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The Competitive Implications of EFT

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INTRODUCTION

The purpose of this article is to assess the implications of EFT for the competitive structure of the payments system, as well as for competition among depository institutions and among merchants.[1] The degree and nature of competition will have important implications for the variety, quality and prices consumers pay for EFT services and for the application of antitrust principles.

EFT is a service; it allows individuals and firms to transfer funds electronically from one location to another and from one deposit account to another. To provide this service, an elaborate system is required with many elements, ranging from terminals to complex communication networks with attendant computer and software requirements. There are many potential sellers and buyers of EFT services. In principle, every depository institution is a potential seller, as well as some merchants, software and hardware vendors, and credit card firms. Every consumer and business is a potential buyer.

With so many potential buyers and sellers, it might appear that the invisible hand of the marketplace could be relied upon to produce the prices and varieties of choice for EFT that would maximize economic welfare. Unfortunately, this does not appear to be the case. There are very few depository institutions or other potential sellers with the resources and expertise required to put together a total EFT system. A system involves all of the elements required to provide a full set of EFT services for consumers. It includes a combination of, and interface among, point-of-sale (POS) terminals and remote service units (RSUs)[2] at retailers, automated teller machines (ATMs), and bank-at-home facilities.

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1. This paper is a condensed version of Chapter V of J. Pierce, A Study of Some Economic Consequences of EFT for the State of California (State of Cal., 1979) [hereinafter cited as Pierce].

2. A remote service unit is an automated teller operation at a retail location, which is located at a service counter rather than at a point-of-sale location.

There appear to be various parts of the systems for which there would be a large number of sellers. For example, a number of depository institutions would be capable of providing POS and RSU facilities for merchants which could communicate with a single depository institution. There are far fewer institutions, however, capable of providing POS and RSU facilities that can communicate with a number of depository institutions and with other merchants. Servicing multiple institutions is a complex arrangement involving switches, communications networks and elaborate software; it is an EFT system.

Similarly, most depository institutions have the resources necessary to acquire ATMs from vendors that would allow their customers to conduct EFT transactions with the institution. But there are far fewer financial institutions with the resources necessary to provide a system that would allow transactions to flow among institutions and between these institutions and merchants.

I. RETAIL/WHOLESALE EFT

The key to understanding the competitive implications of EFT is to isolate those elements of EFT systems for which it is possible to encourage the thousands of depository institutions and other potential suppliers to compete against each other as sellers of EFT services. It is equally important to isolate those elements of EFT in which the number of competitors is likely to be small. For the purposes of this article, the EFT market will be divided into two segments: those for which there will be many sellers—"retail" EFT; and those for which there will be few sellers—"wholesale" EFT.

The "retail" side of EFT is made up of the final sales of services to consumers and merchants. The "wholesale" side involves the provision of computer software and hardware and the communication networks necessary for the actual implementation of an EFT system. The potential competitive environment for "wholesalers" and "retailers" is very different. As a result, they will be analyzed separately, even though the two elements interact and have important implications for each other.[3]

In retail EFT, merchants can have POS terminals through which customers can make purchases. The terminals can also serve as RSUs for depository institutions through which customers can make cash withdrawals, deposits, and third party payments. The deposi-

3. The importance of distinguishing between retail and wholesale markets for EFT has been stressed by other observers. *See* J. Brundy, Regulatory Alternatives for Electronic Funds Transfers (Fed. Bd. Memo., Oct. 1977) [cited hereinafter as Brundy].

tory institutions associated with the system also have their own terminals, such as ATMs, through which customers can make cash withdrawals, deposits and third party payments at locations other than commercial establishments. Orders by consumers to the depository institutions by telephone are also a possible component. These elements and the links among them constitute the retail side of EFT. In retail applications, the depository institution sells EFT directly to consumers through its terminals, and contracts with merchants to provide services on their premises.

The depository institution acquires the ingredients for its retail EFT services from wholesalers. In principle, all elements—terminals and software, as well as access to switches, other computers and communication networks—could be purchased from wholesalers. In practice, depository institutions are often in the wholesale business; they own or lease many or all of the wholesale ingredients. Merchants could also be in the wholesale EFT business, but again, it is convenient to separate the functions.

In an ideal world, retailers of EFT services would be able to acquire many different configurations from wholesalers. Thus, depository institutions could put together many different packages for their customers. Just as there are many different deposit, checking and loan plans currently offered, so too could depository institutions offer many different EFT plans. Plans could differ, for example, in the use of deferred payment facilities, in the variety of services available through ATMs and RSUs, and in charges to consumers. They could also differ in the charges made to merchants and in the deferred payment arrangements made with them.

