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Why Banks Have a Future: An Economic Rationale

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WHY BANKS HAVE A FUTURE: AN ECONOMIC RATIONALE (*)

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Abstract

According to some, the commercial bank is anachronistic and in a state of terminal decline. The evidence, however, is mixed. This paper takes a different approach to analyzing the future of banks: I examine whether there was an economic rationale for their existing in the past and whether this rationale continues to hold. I first outline why both core banking activities of taking deposits payable on demand and originating non-marketable loans are performed by the same financial institution. Both activities essentially require an institution to come up with cash at short notice, that is, to provide liquidity. Scale economies in providing liquidity then explain why both activities are provided by the same entity - a commercial bank. Deregulation and innovation have increased competition, which has forced banks to concentrate on the essentials of liquidity provision. This is why the outward nature of their activities - though not the underlying economic rationale - has changed. However, in the course of performing their traditional activities banks have acquired know-how that enables them to perform a variety of other financial and non-financial activities which deregulation and innovation have opened up to them. The paper concludes with a discussion of why banks may want to limit their entry into some new activities.

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Contents

According to some pundits, the commercial bank -- an institution that conducts the twin activities of accepting deposits payable on demand and originating loans -- is anachronistic and in a state of terminal decline.[1] The evidence, however, is somewhat mixed. Even though some studies suggest that the role of banks in the United States is declining, others suggest that banks are simply using new vehicles to offer their services and their role has not diminished at all.[2] Since the empirical trends are debatable, and history has proved projections based on trends wrong, perhaps a different approach may shed more light on the future of commercial banking.[3]

What I propose to do here is to start by describing why the two core banking activities, of taking in deposits payable on demand and of originating non-marketable loans, are performed by financial institutions. I will argue that both activities essentially require an institution to come up with cash at short notice (economists term this "the provision of liquidity"). Scale economies in providing liquidity then explain why both activities are provided by the same entity, i.e., a commercial bank. I then argue that deregulation and innovation have increased competition, which has forced banks to concentrate on the essentials of liquidity provision. This is why the outward nature of their activities -- though not the underlying economic rationale -- has changed. However, in the course of performing their traditional activities, I will argue that banks have acquired competencies that enable them to perform a variety of other financial and non-financial activities that deregulation has opened up to them. I will conclude by discussing why banks may want to limit their entry into

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[1] For example, the Chairman of the Federal Reserve Board, Alan Greenspan, is quoted by the Wall Street Journal (July 9th, 1993) as saying "Public policy should be concerned with the decline in the importance of banking. The issues are too important for the future growth of our economy and the welfare of our citizens." In the same article, William Isaac, a former chairman of the Federal Deposit Insurance Corporation and an industry consultant, is quoted as saying "The banking industry is becoming irrelevant economically, and it's almost irrelevant politically".

[2] For the view that banks are in decline, see G. Gorton and R. Rosen, "Corporate Control, Portfolio Choice, and the Decline of Banking", *Journal of Finance* 50 (1995), 1377-1420. While Gorton and Rosen focus on bank profitability, others have focussed on bank assets or bank share of corporate debt. The latter has declined from 19.6% of total corporate debt in the U.S. in 1979 to 14.5% in 1994. For the view that the decline is illusory, see J.Boyd and M. Gertler, "Are Banks Dead? Or Are the Reports Greatly Exaggerated?", *Quarterly Review of the Federal Reserve Bank of Minneapolis* (Summer 1994), 2-23. They argue that when loans made by foreign banks and off-balance-sheet activities are accounted for, average bank share of intermediated assets is stable at about 40% between 1955 and 1993.

[3] Bank loans to industrial firms fell dramatically in the 1920s in the United States as firms directly tapped the public markets. Comments about the demise of traditional banking were heard often. Nelson Peach in *The Security Affiliates of National Banks*, (Johns Hopkins Press, Baltimore, 1941) argues that one of the reasons banks entered the securities business at this time was to preserve their relationships with client firms by providing them investment banking services.

these, despite being competent to undertake them.[4]

WHY USING FINANCIAL INTERMEDIARIES BEATS MARKET TRANSACTIONS.

