and points out that most consequences of technology derive

from the need to divide tasks, bring specialized knowledge to bear on each, and combine the finished components into a workable product or service.

The six "consequences" or "imperatives" which he believes most significant are:

1. An increase of time from beginning to end of any task.
2. An increase of capital required for knowledge and technical expertise, as opposed to that required for output.
3. A more inflexible commitment of time and money to precisely defined tasks, which has value only for the task as initially defined.
4. Specialized manpower.
5. The inevitable counterpart of the first four is organization.
6. The inevitable consequence of the first five is the necessity for planning.

While there is much in Mr. Galbraith's book with which to quarrel, his analysis does much to explain the quandary of private banking, for the simple truth is that the industry has almost no effective mechanism for the nationwide utilization of technology, yet services resulting from massive national applications of technology are exactly that with which it must compete. It also explains the growth and success of organizations such as NBI and IBANCO, the new international corporation recently formed to administer the Blue, White and Gold program worldwide. Nearly everything they do is responsive to these imperatives. National bank card service is impossible without a joint venture for extensive utilization of technology, and for effective means to implement and regulate the services that arise therefrom.

A year ago in a bank card address, I made the following points:

There is the issue of fear of NBI, Interbank, the Fed, or for that matter any organization to which autonomy must be surrendered, whose regulations must be observed and whose activities must be financially supported.

There are essentially four methods of serving the expanded geographic and access demands of consumers.

First, the majority of banks could be absorbed by five or six of the largest banking organizations and the market preempted as is the case in Canada, Britain and other countries.

Second, the market could be forfeited to the government so that, in effect, any nationwide facility is government owned or controlled and banks increasingly are converted to providing service and products which bear the imprint of a government assembly line. Postal problems and much other recent government performance do not argue strongly for that approach.

Third, regional concentrations for production of products and services can be created and jointly owned, linked by some type of association superstructure. This is typified by the regional Master Charge processing associations, joined under the Interbank umbrella.

Fourth, joint ventures can be created to commonly operate select elements which are essential to national operation, and to create basic resources beyond the capabilities of individual banks, such as software, to be used by each bank in its own way for its own competitive purposes. The latter is most closely identified with the NBI structure and philosophy.

Certainly there are many choices to be made in the drastic revisions in the pattern of competition now under way in banking. Great care should be taken to avoid a lemming-like rush to the sea of monopoly or government intervention."

There is little I would care to add except five points:

First: There is a broad current throughout banking running toward monopoly. It tends toward initial application of technology at the core through total joint venture of all banks, which then reaches the periphery, (the marketplace) in the form of services which the core can accommodate. It resists competitive ventures either by preemption or protective regulation. It offers maximum economic security with minimum risk, thus greatly reducing fear of change. It is most often justified with arguments of reduced costs and promises of protection of the public interest.

Second: There is an equally strong current running toward competition. It tends to favor the maximum number of organizations competing to determine the needs and desires of the owners of value and to accommodate them within the limits of technological feasibility. It reaches the core in the form of whatever structure suits the needs of whatever segment of value exchange business each can competitively capture.

Third: Banking is not structured to effectively meet external competition. The community in which most consumers transact value is increasingly the entire country and to some extent the world. The community of those merchants providing the bulk of our goods and services is either regional, national or worldwide.

The community which banks are structured to serve is often one town and at most a state. If the organization of value exchange is to remain the function of banking, that situation must change.

Fourth: It is possible to meet the imperatives of technology by organizing joint ventures to plan, utilize specialized manpower and coordinate implementation through a large number of participant banking organizations which retain most of their autonomy and yet provide competitive service. It has no advantage over government ownership or a small number of large nationwide banks unless there are several highly competitive joint ventures. It requires that the principle of multiple levels of competition within a totality be accepted by antitrust law. It is my strong view that this is the best method by which all banks can provide modern competitive service, yet avoid the evils of massive centralization or absorption by other organizations.

Fifth: The time within which decisions may have any major affect on the eventual outcome is a perishable commodity. Many of us at NBI believe it may be less than three years.

The choices seem to be:

(a) Seek increased government participation as an owner of new systems or a protector of the present structure:
(b) Accept nationwide banking as many countries have done through the absorption of small banks by the large;
(c) Form total joint ventures and assume the nature of a utility; or
(d) Structure competitive joint ventures where necessary;
(e) Equivocate between (a), (b), (c), and (d) and thus default to external competition.