This article proceeds with a discussion of the economics of, incentives to enter, likely responses of nonparticipants, and uses of exclusionary practices in retail EFT. The economics of the wholesale side of EFT are then discussed and the conclusion evaluates the overall competitive implications of EFT.

II. The Economics of and Incentives to Offer Retail EFT

Perhaps the most fundamental incentive to offering EFT services involves the costs of processing checks and of operating full service, nonautomated branches. It is exceedingly costly to process checks and to service deposit customers through full service branches. For example, it currently costs a bank about twenty cents to handle each deposit and about twenty-one cents to process a check drawn on a customer's personal account.[4] The costs of

4. *See* Pierce, *supra* note 1, ch. II.

nonautomated services will continue to rise as check volume and plant growth continue. Many of these costs could ultimately be reduced under EFT.

Estimates of potential savings on these activities under EFT are not very reliable because of lack of experience with full-scale EFT operations under high utilization rates and because EFT would provide different service mixes. It appears, however, that savings of thirty to forty percent over current procedures could be expected for mature systems.[5] Thus, when depository institutions consider alternative service packages and branch expansion, they should consider EFT as an alternative.

Aside from the savings that POS terminals or RSUs offer on operating costs, they also promise greater flexibility than brick and mortar branches. Shifts in population and shopping locations are much less costly to accommodate with EFT facilities than with traditional branches.

The desire for an increased market share is a motivation for some depository institutions to offer EFT. In an analysis of competition for market shares, it is important to distinguish commercial banks from savings and loan institutions (S&Ls). Commercial banks (CBs) already have full deposit powers. When such banks offer EFT they are simply offering a service that is more convenient to many of their customers than existing services. This added convenience should increase deposits in the banks that makes them available.

Since EFT is still in its infancy, there is no way to determine how influential convenience will be. Experience suggests that the ability to make cash withdrawals at convenient times and locations is a valuable service to bank customers.[6] The infrequent use of ATMs for anything other than cash withdrawals suggests that the convenience factor in deposit and third-party payment activities is not perceived to be very great by consumers at this time. Based on this experience, one would not expect the desire for increased market share to be a very strong motivating force for most commercial banks.

With existing charge systems for bank services and with a full range of services offered, it is unlikely that a bank could look to a

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5. *See* National Comm'n on Elec. Funds Transfer, Internal Working Doc. No. 25 (Nov. 1976) [hereinafter cited as NCEFT]; Morris, *An Empirical Analysis of Costs and Revenue Requirements for Point-of-Sale EFTS*, 9 J. BANK RESEARCH 136 (1978).

6. Walker, *An Analysis of Cash Dispenser and Automated Teller Activity Levels and Costs, in the U.S.*, 7 J. BANK RESEARCH 266 (1977); Greguras & Wright, *How the New EFT Act Affects the Financial Institution/Consumer Relationship*, 11 U.C.C.L.J. 207, 267 (1979).

sufficiently increased share of the market to justify the heavy initial costs of EFT. It does seem likely that banks will increase their automated cash dispensing activities because of the demand by consumers. However, it is a long way from cash dispensing to full-scale retail EFT.

EFT will likely erode and eventually destroy restrictions on intrastate and interstate competition for deposits. If these restrictions are reduced or eliminated, some banks could look to markets outside their own areas as sources of deposit expansion. Bank interest in EFT should increase if "branching" restrictions are reduced.[7]

S&L electronic payment accounts offer the advantage to consumers of earning interest. EFT appears to offer S&Ls the opportunity of gaining deposits at the expense of commercial banks. For this reason, it is not surprising that S&Ls have often been the leaders in experimenting with POS configurations with retailers.[8]

The incentive to increase market share through EFT is different for S&Ls, because in most states S&Ls are not allowed to offer third-party payment accounts. The absence of checking accounts puts S&Ls at a competitive disadvantage relative to banks. Many households find it more convenient to have both their checking and savings accounts at a bank, than maintaining a savings account at an S&L where they can receive only one-quarter of one percent more interest on their savings. For many savers, this small differential is not worth the inconvenience of "banking" at two locations. Under EFT, S&Ls can offer the functional equivalent of a checking account. It is possible for a consumer to make a direct payment electronically to the retailer from his or her account at the S&L. The saver could also direct the S&L to transfer funds electronically to any third party with which the S&L could communicate.

EFT has not progressed sufficiently to permit an evaluation of the impact on the ability of various depository institutions to increase their market shares.[9] However, the competitive responses of

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7. For example, the expectation of reduced branching restrictions may help to explain Citicorp's relatively heavy investment in ATMs and other EFT facilities. *See* Einhorn, *Terminal EFT Services: The Need for Uniform Federal Legislation*, 2 COMPUTER/L.J. 31 (1980).