Financial institutions bring to financial transactions exactly that which industrial firms bring to industrial production. In both cases, organizations achieve an economic end at lower cost than arm's length contracts. I now elaborate on the advantages institutions bring to the two traditional financial activities that define a commercial bank.

Why institutional intermediaries offer demand deposits.

To focus on why institutional intermediaries are better at offering customers the ability to deposit money and withdraw it on demand, I start with the simplest such intermediary -- an open-ended money market mutual fund -- and compare it with the simplest direct alternative, that of the customer holding financial assets such as T-bills directly and liquidating them when the need for funds arises.

a. Institutions have greater market power than individuals.

A money market mutual fund can save investors the transactions costs of brokerage fees they would incur if they invested directly. If the mutual fund buys and sells as often, and in the same quantities, as individual investors, intermediation helps individual investors only because the mutual fund may have more market power in negotiating brokerage fees. The mutual fund then simply plays the role of a buyer's co-operative. But a mutual fund does more than just concentrate bargaining power.

b. Institutions reduce uncertainty by pooling.

An individual's demand for cash is uncertain and can fluctuate considerably. Therefore, the individual either risks having to sell assets at considerable cost in the market, or has to maintain excess cash reserves as

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[4] In a series of papers and in *The Global Financial System: A Functional Perspective* (Harvard Business School Press, Boston, 1995) Robert Merton and his colleagues argue for a functional approach to analyzing and regulating financial institutions. "Rather than taking existing institutions and organizational structures as givens, [this research] is anchored on the underlying functions of financial systems." (Page vii). The idea is to take the economic function as given and then ask what institutional structure best performs the function at a given time and place. So institutional form follows function. While this approach has the commendable virtue of abstracting from institutional nomenclature to focus on the economics, it may be taken too far. Implicit in a strict application of such an approach (for example, regulating functions rather than institutions) is the assumption that functions are separable. This seems a little premature unless we understand why multiple financial functions are performed by a particular type of institution. If the performance of a financial function develops critical competencies in an institution, it may well be placed to perform other financial functions. A purely functional approach may miss the interlinkages between functions, while an approach which considers an institution as a whole, in terms of the functions it performs, will capture these.

a protection against being forced to incur transactions costs. The average demand for cash by the fund's investors as a whole is much more predictable because individual needs (a marriage, sudden trips, etc.) tend to be smoothed over all investors. Also, the fund can net sellers against buyers instead of transacting on behalf of each in the market.[5] So the fund's precautionary cash reserves, and its transactions volume is smaller than the sum of individuals' reserves and volume if no fund existed.

c. Institutions bring scale economies.

Banks perform a similar role to mutual funds in offering depositors liquidity, i.e., cash on demand. Apart from the advantages of pooling accounts discussed above, there is a small but currently significant difference. Banks allow depositors to make transfers from their accounts to the accounts of others either within the same bank or in other banks. The transactions costs of transfers within the bank are close to nothing, so these transfers can be very profitable (to the bank) if volume is high. Transactions costs of transfers between banks are also reduced because the bank backs the transfer with its credit rather than the credit of the payer, and because banks are specialists at evaluating each other's credit.[6] Indeed, banks historically may have arisen to facilitate payments between depositors rather than to channel funds from depositors to borrowers.[7] There are obvious scale economies in this business.

To summarize, institutions can pool transactions and bring scale economies to managing demand deposits. Clearly, access to official sources of liquidity such as the discount window, and the ability to process large volumes of transactions at low costs are also necessary to the activity of offering demandable deposit

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[5] This is the Law of Large Numbers. Perhaps the most important recent paper in the field, makes the point that a bank can arise to share liquidation costs among risk-averse individual investors. See D. Diamond and P. Dybvig," Bank Runs, Deposit Insurance, and Liquidity", *Journal of Political Economy* 91 (1983), 401-419.

