Chapter 5

Wholesale Financial Services

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Retail suppliers of financial services provide consumers with a variety of products and services, including deposit-taking, securities brokerage, and credit extension. Wholesalers, in turn, provide a variety of services to retailers, services that may be grouped under two broad headings. First are the wholesale products that affect the balance sheets of the providers, usually by converting assets from one form to another (e.g., cash to notes receivable or vice versa). For example, institutions can purchase debt instruments in secondary markets, or a bank may participate in a loan syndicated by its correspondent. Historically, depository institutions have always been suppliers and users of this class of wholesale services. They have established and maintained correspondent relationships that have included such features as loan participation and the operation of secondary markets for various debt instruments, without relying on automated processing.

A second class of wholesale products comprises mainly processing and information services. Included in this group are check and credit card processing, general accounting and account maintenance services, and communication services. This chapter describes the wholesale financial products and services that are available, the organizations that participate in this segment of the industry, the role of technology, and the trends that are presently in evidence.

Changes in the financial service industry have shaded the fine lines between wholesale and retail services. For example, from the point of view of each organization that issues a VISA card, VISA International, the parent of the VISA service, is a wholesaler that provides the interchange services that are essential to the operating concepts embodied in bank card organizations. On the other hand, VISA International actively markets its products on behalf of its members and is highly visible to the consumers. In this sense it can be viewed as a retailer of financial services.

Wholesale and retail financial services will continue to overlap in the future as the implementation of advanced financial service delivery systems tightens the coupling between the organizations that perform the various functions that are required to deliver services. However, for the moment, it remains useful to describe wholesale and retail services separately.

On the one hand, the earliest applications of information processing and telecommunication technologies were in the area of wholesale financial services much more than in retail. Check processing and account maintenance services have been provided by third-party operators for years. Wire transfers of funds have been used since before the turn of the century. On the other hand, there are wholesale services that are not particularly susceptible to automation. Arranging loan participations may rely heavily on telecommunications, but the process is not really automated.

However, wholesale financial services are not really separable from other financial services that may benefit greatly from the application of advanced technologies. Thus, policies that are directed at changes resulting directly from the application of advanced technologies to the entire financial service industry are also likely to impact wholesale financial services. Therefore, it is important that the reader who is concerned with developing policy for the financial service industry be aware of the full range of services provided by the financial service industry.

The Role of Technology in Wholesale Financial Service Systems

The financial service industry was one of the early users of advanced technology for product delivery. Transaction volumes of checks and credit cards now exceed the industry's ability to process transactions manually, and the increasing time value of money and the variety of alternatives for investment have placed a premium on the ability to move funds and information rapidly and accurately over wide geographic areas. Even for small organizations, the accessibility of economical processing services has been crucial for survival.

Most of these processing services could not be delivered without the availability of the advanced communication and information processing technologies. Further, because of the heavy dependence of service providers on these technologies, firms with expertise centered in the technologies rather than in the delivery of financial services have recognized and developed opportunities in the financial service industry as providers of wholesale financial services. In addition, communication and information technologies have made possible the extension of wholesale financial services products to include features that could not have been offered without the technologies.

Historically, the costs of establishing and maintaining the processing capabilities required to support the delivery of financial services have been beyond the means of many retailers. Now, however, the low cost of information processing equipment and the increasing availability of low-cost software packages has brought within reach the decision support systems and other capabilities not previously available to small institutions. (The large systems for transaction procession and general accounting are not included in this group as they can be developed and supported only with significant resources.)

While all organizations need access to technology, not all have to develop processing capabilities within their own organizations. The problems of processing and other aspects of marketing and delivering services are largely separable. Managers of financial service providers are faced with the same "make or buy" decisions that confront those responsible for a manufacturing facility. A depository institution can either generate a loan portfolio through its own efforts, or it can participate with others who undertake the active marketing of credit services. Additionally, an organization can acquire and support the facilities necessary for performing the data processing entailed in delivering financial services, or it can buy those services from third parties. Further, just as merchandisers can setup an organization to buy in quantity for a group, financial service providers can realize economies of scale and scope by joining a consortium, or network, that establishes an organization to perform transaction processing.