The decision should be a policy matter for the chief executive officer of every bank, should be made at the earliest possible moment, and the maximum bank influence should be used to achieve whichever objective is judged preferable.

The needs of the owners of value, the imperatives of technology, and the threat of external competition demand change in the structure of banking to permit immediate, effective national action.

To equivocate between alternatives, or to become obsessed with the mechanics of technique while the basic policy question of effective organization from which planning and utilization of technology must emanate, is a conscious decision to drift to government ownership, or default to external competition.

There is no need for the Federal Reserve to use its regulatory power or its power of subsidization to preserve the present clearing structure unless private banking (or other private enterprise) clearly demonstrates it has neither the will nor the wisdom to alter its form to preserve and enhance its functions.

"The moving finger writes; and, having writ, moves on;
"Nor all your piety and wit shall lure it back to cancel half a line;
"Nor all your tears wash out a word of it."

The finger of electronic technology is writing furiously in the book of Banking. Which will it write?

Discussion

John F. Fisher

The master story teller, C.S. Forester, who is remembered by most of us for his Hornblower saga, described the development and maturing of an idea. He compared this creative process to the growth of barnacles on a submerged timber.

Forester said that a young idea when it first floats to the surface is generally free of barnacles. He observed that we carefully view the timber, decide that more maturing is necessary and allow it to sink back into subconsciousness. The idea, from time to time, resurfaces and each time as we examine it, more sea life has become attached. Finally, from the ebbs and flows and the pressures of unconscious creation, an idea arrives, fully born. Forester concluded that the creative process is magical and marvelous and can seldom be hurried.

He obviously could have been writing about the development of electronic funds systems, for certainly, as they have been outlined at this symposium they are not yet fully born, and while some day they may be marvelous, they probably also cannot be hurried.

It is in this area of EFTS immaturity expressed by both Mr. Baker and Mr. Hock that I agree. I find little else with which to agree.

The area most exposed to criticism is the cornerstone of their combined position — namely, the so-called "Competitive Position." This is the same siren song always sung to divert the listener from the real issues which are too distasteful or too complex to attack single-handedly.

Mr. Hock and Mr. Baker build their case on the mother and apple pie platform of "good guys always go it alone, therefore, be a good guy and don't talk to that other bank." They miss the most important point — banking does not compete nationally. In banking one bank competes against another in its local marketplace. Fourteen thousand banks have arrived at this point in history because they have developed the management skills to compete within a cooperative environment. We are not a nation of a half dozen national banks as in Canada or England regardless of what Mr. Hock and Mr. Baker would wish for us. To be realistic, we are an interrelated industry in which our destiny is more controlled than uncontrolled, more local than national, and more sensitive to the "non-bank" competitors than to our bank brethren.

John Fisher is a Vice President of the City National Bank and Trust Company, Columbus, Ohio.

To turn briefly to Mr. Baker's comments, I think the Justice Department is confusing the banking businesses with other kinds of businesses and is not truly relating the practicalities of the banking world as it is lived. Mr. Baker urges competition for its own sake without regard of the consequences or the economics involved. This is a complete lack of display of concern for the efficient use of banking capital or resources.

To a major extent Mr. Hock echos a similar sound in that there is no genuine attempt to examine the arguments of alternative solution. Joint ventures and cooperative systems appear acceptable only after a single system begins to falter or has failed.

I believe most damaging of all criticism levied against the positions of both NBI and the Justice Department is that they will result in an imbalance, rather than the expected balance, weighted toward benefiting the big at the detriment of the small. In the name of competition, their positions favor the survival of the well-financed permitting a few to exploit the current condition of silent legislation, a complex legal environment, and high cost, high risk technology. Those with designs on national banking must view the opportunities of EFT similar to the secrets of perpetual energy.

As identified by Mr. Baker, we do recognize there is a potential restriction on innovation through joint venturing. In all probability, the merchant will control the all important point-of-sale terminal and this will produce the greatest leveling effect on delivery system uniquenesses rather than a jointly operated switch and processing center. We will need to resist sinking to the lowest denominators. I believe the proper controls and the profit motive will safeguard against that prospect.

This potential limit on innovation has economic practicality as a beneficial trade-off. It is true that each airline could innovate by building and flying its own exclusively designed airplanes. They could also, in the name of pure competition, use separate airports and fly any route they choose and charge what the traffic would bear. They would compete but they would introduce an economic quagmire — chaos in the market place.