8. Indeed, First Federal Savings & Loan of Lincoln stimulated most of the current EFT activity by its Hinky Dinky experiment in Lincoln, Nebraska in early 1975. *See, e.g.*, Bloomfield Federal Savings & Loan Ass'n v. American Community Stores Corp., 396 F. Supp. 384 (D. Neb. 1975); Nebraska *ex rel.* Meyer v. American Community Stores Corp., 193 Neb. 634, 228 N.W. 2d 229 (1975).

9. Limited experience with existing EFT indicates that market shares have not been affected. *See* American Bankers' Ass'n, Results of Competitive Impact Survey

depository institutions in New England following the introduction of negotiable orders of withdrawal (NOW) accounts provide some insights. NOW accounts presented depository institutions with a new method of competing for funds. It no longer was necessary to rely on convenient locations and advertising campaigns to attract funds. Institutions could compete for checking account funds by paying interest up to regulation Q ceilings.

S&Ls account for only about ten percent of the total assets held by depository institutions in the New England states as a whole, with the remainder split almost equally between mutual savings banks and CBs. Mutual savings banks (MSBs) have significant greater powers than S&Ls. They can purchase corporate short-term debt, stocks and bonds, provide financing for commercial real estate, make construction loans, and engage in consumer lending. Until the advent of the NOW account, MSBs could not offer checking accounts. In fact, the NOW account was first introduced in June 1972 by an MSB—Consumers Savings Bank of Worcester, Massachusetts—as a method of getting around the prohibition against offering demand deposits.[10] Had it been possible for MSBs simply to offer demand deposits, the NOW account might never have been invented.[11] Once offered, other mutuals were quick to follow.

The first lesson of the New England experience is that profitable outlets for newly acquired funds are an important ingredient in motivating innovations such as NOW accounts or EFT. Most institutions are interested in expansion only if the eventual rise in earnings is commensurate with the rise in market share. Mutual savings banks in Massachusetts and New Hampshire had a strong incentive to seek the checking account business because of their flexible investment powers. They recognized the potential profitability of investing newly acquired funds in various instruments and of capturing a larger share of the consumer loan market. Thus, they had a strong inducement to attempt to increase their market share in their respective states. Commercial banks and S&Ls did not have similar inducements because the banks already had the business and S&Ls lacked investment outlets.

It is relevant to determine whether MSBs were successful in

(July 1977); Gilbert & Walker, The Influence of EFTS on Changes in Bank Market Shares (FDIC Working Paper No. 77-2, 1977).

10. Congress authorized all depository institutions in Massachusetts and New Hampshire to offer NOW accounts beginning January 1974. By 1976, NOW account authority had been extended to Connecticut, Rhode Island, Maine and Vermont.

11. For an interesting discussion of the genesis of the NOW account and its early history, *see* Gibson, *The Early History and Initial Impact of NOW Accounts*, NEW ENG. ECON. REV., Jan.-Feb. 1975, at 17.

their quest for new funds and increased market share. Table I summarizes the movements in market shares from 1971 through 1977 for MSBs, S&Ls and CBs in each of the New England states, in New England as a whole and, for comparative purposes, in the remainder of the nation. Market share in each year is measured by the total assets of each of the three types of depository institutions as a percentage of total assets of all depository institutions in that year.

Commercial banks in Massachusetts and New Hampshire were not authorized to offer NOW accounts until January 1974. Thus, MSBs in these two states had a competitive advantage for nearly a year and a half. Despite this advantage, the market share of MSBs in these two states did not rise in 1972 and 1973. In Massachusetts, MSB's market share actually fell slightly in 1973. Commercial banks were able to maintain their market share in both states despite their inability to offer NOW accounts. Mutual savings banks in Massachusetts improved their market share slightly in 1975-76 over 1974 but lost ground in 1977. In 1977, MSBs had forty-seven percent of all assets of depository institutions in Massachusetts; in 1971 they had forty-six percent. Thus, the improvement in market share was marginal at best.

The decline in market share for CBs was likewise marginal. The performance of MSBs in New Hampshire was even weaker. They started in 1971 with forty-two percent of the assets of all depository institutions in the state, and by 1977 had only forty-one percent. Savings and loans in New Hampshire were able to improve their market share from fourteen percent prior to NOW account authority in 1973 to seventeen percent in 1977. The market share of CBs in New Hampshire fell from forty-three percent in 1974 to forty-two percent in 1977.