Products Available in Wholesale Markets

Asset and Liability Products

The asset and liability products shown in table 7 include those where the wholesaler acquires an asset from the retailer, generally in exchange for cash. These services allow the retailer to turn over its portfolio and thus remain in a position to provide additional financing to retail customers. If this were not possible, retailers would be solely dependent on the generation of new liabilities (deposits from their customers) to meet demands for credit from the markets served. Thus, the ability to place assets in secondary markets is key to

Table 7.—Major Providers of Wholesale Financial Services

Nonbank and nonfinancial ***service company third-party processors:***
ADP
EDS
Decimus
Control Data
CSC/Infonet
FDR (AMEX subsidiary)

Financial service institutions, joint syndications, and proprietary T&E cards:
Rocky Mountain Bank Card (PLUS)
CIRRUS
VISA
Master Card
American Express

Nonprofit or governmental service or network providers: Swift
Federal Reserve
Federal Home Loan Bank
Bank Wire
New York Clearing House

Banks, other depository financial institutions, and associations:
First Interstate Bancorp
Bank One
Citi-Bank
Chemical Bank
Bank of America
CUNA
California Credit Union League
GESCO
Mid Continent
Dataline

Other industry groups:
Brokerage firms:
- Merrill Lynch
- E, F. Hutton
- Paine Webber

Retailers (including grocery chains):
- Sears
- J, C. Penney
- Montgomery Ward
- May Co.
- Federated Department Stores
- Safeway
- Kroger

Insurance:
- Prudential Insurance Co.
- Equitable Life Insurance
- Aetna Life Insurance

Consumer finance corporations:
- Beneficial Corp
- Dial Corp.

Mortgage Brokers:
- Loomis & Nettleson

Trust Companies:
- Trust Co, of the West

SOURCE ICS Group Inc Harbor City, Calif

enabling the financial service industry to intermediate between those with funds to invest and those who require funds.

In this context, commercial firms that sell their receivables are users of wholesale financial services. Using these services, manufacturers and merchants are able to obtain the working capital needed to support their inventories of end-products, work in progress, and raw materials.

The originator of a loan may, under some circumstances, sell the debt in the secondary market while retaining the rights to service the loan. In this way, the capital is turned over, but the originator of the loan continues to benefit from a stream of fees paid by the holders in due course. In turn, the borrower benefits by continuing to deal with the organization that originated the loan throughout its life, even though it no longer holds the debt in its portfolio. Of course, the opposite situation, where the original lender retains the debt and buys processing services from another organization, can occur; or the originator may sell the loan and retain none of the servicing functions.

Small loan companies, on the other hand, will place commercial paper in the wholesale markets and use the proceeds to support their lending activities. Because they can borrow large amounts at favorable interest rates and receive a relatively high yield on their loan portfolios, a favorable spread is generated that can cover both their operating expenses and a profit.

At times, a lender will have the opportunity to place a loan that either exceeds the funds available or creates an unacceptable risk in that the amount to be lent would be excessively great relative to the net worth of the organization. Regulations also limit the size of a loan that can be made to any other borrower. Under these circumstances, the lender may syndicate the loan by obtaining contributions from others that will spread the overall risk and make available sufficient funds to meet the needs of the borrower. Also, banks, as part of their relationships with their correspondents, will routinely allow the correspondents to participate in loans that they place. Insurance companies behave in much the same way when they share indirect placements and ask or permit others to share in the underwriting of casualty coverage. Securities dealers form syndicates to underwrite offerings of debt or equity instruments.

Processing Products

As noted, the delivery of financial services depends heavily on the processing and transmission of large amounts of data. For all practical purposes, the application of advanced information processing and telecommunication technologies has become mandatory.