[6] This is one reason loan making entities are well suited to offer payments services. Since there are costs of continuously making transfers, efficient clearing between financial institutions requires that settlement be delayed to give payments a chance to net out. But delay requires that institutions offer each other short term credit. Clearly, the institutions who will be best at this are institutions who already make loans. See M. Goodfriend, "Money, Credit, Banking, and Payment System Policy", *Federal Reserve Bank of Richmond Economic Review* 77 (1991), pp7-23.

[7] Raymond De Roover argues in *Money, Banking, and Credit in Mediaeval Bruges* (Mediaeval Academy of America Cambridge, U.S.A., 1948) that in mediaeval times when coins were clipped, adulterated and forged, transactions involving an exchange of money were too costly to consummate. Far better for merchants to deposit their money with an expert moneychanger who would make a book entry for the sums deposited. When goods were exchanged, payment was effected through a book entry debiting one account and crediting another. The costly transport and weighing of coins did not have to take place. De Roover claims that moneychangers were the precursors of the modern bank.

accounts, but these are not as fundamental. I turn now to the other defining activity banks engage in; making non-marketable loans.

Why institutional intermediaries make loans.

a. The effects of scale again.

Consider the mutual fund once again. A mutual fund co-ordinates investor demands, thus increasing the scale of its purchases. In other words, while 100 individuals when left to their own devices would individually invest in 15 securities each, and collectively own a few hundred securities, the mutual fund can achieve desired diversification with a number in between what the individual and what the uncoordinated collective would hold. Clearly, there is a cost because individuals sacrifice some flexibility in allowing the fund to determine their holdings, but these are outweighed by the benefits, because the fund can reduce brokerage costs (since there are economies of scale in brokerage fees). Also, scale allows the mutual fund to employ analysts, who would be beyond the means of most individual investors. Finally, the mutual fund solves the "free-rider" problem. Even if an individual investor could afford an analyst, she would be reluctant to employ her knowing that she would pay the full cost while her friends and relatives would pester her for free advice.

In a similar vein, investors who purchase bank or finance company liabilities do so in the hope that the institutions will make more informed lending decisions than the individual investors themselves can. But unlike a passive mutual fund, these institutions also provide services to the firms they lend to. I have to digress for a moment to explain this.

A firm's cost of borrowing (the coupon rate it pays) is a composite of the risk free interest rate, a premium for systematic or market wide risk, a premium for firm-specific risk that the firm's management has no information or control over, and a premium for asymmetric information and moral hazard. The last two terms come from the insurance literature. The firm's management knows more than investors about the risks of the firm. Hence it can time its borrowing or securities issuances to coincide with the advance bad news it has about the firm. Because management's private information enables it to share anticipated losses with new investors (in the same way as a used car salesman shares "lemons" with a buyer), rational new investors demand an asymmetric information (or "lemons") premium. Typically, the greater the difference in information about the firm between management and the potential investor, the higher is the lemon's premium.

Similarly, a moral hazard premium is demanded by investors because management can take their money and then use it in ways that are not in their best interest. An investor who has more control over managerial actions will typically demand a lower moral hazard premium.

We have already seen that an institution has a greater ability to acquire information and perform analysis about a firm than individuals. So a loan from an institution to a firm should have a lower asymmetric information premium. Also, institutions have the market power to control possible misbehavior by the firm. Therefore, they demand a lower moral hazard premium than individuals would if they lent directly to the firm.[8] Finally, by lending to the firm, an institution gives it a certificate of approval which reduces the premium that other creditors or suppliers demand.[9] Therefore, in addition to lowering the cost of investment for individuals, institutions reduce the risk premium firms have to pay for borrowing.

b. Institutions enhance contractual possibilities.