TWA did, at one time, fly a plane built exclusively for that airline — Howard Hughes was the innovator. Maybe Mr. Hock and Mr. Baker are suggesting that each bank now build its own three-ruddered Constellation.

Don't misjudge the competitive vigor of our industry. We don't compete through delivery systems, although Mr. Hock believes we do, any more than Ford and General Motors compete by requiring different highways for their products. We compete through our individual product design. We gain credit-card customers because of our willingness to extend credit, by attracting the customer with a checking, instalment loan or savings account, by providing overdraft plans, major purchase plans, pictures on cards, and advanced software packages — all of which have little to do with national systems and nothing to do with delivery systems.

Mr. Hock believes that standardization has been over-emphasized as he explained in his "Conventional Wisdom" undressing. That probably is

why NBI has spent enormous sums to develop a common, standardized software package available to all card-issuing members. And it may be why about half of the NBI Class B merchant banks — about 2500 in all — are members of both credit-card plans. Is this the non-standard competitive difference I've heard so much about?

It is in the area of the credit card systems that we are making a costly mistake. Both Mr. Hock and Mr. Baker discuss the two franchising systems as if they truly represented banking — as if a credit card would be the only vehicle accessing EFT systems in the future. Mr. Baker particularly omits the development of bank cards accessing deposit accounts from his considerations. Rather blindly or naively, he sees POS systems as competitive developments of the credit card system when in actuality the approximately 5 million bank cards already issued — estimated to grow to 100 million in the next five years — will have more effect on the development than will Master Charge or BankAmericard. It is not at all clear that NBI or Interbank will, in fact, be able to cause their member banks to rally around their bank-card banner.

The problems of an electronic interchange network are immensely complex when debit cards are added to the system. A completely different focus is required when the system is designed to handle more than just a credit card. NBI and Interbank renege on their responsibility when they merely indicate on the switching and message flow diagram — how they would wire up the world — that all not-on-us items will be sent to "other card plans." That is the case in the design work of the two systems in which I have participated. We need more professional answers than that and a lot fewer new definitions. The other card plan will require formatted messages, reconciliation, paper flow procedures, and a whole host of accepted standard operating procedures. In the rush to make the *American Banker* headline, our two national franchising systems have glossed over the real problems of how it works. Cash out of the demand account through a POS System is a local problem, not national. NBI and Interbank are trying to solve it as a national problem.

I must also add here that Mr. Hock decoys from the central issues by an academic exercise in semantics challenging us to determine if it is EFT or EVE. It reminds me of a playmate on our street when I was growing up. After supper I'd go down to his house to play. For two whole summers I played "Seek and Hide" because he had not invented "Hide and Seek." Well, I think banking is going to work with funds, not Adam and Eve.

The glib words from the "preacher" on the Potomac and the "friar" from Frisco completely miss the real requirement of developing an electronic payment mechanism. Their words are a little like kissing your sister — it's kissing but it doesn't get you anywhere. We must have solutions to the complex-pragmatic problems of handling messages from multiple cards to mutiple data bases where the cardholder and the merchant bank are not within the same system. Problems like: How do you get a message from BankAmericard to Master Charge when today they can't talk to

each other? How do you handle the non-bank items that will likely go through this system, too? Where is the competition in technological advance to which Mr. Baker constantly referred if the merchant owns the terminal and communications link?

What happens when each bank introduces its own deposit card — that's 61 in Denver and 83 in Miami? How do you reconcile the merchant's account and how do you clear the items and handle the paper flow if data capture, not just authorization, took place from point-of-sale? If you answered that not all banks will issue debit cards but instead will issue the NBI or Interbank debit cards, then I ask — is that the wonderful competition I have been hearing so much about? If you are betting on two national debit cards with a common card face then I think you are betting wrong. You are betting wrong for a very fundamental reason. The profit generation within banking and therefore the desire to succeed is based in strong regional and local banks and holding companies around the country who compete within their licensed market. That's where the banking strength will be, not with a national banking system as urged — with half-held breath — by Mr. Hock.

Our bank, through *Project Post* in 1972, gained unique experiences in what is still the only broad-based data capture experiment using bank cards at point-of-sale. When we completed that project, we urged the Federal Reserve System to supply the common ground services for a switch and processing center. We are not naturally "Fed Lovers" but we did and do today believe that the Fed must be a party to the funds transfer and settlement of balances between principals at point-of-sale. We believe the Fed has the fundamental requirement of handling the nation's demand deposit settlement and is the only current agent that can settle between banks while instilling both competition and cooperation between its members.