In Maine and Connecticut, thrift institutions were authorized to offer noninterest-bearing checking accounts in October 1975 and January 1976, respectively. Thrift institutions and commercial banks in all New England received authority to offer NOW accounts in March 1976.[12] The market shares of thrift institutions did rise slightly in Maine and Connecticut following authorization to offer checking accounts and then NOW accounts. For example, in 1974 CBs in Connecticut and Maine had forty-two and fifty-three percent of total assets in those two states, respectively. By 1977, their shares had fallen to thirty-eight and fifty percent, respectively. Both MSBs

12. For a detailed discussion of early NOW account experience in New England, *see* Kimball, *Recent Developments in the NOW Account Experiment in New England*, NEW ENG. ECON. REV., Nov.-Dec. 1976, at 3.

Table 1

Annual Market Shares: New England States and U.S., 1971-77

(Percent of total assets)

Year	Conn.	Maine	Mass.	N.H.	R.I.	Vermont	New England	All U.S. less New England	New England as percentage of total U.S.
					Mutual Savings Banks				
1971	45%	38%	46%	42%	35%	23%	44%	7.4%	28.0%
1972	45	39	46	43	34	23	43	7.2	27.9
1973	44	38	45	43	34	23	43	6.8	28.0
1974	45	38	44	42	22	24	42	6.4	27.7
1975	45	39	46	45	23	25	43	6.5	27.8
1976	47	40	48	42	23	26	43	6.7	27.5
1977	48	40	47	41	23	26	44	6.5	27.5
					Savings and Loan Associations				
1971	12%	9%	7%	14%	12%	7%	9%	22.3%	2.6%
1972	12	9	7	14	11	7	9	22.8	2.5
1973	13	9	7	14	10	7	9	22.7	2.4
1974	13	9	7	15	10	7	9	22.6	2.4
1975	14	9	7	16	10	7	10	24.0	2.3
1976	14	10	7	15	9	8	10	25.5	2.1
1977	14	10	8	17	10	8	10	27.8	2.0
					Commercial Banks				
1971	43%	53%	47%	44%	53%	70%	47%	70.3%	4.2%
1972	43	52	47	43	55	70	48	70.1	4.1
1973	43	53	48	43	56	70	48	70.6	4.0
1974	42	53	49	43	68	69	49	71.1	3.9
1975	41	52	47	39	67	68	47	69.4	3.8
1976	39	50	45	43	68	66	47	67.9	3.7
1977	38	50	45	42	67	66	46	65.6	3.7

and S&Ls gained at the expense of CBs. Depository institutions in Rhode Island and Vermont were authorized to offer NOW accounts in March 1976.[13] Since then, MSBs and S&Ls in those two states have gained only marginally at the expense of CBs.

For New England as a whole, *i.e.*, all of the states combined, there has been little change in market shares. Commercial bank assets did fall from a high of forty-nine percent in 1974 to a low of forty-six percent in 1977. Over the 1971-77 period as a whole, there was remarkably little change in relative market shares among MSBs, S&Ls and CBs. The NOW account experiments in New England started a revolution in terms of interest-bearing checking accounts, but they have not revolutionized the competitive structure of depository institutions.

In fact, the relative market shares in New England were more stable over the 1971-77 period than for the rest of the nation. Outside of New England, the market share for MSBs fell from 7.4 percent in 1971 to 6.5 percent in 1977. For CBs the share decreased from 70.3 percent in 1971 to 65.6 percent in 1977 for all of the United States outside of New England. S&Ls have increased their market share at the expense of the other institutions.

There are several reasons for the different behavior of market shares in New England than in the rest of the country. Economic growth has not been rapid in the New England states and housing growth has been weak. NOW accounts may also have played a role, however. It appears that both MSBs and CBs found NOW accounts to be a useful vehicle for reducing the degree of slippage in market shares that occurred in the rest of the country. Both MSBs and CBs were able to use NOW accounts as a means of attracting and/or retaining consumer accounts in New England. Outside of New England, NOW accounts were not available and the market shares of MSBs and CBs suffered. Rather ironically, NOW accounts helped the market share of CBs by providing an instrument that was directly competitive with S&L accounts, for there is no Regulation Q differential for NOW accounts..

NOW accounts were initially offered, and then aggressively priced by MSBs that were attempting to take business away from CBs. Mutual savings banks initially used NOWs as a "loss leader" for which interest was paid but no service charges or meaningful minimum balances were required.[14] NOW accounts were opened,

13. In Rhode Island, MSBs can, and do, own commercial banks. Thus MSBs in that state did not have much incentive to enter the checking account and NOW business.