Among the processing products offered by the providers of wholesale financial services are the processing of checks and credit and debit card drafts; the processing required to support all types of depository products; and information services, such as credit/check authorization and economic data and models that are used for analysis and decision support. Also included is the processing required to consolidate and disburse funds as part of offerings of cash management services.

Transaction processing facilitates the execution of an order given by the owner of an account to credit or debit it. For all practical purposes, from the point of information flows that are created, the type of accounts posted during the transaction is immaterial. In fact, major bank card processors use the same systems to process debit and credit card transactions, and only the customer and financial institution that holds the customer's account knows whether a line of credit or a demand deposit account or other type of account is debited.

For this assessment, the critical point is that the systems used to process orders against accounts are large and complex and are therefore expensive to build, operate, and maintain. Hence, many organizations do not have theresources to develop and operate such systems internally, and others choose not to undertake such activities. Instead, they turn to third parties, many of whom are not conventionally classified as financial institutions, to provide the processing capabilities required. Retailers of financial services decide on the degree to which they will be vertically integrated and turn to wholesalers for those services they cannot or choose not to provide for themselves.

Clearing and settlement are elements critical to the operation of a system that supports the delivery of financial services. At present, only depository institutions have in place a system for clearing cash items involving the transfer of money between virtually any parties in society. Specialized systems, such as those operated by the airlines for settling fees for services provided to holders of tickets issued by others, by securities brokers for settling stock and bond transactions, and by oil companies for accounting for balances of crude oil moved between them, exist; but not with the wide area of applicability found in the system operated by the depository institutions for settling on money transfers. On the other hand, there is no reason why alternatives for settling money transfers that would not involve the depository institutions could not be established. Systems supporting the operations of the nonbank credit cards provide one such example.

Some wholesale products exist because of structural constraints within the industry. As noted, depository institutions are the only ones that have access to the payments mechanism. Therefore, when others offer products such as cash management accounts that give the retail user the ability to write a draft against the account, arrangements must be made with depository institutions for payment of the draft through the payments mechanism. The same type of arrangement holds for organizations that offer or accept one or more of the major bank credit cards. Thus, any securities dealer or private association that makes arrangements to issue a bank card and any organization that accepts the bank card must arrange for clearing or payment services through a depository institution. Only one retailer has been given direct access to a major bank card network, and the rules of the card-issuing organization have been changed to preclude another nondepository institution being granted such access.

Information Products

Financial data provide the basis for decisionmaking for individual organization and for the economy as a whole. Treasurers for both private corporations and public agencies must have knowledge of the funds available to them and the demands being placed on them. They must be able to consolidate easily those funds collected over wide geographic areas and to disburse them so that they meet obligations for payment. Opportunities for investing idle funds must be identified and exploited. These services together compose what are commonly offered as cash management packages. Other processing services, as shown in table 7, that depend heavily on the corporate data of the individual client organizations are also offered by wholesale financial service providers.

At a broader level, financial service organizations collect and market a variety of data used in decision support systems. Some also provide modeling and other prepackaged capabilities that can be used to analyze data. In some cases, completely developed models that can be used for experimentation by the users are offered; in others, facilities that enable the user to build, estimate, and validate models uniquely designed for a specific purpose are provided; and in still others, both capabilities are available.

Nonprocessing Services

Some wholesale financial services entail no processing capabilities. These services generally include provision of equipment, computer programs, and other support services used by retailers. As the capability to develop generalized software packages increases and users recognize that most organizations can make use of generalized packages, as opposed to developing unique application systems for themselves, the importance of the products produced by this segment of the wholesale financial service industry will increase.

Also included in this group are communications services that are particularly oriented to the needs of the financial service industry. However, more often than not these are general-purpose communications facilities that can be used for any number of applications, and only the fact that the operators make a specific point of marketing them to the financial service industry sets them apart from others and warrants that they be mentioned in the context of this assessment.