The financial institution, however, offers its clients more than just current funding -- it offers them explicit or implicit promises of future funding at a reasonable price. Explicit promises such as commitments to offer loans are fairly straightforward. The financial institution may also implicitly promise to stand by a client firm when it is in financial distress. When accompanied by a reverse implicit promise from the client firm to give a large share of its future business to the institution, we have a "relationship". Relationships can be very valuable because they allow the two parties transactions that are not possible through explicit contracts in the spot market. Consider the following examples of how financial institutions enhance the possibility of transactions:

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[8] These arguments are developed in T. Campbell and W. Kracaw, "Information production, market signalling, and the theory of intermediation", *Journal of Finance* 35 (1980), 863-882, D. Diamond, " Financial intermediation and delegated monitoring", *Review of Economic Studies* 51 (1984), 393-414 and J.Boyd and E. Prescott,"Financial Intermediary Coalitions", *Journal of Economic Theory* 101 (1986), 458-472.

[9] The announcement of an equity issue is typically met with a negative stock price reaction, while the announcement of a public debt issue is met with an insignificant stock price reaction. By contrast, the announcement of a bank loan is met with a strong positive stock price reaction. Furthermore, the stock price reaction is concentrated around announcements of loan renewals, suggesting that banks have special information about firms which is signalled to the public when loans are announced. See C. James,"Some Evidence on the Uniqueness of Bank Loans", *Journal of Financial Economics* 19 (1987), 217-235 and S.Lummer and J. McConnell, "Further Evidence on the Bank Lending Process and the Reaction of the Capital Market to Bank Loan Agreements", *Journal of Financial Economics* 25 (1989), 99-122.

b.1. Relationships in small business lending.

Small business loans are usually not worth the trouble to a lender; given the small size of the loan, the fixed cost of investigating the borrower and servicing the loan is extremely high. Of course, the lender can demand compensation for this cost by charging a high interest rate. But this may impose an excessive debt burden on the firm and reduce its growth prospects. Alternatively, the lender can explicitly demand a "first right of refusal" agreement whereby the firm has to offer all new financial business to the original lender (thus permitting the lender to recover the initial subsidy from profits on the future business). But such a contract, if strictly enforced, may place the borrower at the mercy of the lender and force it to accept all the lender's services regardless of quality. The problem here is that explicit contracts cannot deal with future contingencies without becoming overly rigid.

Relationships may evolve in situations where explicit contracts are inadequate, but a long term interaction between the two parties is mutually beneficial. If the lender is sufficiently confident that the firm will honor its trust, it offers the firm a loan as a kind of loss-leader. In turn, the firm gives the lender the lion's share of future financial business. The firm may have economic reasons to honor the trust; the lender knows more about it than others at the time additional business is contracted. Also, by deepening the relationship, the firm strengthens its implicit "insurance" claim on funding from the bank when the firm is in trouble in the future. However, the firm reserves the right to withdraw business if the bank's services are abysmal. Similarly, the bank may never make the promise of help explicit because that will reduce the firm's incentive to stay out of trouble. But it will go to some length to honor future calls for help because it values the firm's future business and its general reputation among borrowers as a "relationship" bank.[10]

b.2. Relationships and financial innovation.

In a though provoking paper, Robert Merton argues financial innovations (such as commodity swaps

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[10] For the theory, see S. Sharpe, "Asymmetric Information, Bank Lending and Implicit Contracts: A Stylized Model of Customer Relationships", *Journal of Finance* 45 (1990), 1069-1088 and R. Rajan,"Insiders and Outsiders: the Choice between Relationship and Arms-Length Debt", *Journal of Finance* 47 (1992), 1367-1400. For empirical evidence, see T.Hoshi, A. Kashyap, and D. Scharfstein, "The Role of Banks in Reducing the Costs of Financial Distress in Japan", *Journal of Financial Economics* 27 (1990), 67-88 and M. Petersen and R.Rajan,"The Benefits of LendingRelationships:Evidence from Small Business Data", *Journal of Finance* 49 (1994), 3-37.

or credit derivatives) are first developed by institutions and then, when the financial contracts are well understood, are taken up by the market.[11] Financial institutions then move on to new products. Thus there is a continuous spiral of innovation. But this raises the question of why innovations are better produced by financial institutions rather than directly by markets.