After the Reg J responses, it became apparent that the Fed was sidestepping the issue and as a consequence it may have foreclosed its future as the principal agent for clearing and settling of items between banks. This negative response, specifically to the Atlanta requests, may have in one stroke caused the future formation of yet another regulator — a super-regulator — potentially called the Federal Payment Authority, similar to the Federal Aviation Authority. Side-stepping the issue today will merely escalate the problem, potentially moving the clearing and settling function out of the Fed orbit into that of a new and expanded regulator. Good or bad, we are hatching something that is likely to be bigger than the hen house.

We need to recognize one important fundamental. We can be competitive and cooperative if we separate banking — the attraction of deposits and granting of loans and the accounting services associated with that function — from the payment process and operate them under separate procedures as we do today. This would maintain the banking structures permitted by each state while providing the obvious convenience of a national payment system. This fundamental, to be tested once again, is

at the heart of the recent headline grabber from the Comptroller's office forewarning us of his position on the interchange between the ownership of Automatic Banking Systems. The forthcoming test of the McFadden Act and its properness in view of today's technology will focus on the competitive differences between a national payment system, wired through a point-of-sale system, and local banking systems utilizing automatic teller machines.

They are perceived to be distinctive by almost everyone except Mr. Hock and Mr. Baker. The consumer, the retailer, the banking industry, the regulators and the legislators all perceive the payment of a bill at the point-of-sale to be different from handling banking transactions through an automatic teller machine. They are as different as telegraph and telephone even though they both basically use black wire. Banks will likely approach point-of-sale as a joint venture and include non-bank competitors but will approach bank services through automatic banking machines on a single bank basis.

Some unit banks may seek slightly different solutions, but don't misread the smoke signals puffing up above the Nebraska Plains. The Hinky Dinky experiment, which is triggering so much of the current misdirection, has an obvious chaotic implication. It is simply this. The very fabric of banking is woven from the protection, security, and accountability of a customer's deposited funds. Virtually every banking law, including the insurance that protects funds on deposit and even the thickness of the steel in our vaults, has reflected the consistent intent of our lawmakers to protect the customer's deposits. But now because of two terminals with a total cost of $1,030, we are about to discard everything we have learned about handling the riches of the world. It is absolutely insane to plan a national Funds Transfer System with deposits made to a third party where the final liability for safety and accuracy of a depositor's funds rests with the bonding company of a supermarket.

The vision of deposits commingled with the funds in a cash register drawer is bleak enough in the clean-living, good guy town of Lincoln, Nebraska. Expand that vision into the national scene and we will need more than Evil Knievel to jump the confidence canyon between our customers and ourselves. This totally unacceptable deposit function handled through point-of-sale devices is compounded even further when we consider the national implications of organizing the deposit interchange and settlement of balances through third parties. And do we permit deposit interchange only through point-of-sale devices or expand it to include automatic banking machines? My bank is just now opening a bank facility in which we have 12 advanced automatic banking machines, located in the lobby. Do I handle deposit interchange through them? And if yes, why not then accept not-on-us deposit items through our live tellers? A national interchange of deposit items surely means national banking and virtually eliminates the ability of each individual state to establish what is a bank.

Let me make very clear a prediction about what is really happening in the prospective development of the NBI Asset Card and the Interbank

Services Card. We are likely designing at last two national check clearing systems that don't talk rather than the efficient and competitive systems that we have today.

Considering the basics, our problems of resolution deal with communication. EFTS is a communication problem, not a terminal problem. We need to be solving how to talk to each other and what to say electronically, not what it is and who owns it. When we finally deal with the very real world problems of communication among all principals, then the economic and political problems will be solved as a consequence. Resolving this dilemma will likely require that we leave this period of EFT development which I call a blaze on every tree. We have faced a different direction at every turn and enter a new phase which can be called the 97¢ jug of Muscatel. We clearly are entering a period to be marked by cheap binges from short-term heady exploits. This will in turn be followed by the "Hair of the Dog" period in which the litigation, legislation and regulation effects will sober us sufficiently to arrive finally at the X-rated adulthood so earnestly sought by all.