Firms that provide wholesale processing/facilities management services can be placed in one of four subclasses. First, there are those that take all responsibility for system operations and operate their own facilities apart from those of their clients. Second, some providers sell or lease software or equipment, and the users take all responsibility for day-to-day operations. In this case, services from several wholesale providers may be combined in a system designed to meet the needs of the client organization. Third, some providers offer "turnkey" services in which they design and install systems for their clients and then turn them over to the clients, who take over day-to-day operations. In the last category are those offering facilities management services where the service provider effectively takes over the operation of the processing department of the client organization, even though the department may be physically located in the client's facilities.

Providers of Wholesale Financial Services

The list of firms comprising the providers of wholesale financial services is quite diverse. Table 7 demonstrates this diversity, listing major categories of providers of financial services and citing specific examples of firms falling within each group. Table 8 shows which classes of firms provide each of the various classes of services identified in table 7. It shows the breadth of the product lines offered by each of the various classes of firms active in the financial service industry and the degree of competition between the very diverse firms that are providers of wholesale financial services.

Examination of table 7 shows that there is considerable opportunity for both vertical and horizontal integration for providers of wholesale financial services. On the other hand, the existence of a variety of specialized firms argues that, until now, the economics governing the operation of providers of wholesale financial services has not encouraged either vertical or horizontal integration. While some argue that either pattern of integration offers significant economies of both scale and scope, alternatives exist for achieving both economies. Notably, competitors in the marketplace are able to join in the creation of wholesale services while maintaining an active competitive environment based on end-product differentiation in retail markets.

Large commercial banks provide examples of vertically integrated operations. They perform check processing, operate credit and debit card systems, and support networks of automated teller machines (ATMs), some of which are strictly proprietary, while others are shared and may permit access by thrift institutions as well as by other commercial banks. Some have arrangements with nonbank issuers of either credit or debit cards to provide the required interface with appropriate clearing and settlement networks. Loan participation and clearing accounts are offered to correspondents. Also, they provide secondary markets for debt instruments, including mortgages and merchant and producer receivables created by others.

The degree of horizontal integration permitted commercial banks is limited. By law, commercial banks can underwrite neither corporate equity issues nor life or casualty insurance other than creditor life insurance. Securities trading is limited to ordering trades for the convenience of bank customers or the operations of trust departments. Commercial banks are not authorized to offer investment advice regarding securities to their clients. Further, they are permitted to offer data processing services to others only to the extent that such services are incidental to the business of banking. While recent rulings by the Federal Reserve Board (e.g., the CitiShare case) have broadened the scope of permitted activities, commercial banks and bank holding companies are not free to offer the full range of data processing and communication products that they could conceivably market.

On the other hand, even in the face of existing restrictions, the degree of horizontal integration of commercial banks and other depository institutions is increasing. Some now offer discount brokerage services, and others are developing connections with insurance companies or are setting up subsidiaries that can offer insurance under the laws of the States in which they are chartered.

Some merchandisers are also entering the market with a very broad range of financial service products. One provides retail credit service in direct support of its merchandising activities, a full line of insurance services, real estate and securities brokerage, and, in a limited number of States, deposit-taking through subsidiary thrift institutions. Yet even though this organization appears to be moving toward horizontal integration, only a minimal level of coordination has been achieved between the various constituent elements, and, therefore, the degree of horizontal integration achieved to this point appears to be minimal.