Innovative financial contracts are typically incomplete in many ways when they are first introduced. Payments or responsibilities have not been fully spelt out for many possible situations, partly because the situations themselves have not been anticipated. A trial period is necessary where the contract has to be tried out in real world situations, and the appropriate contractual features to deal with initially unforeseen contingencies has to be developed. The firms with which an institution has relationships form the ideal testing ground. Since there is so much uncertainty about contractual outcomes, mutual trust is needed that differences will be amicably worked out without one party taking undue advantage of another. This is what the relationship provides.[12] Also, the wider the circle of relationships the institution has, the easier it is for the institution to recoup the rents from the innovation before competition from other imitators drives down prices. Hence, relationships can explain why financial institutions rather than market institutions such as exchanges are more likely to originate financial innovations.

To summarize, relationships work by allowing reputational capital to fill in the holes that explicit contracts cannot fill.[13] This enhances the scope of transactions that can take place beyond those that are strictly

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[11] See R. Merton, "Financial Innovation and the Management and Regulation of Financial Institutions", *Journal of Banking and Finance* 19 (1995), 461-482.

[12] An incident reported by Euromoney (April 1995, p35) is suggestive. In 1987, Texaco sought bankruptcy protection after being ordered to pay $ 10.5 billion in damages to Pennzoil. Even Texaco was far from insolvent, the filing put it in technical default on a swap contract with Bankers Trust. The details of the swap contract allowed either party to walk away even if they owed money when one party defaulted (this limited-two-way-payment clause is deservedly obsolete). Bankers Trust owed $ 10 million on the swap. The expectation was that it would waive the default given that it was merely technical. Euromoney reports that " top Bankers Trust management looked at the situation, weighed the bank's relationship with Texaco - not itself known for showing much mercy to its bankers - and took the windfall gain. Texaco has refused to deal with Bankers Trust ever since."

[13] See A.Boot, S.Greenbaum, and A.Thakor, "Reputation and Discretion in Financial Contracting", *American Economic Review*, 83 (1993), 1165-1183.

legally enforceable.[14]

Finally, even though the ability to enter into relationships is an important reason institutions dominate markets, relationships do not always form even when beneficial. The reason is that both parties require substantial commitment to each other. The increase in competitive alternatives -- such as other forms of financing -- outside the relationship can place substantial strains on it. This is perhaps why bankers in the U.S. bemoan the deterioration of relationships since the 1960s, why bank-firm relationships in Japan may have become weaker as equity and bond markets have deepened, and why small U.S. firms find it easier to obtain credit in areas where there are few banks than in areas where there are many competing banks.[15]

c. Institutions pool the liquidity demands of borrowers.

In addition to providing funding, and forming relationships, institutions also pool the liquidity demands of borrowers. Borrowers may need funds at short notice. While the borrower's request for additional funds may not be a contractual right as with demand deposits (though it is if it is in the form of a line of credit or loan commitment), the institution's value as a relationship financier will depend on how reliable it is in meeting additional funding needs. The institution has another merit -- its prior relationship with the firm gives it the information to react quickly to the borrower's demands. As with demand deposits, the aggregate liquidity needs of borrowers may be more predictable than individual needs. The institution's greater information, and its ability to pool demands make it a better provider of liquidity to borrowers than individuals. Its ability to discriminate between situations where liquidity support is warranted and where it is not enable it to provide the insurance at lower cost than a publicly enforceable explicit contract could. Its concern for its reputation for being supportive (for which it can charge a premium) make it a more reliable provider even absent explicit contracts.