14. For a short history of pricing strategies and other competitive factors, *see*

but many of these accounts were simply transfers from existing accounts within MSBs. Commercial banks lost some business and feared the loss of more, so they responded by issuing their own NOW accounts. Their customers also shifted from existing accounts to NOW accounts. S&Ls experienced the same developments. After the smoke cleared, most depository institutions in New England offered NOW accounts and consumers received an interest return on their checking accounts, but market shares changed very little. Consumers simply substituted NOW accounts for savings accounts within thrift institutions and NOW accounts for savings and checking accounts within CBs. Mutual savings banks succeeded in limiting the decline in market share that characterized MSBs in the rest of the nation, but were unable to gain significantly at the expense of CBs.

NOW accounts do appear to offer a lesson for EFT. So long as there are many competitors who can offer the same services, there are not substantial long-term gains from innovation, but innovation does occur. When an MSB started to offer NOW accounts, other MSBs were quick to follow and S&Ls and CBs were not far behind. In order to attract business, MSBs priced NOW accounts on very attractive terms for consumers. Mutual savings banks were not able to attract as many consumers because other depository institutions also offered NOW accounts on competitive terms.

NOW accounts were initially loss leaders because depository institutions paid five percent interest, and service charges and/or minimum balance requirements did not cover the expense of processing the accounts. Service charges and minimum balance requirements have been increased, but in most cases not sufficiently to recover processing costs. During the entire NOW account episode, there was no evidence that institutions raised loan rates or cut service quality to compensate for increased expenses. It seems likely that the same sort of phenomenon would occur with retail EFT. So long as many depository institutions can offer retail EFT packages to merchants and depositors, the gain from being a leader is likely to be small.[15] Furthermore, even if EFT is used as a "loss leader," loan interest rates and service quality would not be affected.

NOW accounts spread rapidly because there was strong consumer demand for them. Any consumer prefers a checking account that bears interest to one that does not. Since service charges ini-

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Kimball, *The Maturing of the NOW Account in New England*, NEW ENG. BANK REV., July-Aug. 1978, at 27.

15. It will be argued later, however, that there are substantial potential gains on the wholesale side of EFT, where entry is not so easy. *See* Section III *infra*.

tially were low or nonexistent on NOW accounts, they simply overwhelmed traditional demand deposit accounts. The situation is far different for EFT. There is no evidence of strong consumer demand for electronic payments, except perhaps in cash dispensing. Development costs are high for EFT and depository institutions are saddled with a charge system (or lack of a charge system) that makes it difficult to "price" EFT in an attractive manner.

The experience of S&Ls to date suggests that EFT will be a mixed blessing because accounts held at S&Ls for purposes of making EFT transactions are relatively small and volatile.[16] Because S&Ls have limited investment powers, it is difficult to cope with deposit volatility. Until S&Ls have obtained expanded investment powers, particularly the authority to grant consumer loans, the incentive to enter the retail EFT business will be limited. The success of the new money market certificates suggests that S&Ls are better able to compete in the marketplace than was previously anticipated by regulators and legislators. It is possible that this favorable experience could open the door to more investment powers. If S&Ls could offer family-finance centers at which a full variety of deposits and loans were offered to consumers, it is likely that they would have an increased incentive to adopt EFT. With additional investment powers, volatile deposits could be more profitable and S&Ls would actively seek out methods of attracting funds. EFT would be an attractive method.

It is possible, however, that institutions entering EFT early could gain valuable experience that would afford them an initial competitive advantage. This is particularly true since the development of retail and wholesale systems is likely to be combined. Control over an entire EFT system could give a single institution or group of institutions a significant competitive advantage, if they could exclude competitors from the system or charge high fees to participants.

It is not clear that the commercial banking industry would increase its market share from EFT. Some individual CBs might perceive the opportunity to take consumer business away from other banks and perhaps from S&Ls. The CBs most likely to see such opportunities would be those without large existing branch networks; EFT could be less expensive than branches as a means of expansion. Any institution with expansion plans must concern itself with the prospect that larger CBs would offer their own retail EFT should the smaller CBs take substantial business away from them. The fear of entry by large CBs should inhibit development of retail

16. *See* Pierce, *supra* note 1, ch. IV.

EFT by small CBs. Furthermore, it would also be difficult for a relatively small institution to interest merchants in its POS terminals. The most likely EFT innovation for small CBs appears to be ATMs and similar devices.

Retail EFT will look attractive to some institutions, but it is unlikely that EFT would provide a powerful method for increasing market share. EFT is attractive because it offers substantial potential cost savings over current, non-electronic procedures. Unless depository institutions and/or large merchant firms can find ways to limit competition in retail EFT, it is unlikely that electronic systems will be high on their list of innovations.