Table 8.—Product Provider Mapping

services v providers (wholesalers of those services)	Nonbank third-party	Bank syndications	Nonprofit and public back office networks	Banks: Correspondent and third party fee based	Commercial banks	Savings and Loan Associations	Credit Unions	Retail Merchants	Security Broker/Dealers	Insurance	Consumer Finance	Mortgage Broker	Trust
Asset and liability:													
Syndicated loans		X		X	X				x	x			
Project finance		X		X	X				x	x			
Lease receivable finance				X	X								
Indirect loan funding				X	X				X	x			
Correspondent bank overlines									X				
Revolving line of credit (i.e. BancOne is Merrill Lynch)				x	X	x	x						
Off-shore based lending		X		x	X				X				
Bankers acceptances		X		x	X				x				
Trust receipt financing					X				x				
Depository financial institution products:													
Direct deposit	X			x	x	X	x						
Check access certificate of deposit					x	X	x		x				
IRA, Koegh					x	X	x		x	x	x	x	x
Eurodollars		X		x	x	X			x				
Impress account					x								
Single premium deferred annuity (SPDA)									x	x			
Margin accounts									x				
Market making									x				
Leveraged leases		x		x	x				x	x			
Retail banking					x	x	x		x				
Middle and institutional market lending		x		x	x	x			x	x			
Repurchase agreement				x	x	x	x		x				
Money market funds				x	x	x	x		x		x		
Other investment funds													
Real estate									X	xx		X	
Liquidity									X			X	
Growth									X				
Municipal									X	x		x	
Transaction products (paper-based)													
Mortgage lending		x		x	x	x	x		x	x	x	x	x
CSVLI loans					x					x			
Real property equities										x			x
Insurance premium financing										x	x		
Actuarial accruals										x			
Annuities									x	x			
Cash processing	X			X	X								
Payroll	X			X	X								
Money orders, traveler's checks	X			X	X								
Mortgage loan servicing	X			X	X	x	x					x	
Back end processing													
Installment loan servicing	X			x	x	x	x				x		
Mortgage loan servicing				x	x	x	x					x	
Commercial loan servicing		x											
Demand deposit accounting	X			x	x								
Savings account accounting				x	x	x							
Term deposit account accrual processing	x			x	x	x			x		x		

Table 8.—Product Provider Mapping (continued)

Wholesaled financial services v. providers (wholesalers of those services)	Nonbank third-party services	Bank syndications	Nonprofit and public back office networks	Banks Correspondent and third party fee based	Commercial banks	Savings and Loan Associations	Credit Unions	Retail merchants	Security Broker/Dealers	Insurance	Consumer Finance	Mortgage Broker	Trust
General ledger	x			x									
Collateral control	x			x									
Cash control	x			x									
Trust accounting	x			x	x								x
Item processing	x	x		x	x			x					x
Wholesale/retail lockbox	x			x	x								
Check guarantee	x		x	x	x								
Securities safekeeping	x			x	x				x				x
Personal trust					x								x
Escrow accounting	x			x	x								
Note collection					x								
Mortgage banking				x	x	x	x			x		x	
Collection service (brokerage)				x	x								
Private placement									x	x			x
Equity brokerage					x	x			x				
Public offering									x				
Relocation management					x				x				
Real estate brokerage						x			x				
Securities settlement	x			x					x				
Transaction products (electronic based)													
Data base access	x		x	xxx									
Branch automation	x												
Settlement and clearing	x		x										
Automated clearing house/electronic clearing house			x	x									
Wire transfer (domestic and international)	x												
Cash management	x			xx	x								
Business banking													
Account reconciliation				x	x								
Account consolidation	x			x	x								
Balance availability reporting	x			x	x								
Balance concentration/sweep	x			x	x								
Automatic customer billing	x			x	x								
Deposit reconciliation				x	x								
Account payable check writing	x			x	x								
POS systems:													
Management for retailers													
Installation	x			x									
Data processing	x			x									
Settlement	x			x									
Reconciliation	x			x									
Credit authorization	x		x	x									
Check verification/guarantee	x			x									
Draft data capture	x			x				x					
POS transaction processing	x		x	x				x					
Home banking:													
Purchasing service	x	x		x				x					
Inquiry	x	x		x				x					
Bill payment	x			x				x					

Table 8.—Product Provider Mapping (continued)