These are some of the pragmatic problems that need definition and direction if our public is to benefit from the electronic funds potential now edging upon us. Clearly, we need industry courage, regulator conviction, and legislative direction if we are to avoid the total disaster produced from unconnected systems being encouraged by those whose interests are primarily self-serving.

Mr. Hock's and Mr. Baker's positions, while firmly and professionally stated, are out of step with reality. As in so many other western sagas, when the dust finally settles and the question is asked, "Which way did they go?" the answer will echo back and forth across the country — "They went that-a-way." Rather than becoming the dead end of a box canyon — surely the direction pointed out by these two presentations — our industry, after some false starts, will move toward a cooperative but competitive interconnected system.

Discussion

Richard S. Bower

In my public debut as a discussant 16 years ago I opened with a song which began, "Didn't the Good Book say that Cain killed Abel? Yes, good Lord!" That revival hymn was appropriate then because the speaker I was discussing saw the light and had the faith. It is appropriate now because both speakers have the faith. For Donald Baker the faith is competition. For Dee Hock it is "electronic value exchange." My problem is that I share both faiths.

The two faiths are not in conflict and conversion to one or both of them is not the basic issue. The basic issue is the boundaries of the commercial banking industry and the increasing vulnerability of those boundaries to competition, a substantial part of which is associated with electronic signaling of exchanges involving financial claims. As Donald Baker puts it: "The financial world . . . is a world of compartments created by law . . . The barriers are falling . . . Some people . . . are trying to rejigger the old rules to protect themselves from the opportunities and risks of this new, fluid world." In this setting, Donald Baker maintains we should work against rejiggering and protection and for the unrestrained competition that will lead to the best mix of services for consumers. He is all in favor of competition that will leave "the inefficient, the incompetent, or the foolhardy . . . [to taste] . . . the bitter fruit of their own mistakes or inertia." Dee Hock agrees that the barriers are falling but his concern is primarily for the commercial bankers who might taste "the bitter fruit of their own mistakes or inertia." To protect them from themselves he prescribes a restrained competition that would include joint ventures into electronic value exchange and that would assure the commercial banking industry a healthy and profitable future whether their services to consumers justify it or not.

While I share Donald Baker's faith in competition, I worry a little bit about some of the doctrine on which that faith rests. The first piece of doctrine is that competition encourages more rapid technological advance.

Richard Bower is Professor of Business Economics at the Amos Tuck School of Business Administration of Dartmouth College.

Competition is an ideal industrial structure as Baker describes it because it ". . . Forces engineers to design better systems . . . (and) . . . most lavishly rewards those who take risks in new fields." The evidence that supports this doctrine is much less than overwhelming. In fact, if that evidence does demonstrate anything clearly, then what it demonstrates is that the relationship between industry structure and the rate of technological advance depends to a great extent on the nature of the technology involved. With some technologies, regulation, either by the industry itself or by government, seems to do more to accelerate discovery, innovation and diffusion than would competition. Where electronics intersects value transfer, however, competition may do just what Donald Baker claims. In this case the technology has a low development cost, and the problem is not understanding nature but adapting what is known to the tastes and limitations of users. More rapid technological advance is not the doctrine to support an undiscriminating faith in competition but it is a very reasonable basis for encouraging competition in electronic value exchange.

The second doctrine supporting Baker's faith is the "only the market knows" doctrine. As he says, ". . . no one can yet foresee exactly what the public wants . . ." so only through trial and error in the market place can a best solution be found. That solution will sometimes involve natural monopoly but it is a ". . . bad idea to assume that fact in advance . . .". It is better to let the market place demonstrate what is wanted and whether a single firm can supply it more efficiently than many firms. This doctrine is another that falls short of general truth. Whether it is true in a particular case or not depends on the extent to which resource commitments are reversible and on the state of our ignorance about consumers. If the capital and labor committed to an industry can't be turned around and are without residual value when particular trials are unsatisfactory and individual firms fail, then the trial and error approach of competition may waste more economic value than it can create. Building three parallel railroad rights of way competitively to let two be abandoned when one proves to be a natural monopoly is a costly way to acquire knowledge. But, general doctrine or not, letting competition work in the area of electronic value exchange where resources are easily reversible and our knowledge of consumers' preferences is obviously inadequate makes very good sense.