III. The Economics of and Incentives to Offer Wholesale EFT

If there are to be retail EFT facilities, someone has to provide all of the components that link together the ultimate customers with the depository institutions in which the various accounts reside. A full system is highly complex and expensive. The wholesale market is composed of firms that provide the computer and data communication services required to process transactions. The market participants include hardware manufacturers, software firms, and communications firms such as the telephone company.

A likely role of depository institutions and/or large merchants is to put the components of EFT together, or to see that they are put together, in order to produce a full system. While they may also provide some of the products, the builders of an EFT system must deal with firms providing the various components. Sufficient competition and the absence of conflicts of interest among hardware manufacturers and independent software firms appear to make anticompetitive practices in these areas unlikely.

The provision of communications systems is more difficult to assess. Common carriers, such as the telephone company, are regulated and presumably are prevented from engaging in monopolistic practices. Because of these regulations, however, there is no guarantee that their pricing structure will be "correct." Furthermore, because of the lack of competitive pressures, communications firms are not apt to be as innovative, and may impose arbitrary standards on the use of their systems. This is a vulnerable element.

The greatest problems arise with depository institutions and large merchants because they will have a conflict of interest between their wholesale EFT activities and their retail operations. The problems associated with having a large merchant provide wholesale services have been discussed elsewhere and will not be

stressed here.[17] Rather, the role of depository institutions themselves as EFT wholesalers will be analyzed.

The incentives to offer wholesale EFT services appear to be substantial for early entrants into the industry. All available evidence suggests that there are significant economies of scale in wholesale EFT operations.[18] Such economies suggest that, as a firm expands its operations, costs per unit of service decline. A large firm can profitably offer its services at a price that is unprofitable for a smaller competitor. Thus, the firm or firms that first establish high volumes of operation can dominate the industry. The prospects of achieving scale economies and precluding entry of competitors could be strong incentives to enter the wholesale EFT field early. No one knows whether scale economies will produce decreasing per unit costs over the entire range of foreseeable output or whether, after some point, per unit costs will level out or perhaps even rise. If the per unit costs fall over the entire range of foreseeable output levels, the first wholesale EFT firm that achieves decreasing costs will become a "natural monopoly." No other firm will be able to compete against it.

In the case of a natural monopoly, the initial entrant, with a higher volume of activity, will experience lower operating costs than newer entrants with lower levels of activity, and hence, can undercut their prices on the basis of cost. Natural monopolies are subject to antitrust statutes,[19] and often end up being subjected to governmental regulation or ownership. Even in the case of a natural monopoly, more than one firm can survive if various firms decide to differentiate their products by specializing in certain types of activities. For example, there might be regional specialization, or one wholesale system might service only large depository institutions and large merchants whereas another system might service smaller depository institutions and small merchants. Furthermore, a natural monopoly might restrict its activities and share the market, if it believed that it could avoid antitrust action and/or government regulation. For both economic and political reasons, it appears that a single firm selling a wholesale EFT system is unlikely to prevail, even if it experiences continually declining costs. Of course, if unit

17. *Id.*

18. *See, e.g.*, Morris, note 5 *supra*; NCEFT, note 5 *supra*; W. BAXTER, P. COOTNER & SCOTT, RETAIL BANKING IN THE ELECTRONIC AGE, THE LAW AND ECONOMICS OF THE ELECTRONIC FUNDS TRANSFER, ch. 6 (1977) [hereinafter cited as BAXTER]; M. Bender, The Economics of Electronic Funds Transfer Systems (NCEFT Internal Working Doc. No. 43, Apr. 1977); Walker, note 6 *supra*.

19. *See* L. Sullivan, Analysis of the Recommendations of the National Commission for EFT Concerning the Sharing of EFT Systems (State of Cal., Mar. 1979).

costs rise after some level of activity, more than one firm could prevail. In either event, however, the number of sellers of EFT systems is likely to be small.

No large-scale EFT system exists. If it did, it would be possible to estimate the response of unit costs to increases in output for the existing system under current technology. In the absence of real world data, various estimates have been made, based on existing and hypothetical systems. The studies suffer from so many handicaps that none of them should be taken literally.[20] While there are no reliable, quantitative estimates available, the indications are that scale economies exist. It is likely that future technological advances will add to existing scale economies. It seems safe to assume, therefore, that the number of EFT wholesalers will be small.

Historically, depository institutions have been the prime organizers of wholesale EFT activities. These institutions have experience with the existing payment system and have developed considerable expertise in operating it. Therefore, it is logical that they would take the lead in developing EFT systems. While the participation of depository institutions in wholesale EFT operations is understandable, there are possible anticompetitive implications of their participation.