Wholesaled financial services v. providers (wholesalers of those services)	Nonbank third-party services	Bank syndications	Nonprofit and public back office networks	Banks Correspondent and third party fee based	Commercial banks	Savings and Loan Associations	Credit Unions	Retail Merchants	Security Broker/Dealers	Insurance	Consumer Finance	Mortgage Broker	ISfIJI
Household budget analysis	x	x		x				x					
Catalog lock-up	x	x		x				x					
ATM systems:													
Provider of:													
On-line network services	X												
Machine procurement services	X												
Lease-back services	X												
Credit authorization	X	x	x	x				x					
Check verification	x												
Draft data capture	x												
Transaction processing	x	x	x	x				x					
Comingled investment pools:													
Sweeps									x	x			x
Federal fund management				X	x								x
Employee Benefit Trust				X	x								x
Direct debit	x		x	X					x				
Funds movment and inquiry	x	x		X									
International:													
Letters of credit		x		x	x								
Credit inquiry		x		x	x								
Foreign exchange		x		x	x				x				
Draft collection		x		x	x				x				
Syndication		x		x	x				x				
Dollar collection		x		x	x								
Stock transfer	x			x					X				
Commercial paper				x					X				
Options/futures									X				
Equity brokerage					X	x			X				
Index funds brokerage									x				
Bond brokerage					x	x			x				
Fund management	X			x	x				x	x		x	
Debit cards	X	x		x	x								
Securities settlement	X			x					X				
Discount brokerage	X			x	x	x			X				
Securities lending				x					X				
C.D. brokerage				x					X				
ISA										x			
Information systems													
Cash requirements forecasting	x					X							
Working capital and cash flow analysis	x				x								
Investment return optimization analysis	x				x								
Consumer financial analysis	x				x								
Business financial analysis	x				x								
Quotation service for debt instruments	x								x				
Credit reporting agencies	x												

SOURCE: ICS Group, Inc., Harbor City, Calif.

In another area, one of the major providers of a nonbank credit card has become one of the largest wholesale providers of card processing services to others. This provider also offers an extensive package of traveler's checks and card-oriented credit services through participating commercial banks and thrift institutions.

Among the nonbank providers of wholesale financial services are those that operate communications facilities, networks of ATMs that are shared among various depository institutions, and independent processors, with roots more in the information processing industry than in the financial service industry. With its divestiture, American Telephone & Telegraph will be able to provide enhanced services specifically tailored to the financial service industry. However, it will have to compete with other telecommunications carriers, banks, and others that already operate in this market if it chooses to enter. Operators of food chains and others are installing ATM networks and inviting the depository institutions to join them. This trend has raised the thought among some bankers that they may not be able to retain their control over the payments system in the long run. Finally, as shown in table 8, various data processing service bureaus and software suppliers meet the needs of significant portions of the financial community for processing services, and there are some indications that they would like to expand their role in the future.

The Federal Reserve System occupies a unique role as a provider of wholesale financial services. It is a lender of last resort to depository institutions in need of funds to meet reserve requirements. Through the Open Market Desk at the Federal Reserve Bank of New York, it markets Federal Government debt and implements monetary policy through the purchase and sale of Government securities. It is a major factor in the clearing of checks and a provider of currency and coin to the banking system.

The national system of automated clearing houses (ACHs), except for the one in New York, is owned and operated by the Federal Reserve System. Recently, ACHS have broadened their capabilities to process individual customer-initiated transactions. The bulk of the traffic handled by ACHs is generated by the Federal Government in the form of payroll and payments to recipients of entitlements, such as social security.

The role of the Federal Reserve in these markets has been controversial for some time. Even though Congress mandated that the Federal Government recover the full costs of providing services, some argue that its pricing still puts private suppliers of alternative services at a disadvantage. Some also see an inherent conflict of interest between the Federal Government as a supplier of services on the one hand and as a regulator of the institutions that are its customers on the other.

The Federal Reserve is charged with ensuring the orderly movement of funds nationwide in order to provide a healthy climate for commerce. In some areas it is meeting with competition. However, in others, such as providing service to institutions in remote areas that cannot profitably be served by the private sector, it continues to meet a real need.