Donald Baker's third piece of doctrine is that "competition . . . is healthy. It will produce a far greater variety of services than would otherwise be the case . . .". Again, as general doctrine, this one fails. You can have too much variety, too many outlets, too much product differentiation. And again, the failure of the general doctrine does not destroy the point as an argument for competition in electronic value exchange. Considering the sadly limited alternatives consumers have had and now have available for carrying forward financial transactions, and seeing only dimly the variety of exchange techniques that are possible, it seems unlikely that the variety encouraged by competition could be anything but a healthy development for financial services.

Donald Baker's chosen doctrines are not so general that they support competition over other structures in every industry situation but that is probably beside the point. Because in each piece of Baker doctrine there is quite a specific argument for putting faith in competition when it comes to the future of electronic value exchange.

Faith in competition is consistent with Dee Hock's faith in the future of electronic value exchange but it challenges his suggestion that joint bank ventures should be part of that future. The trial and error of competition is important for the future of electronic value exchange but that trial and error should involve firms outside of commercial banking and outside of the conventional group of financial intermediaries. These firms may be retailers, computer services firms or any others that find their associations or technological background offers profit opportunities from entry into the business of value exchange. Bank joint ventures add nothing to the potential for experimentation and are a substantial threat to competition. The joint ventures can limit alternatives, help to protect old values and serve as a source of discipline for limiting experiments to those more beneficial to banks than their customers. Competition has enough problems invading the value exchange border of a regulated banking industry without letting joint bank ventures erect additional barriers.

From all I have heard here on institutions, technology and the extent of our understanding of consumer preferences competition is the way to proceed. It can proceed most effectively if an enticing vacuum is created by keeping the Federal Reserve System and the banks completely out of the transmission or transportation system that moves information among the parties interested in a value exchange. The banks and the Federal Reserve System should be limited to a record keeping function in value exchange and kept completely out of the business of storing and forwarding exchange information. If the vacuum is to be effective as well as enticing, there will have to be minimum standards for the signals that banks and the Federal Reserve will receive and send in keeping their records. Setting these standards is the most important immediate challenge we face.

Donald Baker's competition and Dee Hock's world of electronic value exchange will depend on contracting the activities of banks and the Federal Reserve. This is the time to let third parties take over the role of moving information about, take over the point-of-sale devices and vending machines that interface with financial institutions, and take over the role of servant to individuals and firms who want to manage the assets and claims they keep with a great number of institutions. This is an ideal time to pull back the boundaries of regulation, open a greater area to unrestrained competition, and permit a graceful, appropriate contraction of regulatory authority. This kind of opportunity does not come along too often. It would be a pity if we failed to take advantage of it.

Discussion

J. C. Welman

It is always a pleasure for me to leave the interior to attend a meeting at which East Coast and West Coast representatives attempt to lead me out of the wilderness of my ignorance into the sunshine of reality. Because of my ignorance, I find difficulty in embracing the concepts proposed by Messrs. Hock and Baker. I also find it incomprehensible that all the erroneously perceived conventional wisdom as detailed by Mr. Hock can be cast aside in favor of reality — all of which surprisingly forces one to march on into the new society as a member of a national charge card association. Before the music starts and I get into step, may I point out just a few realities that seem to have slipped through the cracks?

Regardless of how many times some people may pronounce otherwise, the charge card is not now, nor has it ever been, nor will it ever be part of the payments system. It is an account receivable system for financing consumer purchases on credit. It does not consummate payment, but rather it delays it. It is discriminatory against those who pay cash and those who cannot pay off within the interest-free period. Because of this, I hope and believe that the U.S. Congress will ultimately outlaw the present operations and require interest from day one.

I believe that many charge-card people perceive this doom and are rushing into the so-called asset card as their salvation. Regretfully, they are taking their concept of appropriate structure and attempting to impose it on the banking industry without regard to the purpose of the payments system. I am afraid that, unless more appropriate consideration is given to the problem, we will allow minor technological developments to be utilized inappropriately to change the structure of the payments system from 14,000 competing banks to two or three major national systems with the consent and even encouragement of the Justice Department. If the structure of banking is to be changed by the payments system, it should be done only after a careful evaluation of all the factors and not based upon an acceptable way of utilizing new technology.