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[14] A measure of the value of relationships is that in 1984, client firms of Continental Illinois Bank incurred average abnormal stock returns of - 4.2% during the bank's impending insolvency and +2% in response to announcements of the government rescue. See M. Slovin, M. Sushka, and J. Polonchek, "The value of bank durability: borrowers as bank stakeholders", *Journal of Finance* 48 (1993), 247-266.

[15] For a discussion of the changes in Japan, see T. Hoshi, A. Kashyap, and D. Scharfstein, "Bank Monitoring and Investment: Evidence from the Changing Structure of Japanese Corporate Banking Relationships, in R. Glenn Hubbard ed.: *Asymmetric Information, Corporate Finance and Investment*, (University of Chicago Press, Chicago, IL, 1990). For a discussion of small businesses, see M. Petersen and R.Rajan, "The Effect of Credit Market Competition on Lending Relationships", *Quarterly Journal of Economics* 110 (1995), 407-443.

Why banks?

We have seen that institutions bring market power, scale, pool liquidity needs, and enhance contractual possibilities when they undertake the traditional activities of offering demand deposits and originating illiquid loans. But what additional benefit does an institution have when it undertakes both activities? In other words, what accounts for the popularity of the bank as an institutional form? I now argue that because both the deposit and lending business require the bank to provide liquidity, scale economies in arranging for liquidity is one source of synergy beyween the two businesses. A second source of synergy is because the assets required in each business complement each other in reducing the bank's cost of funds. I now elaborate on these synergies.

a. Synergies: Liquidity insurance.

Unlike more specialized institutions like money market funds or finance companies, the bank offers liquidity on demand on both sides of the balance sheet.There are a number of consequent advantages for a bank; First, the bank services more liquidity demand for the same scale than do other financial institutions. Since there are scale economies in liquidity provision -- stemming from diversification across liquidity demands, fixed costs in the institutional arrangements to ensure the bank's access to liquidity, and the costs of precautionary holdings of liquid assets -- the bank form may be more cost effective. Second, the liquidity demands of firms as a whole may peak at a different time, and for different macreconomic reasons, than the liquidity demand of individual investors. This can further smooth overall liquidity demand on the bank, making it easier for the bank to manage it.

The above argument may explain why the traditional bank still has value even though money market mutual funds can provide depositors unlimited liquidity on demand, and even though finance companies can provide longer term finance to firms.[16] While the money market mutual fund has lower costs than a bank because it commits (through regulatory oversight, legal constraints, and custodial arrangements) to investing all its cash in extremely safe and liquid securities, not all its investors require their money at the same time. So the liquidity of its assets remains largely unused. Similarly, while a finance company may be able to provide longer term loans (because its liabilities are also typically longer term), it has a different focus; it

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[16] The average maturity of finance company loans has been estimated to be 50% higher than the maturity of bank loans. See M. Carey, M. Post and S.Sharpe, "Does Corporate Lending by Banks and Finance Companies Differ? Evidence on Specialization in Private Debt Contracting", mimeo, Board of Governors of the Federal Reserve, 1996.

provides financing, not liquidity insurance. The bank's comparative advantage is in meeting its clients' unexpected needs for finance (and their unexpected desire to repay). It loses this advantage if it ties its loans up for long periods. I would thus argue that academics have been largely mistaken in thinking of lending and deposit taking as different activities. As performed by banks, both essentially boil down to the provision of liquidity.[17]

b. Synergies: Co-insurance.[18]

Most financial activities require that the financial institution maintain a free-floating inventory of liquid assets. For instance, a bank requires a reserve of liquid securities and cash with which it can satisfy demands for cash. Also, the nature of the services the bank provides borrowers requires that assets be continuously transformed -- the liquid securities holdings are sold and the proceeds lent out to safe borrowers whose repayments are reinvested in securities and so on... At any point in time, therefore, investors do not know the composition of the bank's balance sheet. Furthermore, the liquid securities can be quickly transformed into risky loans (or risky proprietory trades) rather than safe loans. This is perfectly legal and may benefit the bank's management while hurting depositors.[19] The institution now has a problem. Even if it holds safe assets, those who hold financial claims on the institution demand a "moral hazard" risk premium because the liquid assets can be transformed. In a sense, the institution's cost of borrowing is too high given the risk of its holdings. There are two approaches institutions have taken towards addressing this problem.