Volumes of checks processed by the Federal Reserve declined after the institution of pricing for services. Also, there is a movement to separate ACH operations from the Federal Government. Therefore, its future role as an active participant as a provider of financial services is open to question.

The Importance of Access to Data and to the Payments Mechanism

Since only the depository institutions have access to the payments mechanism for the transfer of funds, all other institutions must work through them. For example, money market mutual funds, on which customers can write drafts, conventionally maintain a zero-balance account with a depository institution that is funded at a level sufficient to cover the drafts presented each day. They then use transaction data supplied by the depository institution to post appropriate debits against customer accounts.

On the other hand, the depository institution can have available to it virtually all of the financial data of its customers because all payments transactions pass through its hands. Because it has access to the data and the means to act on them on behalf of the customer, some argue that depository institutions occupy a unique place that puts potential competitors at a significant disadvantage. The argument follows that restrictions are necessary on the operations of depository institutions with regard to the information processing services they may offer so that they will not benefit unjustly from the position they enjoy. Thus, at issue is the degree of access these organizations have to a customer's data, and the payment mechanism and the relative advantage the firm enjoys in the marketplace.

To the extent that wholesale financial services can be provided only with the support of advanced technologies, a point of no return has been passed in which the only possible backup to an automated system is another automated system. Further, in this environment, all providers of the services need access to the technologies, and lack of such access could make it impossible for a company to remain in business.

In general, the trend to greater reliance on advanced information processing and telecommunication technologies in support of systems for delivery of wholesale financial services will continue indefinitely into the future. To some extent, those providers of wholesale financial services who do not perform processing internally will become more dependent on the products of others, and therefore may lose some of the flexibility in designing and operating systems for delivering financial services that they now enjoy. Greater shared use of processing systems, driven by the economics of system development, deployment, maintenance, and operation, will mean that competition between the various producers of financial services will, in the future, be based on factors other than the features of the processing systems used by the competing organizations.

Finally, both the providers and users of wholesale financial services are more accustomed to dealing with advanced technologies than consumers are. These organizations have for years been using technology-based applications, such as cash management services, that will not be significant in the consumer marketplace for many years. Therefore, for those who operate in wholesale financial service markets, future changes will not be as traumatic as they may be for the remainder of the public that is generally not accustomed to dealing with relatively sophisticated systems. Thus, the changes that take place in the whole sale services are less likely to attract widespread attention than those provided to the general public at retail.

Future of Wholesale Services

Although much attention has been focused on the entry of new types of providers of financial services into retail markets, the maturity of participation in wholesale markets by nontraditional financial service providers is proportionately much greater. Since financial service firms have established a high degree of sophistication in the use of the technologies and they are more familiar with the operational requirements of the industry than anyone else, those with adequate resources and the inclination to do so will remain significant factors in the market for wholesale financial services. On the other hand, because the information processing and telecommunications industries have developed the expertise to analyze and meet the requirements of others, firms not ordinarily identified with the financial service industry will increasingly challenge traditional financial service firms in the market for wholesale services.

The introduction of advanced networking has broadened existing relationships between providers of financial services to include the new products and services that have become available. For example, a bank will contract with a securities dealer to clear drafts that are processed through the payments systems in addition to providing the more traditional banking services. Institutions that have benefited internally from investments in systems incorporating advanced technologies to increase productivity, have often offered them on the open market to others who, in turn, have also been able to increase productivity.

On the other hand, developers of new products try to benefit from the revenue generated by franchising those products to others. The franchisees benefit because they do not have to incur the costs of designing and developing the systems to support new product offerings. One major money center bank is following this strategy in offering its home banking service to banks nationwide.

These types of relationships will continue into the indefinite future. Economic conditions have put pressures on operating margins that will stimulate all providers of financial services to take whatever steps are required to improve productivity. Since only limited numbers of institutions are in a position to support major new product development efforts, many will look to third parties to create the capabilities that are needed.