In principle, an EFT system should be capable of handling a number of different merchants and a variety of depository institutions. Merchants will be most interested in a system that communicates with a number of depository institutions because such a system would attract more retail customers. Depository institutions are most interested in a system that communicates with a number of merchants, because such a system would be the most attractive to their depositors. To a degree, the desires of merchants and of depository institutions are in conflict. Merchants would prefer to have a number of depository institutions involved, but would prefer to exclude competing merchants from the system. Depository institutions would prefer to have a number of merchants involved, but would prefer to exclude competing depository institutions.

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20. Baxter, Cootner and Scott attempt to estimate the number; they conclude that the number of EFT systems will be ample to assure active competition. Their estimates would be comforting if they could be believed. Unfortunately, their procedures are so dubious that they cannot be taken seriously. A simple analogy will provide the only critique of their methods needed for the purpose of this article. If their estimation procedures had been applied to credit card systems, one would have predicted that a large number of separate bank credit card systems would currently exist in the United States. Considering that there are only two major bank credit card systems in the United States—MasterCharge and VISA—the estimation procedures of Baxter, Cootner and Scott are best forgotten. BAXTER, *supra* note 18, ch. 6.

This conflict suggests that large depository institutions or combinations of institutions would have an incentive to develop their own wholesale systems. A large CB or S&L branch system could bring enough potential customers to a given merchant to make the system worthwhile, even if other CBs or S&Ls were not involved.[21] The fear of losing customers would prompt other merchants to sign up. Large depository institutions acting alone or jointly command the capital, expertise and customer base required to establish an EFT system that is attractive to merchants. Similarly, large merchants, such as Sears, Roebuck, also have the incentive and the resources necessary to put together a full EFT system. They could deliver a sufficient number of potential deposit customers to stimulate participation by several depository institutions.

The wholesale EFT business will likely be dominated by a small number of large firms. It also seems likely that most of these firms will be operated by large depository institutions. A wholesale EFT firm would operate in a manner somewhat similar to a correspondent bank. Smaller depository institutions would be sold wholesale EFT services for a fee. The amount of competition for the business of these smaller institutions would depend, in part, on the number of wholesalers. Since the number is likely to be small, there is apt to be less competition for small depositor institutions among EFT wholesalers than there is among correspondent banks.

Whatever the degree of competition, EFT firms could provide a sizeable flow of fee income to the large depository institutions that own them. The prospect of this income helps explain the interest of large CBs and S&Ls in wholesale EFT. Large institutions are under pressure to increase, or at least maintain, their capital relative to their assets. Fee income is a method of earning profits without having to acquire loan assets. In recent years, there has been a definite trend among large institutions to shift emphasis away from deposits and loans in favor of service activities that do not claim so much capital. EFT operations are a natural and attractive candidate.[22]

Wholesale EFT firms could move across state lines, even if the depository institutions that own and use them could not. With national sales, *i.e.*, EFT packages sold to regional deposit institutions and merchants, wholesalers could look forward to a large volume of transactions and to low-cost operations. A nationwide system could

21. Of course, a number of banks or S&Ls could offer the system jointly and exclude other banks or S&Ls.

22. Relatively little capital is needed because hardware could be released rather than purchased. It is likely that wholesale EFT activities would be operated through holding company subsidiaries rather than through the depository institutions themselves.

also serve as an excellent vehicle for the controlling depository institutions, if and when direct operations across state lines are approved. Thus, for example, a joint EFT venture of large institutions could tap the national deposit market if interstate deposit gathering is authorized.

There are three organizational methods by which depository institutions might provide wholesale EFT services. An institution can offer franchises, several institutions can engage in a joint venture, or a very large institution can provide its own in-house system to its customers.[23]

The franchise alternative is in some ways similar to correspondent banking.[24] The franchisor might be a large CB which would arrange to issue a debit card and to provide EFT services for participating institutions, including hardware and software as well as communications networks for completing transactions. The participating institutions would engage in the retail EFT activities of signing up merchants and of attracting consumers. The debit card could bear the name of the participating depository institution or it might bear the franchisor's name. Because of scale economies, the franchisor would have the incentive to include as many "correspondents" as possible in its systems, as long as they did not compete with the franchisor's own retail operations. If they did compete, a conflict of interest would exist and competitors would likely be excluded. Interstate franchises would appear particularly attractive.