The first is to foreswear transformation altogether. For instance, the liquid assets can be offered as collateral (as in a repurchase or "repo" agreement). Alternatively, the institution can restrict transformation to a narrow class of safe assets and agree to frequent audits (and substantial penalties for wrongdoing) as an

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[17] Each facet has been separately recognized. That banks create liquidity for depositors has been stressed by D.Diamond and P.Dybvig while the role of banks in fueling liquidity to firms has been emphasized by B.Holmstrom and J.Tirole in "Private and Public Supply of Liquidity", mimeo, M.I.T., 1995.

[18] This section draws heavily on S.Myers and R.Rajan, "The Paradox of Liquidity", N.B.E.R. Working Paper, 1995. Also see A. Winton, "Competition Among Financial Intermediaries when Diversification Matters", Banking Research Center Working Paper # 185, Northwestern University, 1996.

[19] The standard academic rationale is that management is rewarded for adopting risky strategies by equityholders who like risk because they benefit from the upside. Equivalently, a trader (and management) gets a high bonus for making large profits, but cannot be penalized by more than the loss of a job for poor performance. This asymmetric compensation function could lead the trader to take excessive risks.

assurance of compilance. This is what a money market mutual fund does.[20] Another possibility is to "securitize" high quality assets by placing them in a special purpose, directly funded, holding vehicle such as a collateralized mortgage obligation (CMO). As with collateral, the assets of the CMO are effectively segregated from the assets of the institution. As with the money market mutual fund, the CMO has severe legal and contractual limitations placed on its ability to transform assets. Thus the CMO can be funded at lower cost than the institution's cost of funds.

The institution can give up transformation activities only when they are relatively unimportant to value creation. If they are key (as in lending, dynamic hedging, or trading) then the institution has to find some way of preserving the value creating aspects of asset transformation (making safe loans) while committing to not indulge in the value destroying aspects (making excessively risky ones). One possibility is for the institution to develop a reputation for probity. Since a good reputation can be a source of income (since more firms want a reputable bank as relationship banker) and acting against investor interests can destroy it, a reputable institution can commit to the value enhancing aspects of asset transformation. But it takes a long time to achieve a good reputation.[21] A better possibility is for the institution to invest in "illiquid" assets that are not worth transforming (because their value lies in future repayments or future fee income that the bank has to be a going concern to collect) rather than in current liquidation value.

In other words, the moral hazard risk premium demanded by investors of the institution may be minimized by it holding a mix of liquid and illiquid assets rather than only the former. In the case of a bank, the mix reassures depositors on a number of counts. The liquid securities are available to meet clients' need for cash. At the same time, the illiquid loans which take time to mature assure depositors that management cannot transform all the assets overnight and against their interest. Even though management can transform all the liquid securities, it may not be worth their while, especially because the reserve of liquid assets is necessary for the bank to offer credible funding guarantees to firms. Since the ability to sell guarantees of

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[20]Even a hint that money market funds may take risks prompts new regulations from the S.E.C. limiting asset holdings (as after the commercial paper defaults of Integrated Resources in June 1989 and Mortgage and Realty Trust in 1990, and recently after some funds were found to be heavily invested in derivatives). Also see G. Gorton and G. Pennachi, "Money Market Funds and Finance Companies: Are they the Banks of the Future?", in *Structural Change in Banking*, M. Klausner and L. White, ed., Buisness One Irwin, Homewood Il, 1993.