Banks and other traditional providers may be expected to extend their customer base outside of their traditional boundaries. Holders of financial assets are in a position to argue that they have both the knowledge to build the capabilities needed by their customers and immediate access to the data used by the system.

On the other hand, data processing service organizations can marshal many of the same arguments as banks to claim that they are in a position to provide a wide range of payment and information services to a broad client base. However, they are somewhat limited in their ability to offer complete payment systems because they can initiate payments only through a financial institution that has access to the payments mechanism.

In the long run, however, processing technology is neutral; and the ability to succeed as a provider of wholesale financial services depends on the level at which requirements are understood and operationally viable systems are implemented. Systems that meet the needs of the users and are supported adequately will succeed in the market regardless of where the processing is done. As improved processing technologies become available, providers of wholesale financial services will adopt and market them. Adoption on the wholesale side of the financial service industry will be more rapid than on the retail side because changes in wholesale services are less likely to be visible to the end-users. Competitive impact in the retail market will be minimal because there will be little, if any, requirement for consumers to change their behavior patterns.

Increasing use will be made of telecommunications to deliver financial services, and there will be new opportunities for telecommunication providers to function as providers of wholesale financial services. In addition to providing neutral communications capabilities, as they have in the past, they are in a position to offer enhanced services to the financial service industry. Some may position themselves as operators of networks and provide gateways between these networks and others. Transaction interchange could become a major area of activity. Food retailers that install and operate ATM networks also fall in this category.

Technologies that offer opportunities for bypassing telephone companies that provide local service have considerable potential for providers of financial services. Already, a television cable from central Manhattan to the Wall Street area carries considerable traffic generated by providers of financial services. The teleport concept being implemented in New York and considered elsewhere offers the opportunity for bypassing both local and long-distance carriers. Since the switched telephone network is not particularly suited to carrying large volumes of data traffic, and costs for local communication are expected to increase significantly in coming years, bypass technologies and those that offer them will be an important factor in the development of the financial service industry.

Conceivably, the major long-distance carriers will become significant providers of wholesale financial services, with offerings that range from networks dedicated to specific users to networks that include the processing required for online, real-time clearing of payment transactions. The switches that run these networks are computers capable of performing the processing required to provide the clearing function.

Given the evolution of regional ATM networks, the focus of nationwide service could be the facilities that provide for interchange between networks rather than the development of monolithic networks that cover the country. This outcome would generally follow the model of the bank card systems, where the various institutions operate somewhat independently of one another, with the major associations providing facilities for interchange. On the other hand, American Express has implemented a major network that takes advantage of ATMs installed by participating banks. Money can be accessed from any financial institution designated by the customer; and American Express moves funds from the institution holding the customer's account to the one that has dispensed the funds.

Developers of the information utilities now becoming operational are in general agreement that financial services will comprise a key element of the packages to be offered. Information providers are positioning themselves as gateways to financial service providers, and, therefore, are functioning in a wholesale capacity. They contract with retail providers who define the services that will be provided through the information utility. Subscribers to the information utility are then able to select the retail financial service packages to which they will subscribe. Such arrangements complement shop-at-home and travel arrangement services that may also be offered through the information utility.

People who have evaluated the market for home information services now generally agree that no one product offered by itself will be viable. The packaging of financial services with other information and, possibly, entertainment products will be critical to the success of services that distribute information to the home. Various types of firms will assemble these packages and, in effect, will be providing the wholesale functions. Some, as in the case of Knight-Ridder, will be publishers that assemble and perform much of the marketing for the products of various providers. Others, like Chemical Bank, may be the creators of one part of the service and assemble other parts of the package from offerings of other suppliers. Still others may provide a totally neutral communications service that provides paths to many providers and the opportunity to interchange information between them. Such a service would rely on each provider to perform all of the marketing and other activities required to support its customers.