Because of scale economies and market power, it is unlikely that many EFT wholesalers will survive. Thus, unlike correspondent banking, there are apt to be very few firms offering EFT franchises. The franchisor has a strong incentive to attempt to lock its customers into its own system in the hope of limiting future competition from other franchisors. Distribution of the franchisor's card to customers of the participating depository institutions would be a powerful method of doing so. Presumably, other methods, such as special terminal hardware, would also be attempted.

If there are few EFT wholesalers and competition can be limited among themselves, retail EFT will suffer. It would not be possible for retail banks or S&Ls to shop around for various EFT packages for their customers or to vary the packages in response to market forces. Participating institutions would have to rely on the wholesalers to provide different packages and to innovate. Such perform-

23. These three organizational forms are discussed in detail in Brundy, note 3 *supra*.

24. The Money Service (TMS) Corporation, created by a savings and loan, is a well-known franchisor.

ance on the part of franchisors is, indeed, unlikely. There is not apt to be enough competition to expect much product variation or innovation. Needless to say, it is also unlikely that wholesalers would engage in price competition once an efficient size is achieved.

Potentially, the situation for joint ventures is perhaps even worse than for franchises. In a joint venture, two or more depository institutions pool their resources to establish a wholesale EFT firm. If the firm stayed solely in the wholesale field, making its services available to depository institutions and all merchants, it would be little different from a franchisor. If, however, the participants in the joint venture restrict retail EFT operations to themselves, as seems likely, other depository institutions would be excluded. Exclusion could give the members of the joint venture a powerful competitive advantage over institutions that do not have access to other EFT systems, or at least that have to pay high fees for their EFT. In this case, members of the joint venture could offer more retail services at lower fees than their retail competitors. They could expect an increase in their market shares. The same lack of interest in innovation and flexibility of systems that would characterize franchise operations would also characterize joint ventures. The situation for sole proprietors is similar to that of joint ventures. Sole proprietorships would probably be limited to the largest institutions.

Franchisors, joint venturers and sole proprietors operated by depository institutions have an incentive to exclude competitors from their systems. But at the same time they want to encourage volume in order to reduce unit costs. This conflict could be resolved if the wholesaler attempted to sell its wholesale products outside its market area. In such out-of-state operations, the firm would be strictly in the wholesale business and would not violate interstate branching restrictions.

Two obvious participants in the wholesale EFT business would be MasterCharge and VISA. These bank-card systems are currently structured as cooperative ventures. If the current, organizational form were retained under EFT, these systems would combine the features of franchises and joint ventures. Because of the experience that the bank-card systems have had with communications networks, because of the large number of participating banks, and because of the contact that these banks already have with merchants, it would be relatively easy for them to establish a nationwide EFT network.

The credit card companies themselves have substantial experience with electronic payments, and giant participating banks have even more. This experience gives them a substantial lead over potential competitors; they could be the first wholesalers able to

achieve scale economies in their operations. The two bank-card systems have not engaged in competition that has reduced revolving credit charges or the quality of service, despite high profits.[25] Furthermore, the systems have not been very innovative. The bank-card systems might come to dominate wholesale EFT in much the manner that they have dominated the credit card business. There is no reason to expect better competitive performance in their EFT activities than in their credit card operations.

IV. CONCLUSION

Retail EFT operations will be flexible and competitive if three conditions are met. First, terminals at retailers must be capable of communicating with any depository institution; second, merchants and depository institutions must be unable to exclude other institutions from participating; and third, services must be available from wholesalers in sufficient variety and at competitive prices so depository institutions can offer various retail packages at reasonable prices. To the extent that a few depository institutions can exclude others from offering services through terminals at merchant locations, and to the extent that wholesalers do not provide an adequate mix of packages at competitive prices, competition on the retail side of EFT will suffer.

There appear to be strong incentives to enter the wholesale EFT industry. The firm or firms that enter early will have the prospect of achieving economies of scale and of being able to charge fees that are high enough to inhibit entry of other wholesale competitors. It is unlikely that the market structure that will emerge from unregulated wholesale EFT will provide services and prices in the public interest. Retail EFT innovation and competition are likely to be stifled because of the inflexibility of wholesalers. An unregulated system does not appear to have beneficial implications for retail depository institutions or for the consuming public. If sufficient wholesale services could be made available on reasonable terms, there would probably be enough retail competition to leave this element relatively unregulated.

It does not appear desirable to leave wholesale EFT to benign neglect. In an unregulated world, there could be a significant further concentration of financial and economic power in the hands of giant depository institutions, major merchant conglomerates or their holding companies. Such concentration could have unfortunate im-

25. *See* Pierce, *supra* note 1, ch. III.

plications for the nation's payment system and for the economy as a whole.