I believe that progress toward the proper evaluation of the payments system alternatives was being made until the untimely and inappropriate involvement of the Anti-Trust Division of the Department of Justice. The

J. C. Welman, Jr., is Senior Vice President of the First National Bank of Minneapolis.

Senate and the House of Representatives of the United States apparently believe that the future payments system is so unclear as to demand a Presidential Commission to study the problem. Yet, despite this clear congressional intent and despite the McFadden Act and the resulting decisions by 50 state legislatures, Mr. Baker has presented the Justice Department's views that the 14,000 banks in the country will have to join together into a few small groups in order to compete properly. It appears that the entire Justice Department position is based upon the false premise that the charge-card industry is more competitive than commercial banking. I submit to you that there is more actual competition on the basis of pricing and services and more actual innovation by the 14,000 banks today than there is or ever will be in a world dominated by two major bank charge-card associations.

Consumers charge at many locations. This poses no significant difficulties for them, but consumers generally keep their demand deposit account only in one institution. As checking accounts have been utilized more fully by the consumer, the problem has not been to merge existing units into larger units. Rather, the problem has been to improve the acceptability of the check or its substitute when presented in a face-to-face retail environment. There are a number of technologically feasible and acceptable methods for taking the consumer's check substitute and improving its acceptability to the retailer electronically. These systems also can improve the efficiency of the entire system thereby allowing the new system to benefit the consumer through improved acceptability, the retailer through continued competition for his business at lower prices, and finally the banking industry through lower operating cost.

An electronic signal, denuded of all of its grandeur and exotic mystery, is nothing more than a technologically acceptable substitute for a check. For over 100 years the consumers of this nation have had the right to choose among thousands and thousands of banking institutions. All that is needed from the consumer's standpoint is to improve the acceptability of their withdrawal requests from their checking account, principally in the local area, and to some extent the national level.

It is beyond my comprehension that this small need by the consumer can be transformed by inappropriate comparisons into proposals whereby the only alternative for the 14,000 banks in the country is to join two, three, or four major national associations for a significant portion of their business thereby developing standardized national cost to some extent, and giving up to a great extent, the individual local bank distinction which has existed for so many years.

Today, there are more competition and more available alternatives for the retailer and the consumer in the payments system surrounding demand deposit accounts than in charge cards. This competition is possible only because there is a clearing and settlement mechanism for checks throughout the country which allows banks, regardless of size, to have checking accounts and to control the method of withdrawal from those accounts without association with any national organization. We are

offered an alternative which says we will have two, three, or four major systems which will be the alternative at a given local area thereby reducing the number of available alternatives from the retailers' standpoint. In order to obtain this degree of concentration, previously unknown in the banking industry, we are also asked to say to the consumer, "Your check substitute is no longer as acceptable as your checks were previously." We are asked to say to the consumer, "If the store in which you wish to shop happens to honor your particular card, representing your ability to withdraw from your checking account, you will be allowed to handle the transaction in that manner." "If not, your alternatives are to pay by cash, by check, if they would accept it, or to have two or more checking accounts."

A number of countries in the world are served by a very few nationwide banks. I am not here to debate the virtues of such an arrangement, but the U.S. Congress and the various state legislatures have consistently rejected this concept. The system which has permitted this Congressional intent to be viable is the system for clearing checks between banks. While there may be more than one alternative technique for clearing, the various techniques are *transparent* to the consumer and to the retailer. The very cornerstone of competition has now become the villain. The very technique which has allowed a vast number of competing banks, regardless of size, has now become the principal act which is supposed to be so anticompetitive.

Regretfully, the best opportunity to test the viability of an interchange system between aggressively competing banks has come and gone. It passed us by when the Federal Reserve Board of Governors made the decision not to run a switch in Atlanta. Years ago in the St. Louis Federal Reserve my boss used to tell me that sometimes it is much more dangerous for a regulator to say no than to say yes. I am afraid that the truth of this advice will become unmistakably clear in this current decision and we must now go through the agonizing reappraisal to find an effective alternative — which we will.

There are those who tell us that the only proper approach is to allow the charge-card industry time to experiment. We hear the now traditional responses that we sit in danger of being run out of business by nonfinancial competitors or that the prospect for innovation is so great that we must not injure it with standardization. While these are possible dangers, the real danger is that these threats will be utilized temporarily to distract the industry, regulators, legislators and the public just long enough for these major national systems to become so firmly imbedded that there is no longer any alternative. And we will find, much to our regret, that the new system has no place for small banks, small businesses, and unsophisticated consumers. There is a degree of standardization without which competition by firms of all sizes cannot exist. That degree of standardization does not exist today, but its development is the challenge of banking.