[21] See D. Diamond, "Reputation Acquisition in Debt Markets", *Journal of Political Economy* 97 (1989).

funding is a substantial source of income to the bank, management is unlikely to jeopardize it by transforming liquid assets.[22] Thus the liquid assets necessary to sustain the business of liquidity provision are co-insured by illiquid assets such as loans and franchise value and the package as a whole may reduce the bank's cost of borrowing.

To summarize, banks may reap scale economies from offering liquidity services to both depositors and firms who have problems accessing short term credit markets. An added virtue of making illiquid loans and having some franchise value in providing "liquidity insurance" is that these assets serve to assure depositors against an overnight change in the nature of the bank. With this view of why banks exist, I now turn to changes in markets, technology, and regulatory environment. I ask if they have affected the size of the synergies between deposit taking and lending.[23]

WHAT HAS CHANGED?

Deregulation and technological change are the two single biggest changes in the banking environment. Both appear to be mixed blessings for banks. It may be best to illustrate their effects through examples.

Bank loans as I have been arguing have, historically, been illiquid assets. The originating bank that has the relationship knows more than the potential buyer about the borrower's true credit risk. So a potential buyer of bank loans faces the risk of getting only "lemons", which may be one reason the market has been

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[22] Another way of saying this is that profitable sub-groups within the bank have an incentive to stop rogue operations which take excessive risks, because the latter jeopardize the former's bonuses. Of course, if all operations are unprofitable, then everyone in the bank passively waits for the risky trades or loans to bail them out. Finally, I have talked about liquid assets as increasing transformation risk. The ability to take on large positions using derivatives is another source of transformation risk. This compounds the opacity of the bank balance sheet and makes it even more important that the bank have illiquid assets or franchises in place to assure lenders.

[23] One potential synergy that has been discussed in the literature is that it may be optimal to fund a bank's well diversified but unobservable portfolio with demandable debt. Unfortunately, commercial paper has many of the characteristics of demandable deposits, so this line of thought does not help us distinguish between a finance company and a bank. See D. Diamond, " Financial intermediation and delegated monitoring", *Review of Economic Studies* 51 (1984), 393-414 and C. Calomiris and C. Kahn, "The role of demandable debt in structuring optimal banking arrangements", *American Economic Review* 81 (1991), 497-513. Another potential synergy is that borrowers also maintain deposit accounts with the bank which makes the bank more informed at low cost (see L. Nakamura). The evidence in favor of this is weak. See M. Carey, M. Post and S.Sharpe, "Does Corporate Lending by Banks and Finance Companies Differ? Evidence on Specialization in Private Debt Contracting", mimeo, Board of Governors of the Federal Reserve, 1996.

illiquid.[24] Another reason has been that bank loans typically involve more complicated covenants than public debt, and are usually smaller in size. The legal and administrative costs of keeping track of title, payments, and covenant violations may not have justified the sale.

All this has changed. Banks have started selling their loans. The loan sales market has grown tremendously; from approximately $26.7 billion in the second quarter of 1983 to $ 290.9 billion in the third quarter of 1989 (loan sales declined somewhat in the early 1990s as loans financing mergers and acquisitions declined). What is also notable is that the majority of loans sold changed over this period from investment grade to being non-investment grade.[25]

On the high end of the market, rated borrowers have increasingly used the commercial paper market for short term funding needs. The ratio of non-bank commercial paper issuances to Commercial and Industrial (C&I) loans made by banks rose from 10% in 1958 to 75% in 1990. Similarly, finance companies have increased their share of business lending, with finance company business credit increasing from 29% of C&I loans in 1985 to 43% in 1994.[26]

On the liability side of bank balance sheets, the changes have been equally, if not more dramatic. Consider a depositor not so long ago. She went physically to her bank branch to withdraw money. She wrote checks even for routine payments. The bank typically was also her main source of loans as few other institutions had information on her. She dealt separately with her brokerage firm, her bank, her mutual fund and her mortgage lender, and never really knew how much of her wealth was where.

Now she can withdraw money in Italian Lira from an Automatic Teller Machine in Europe and have her account in Peoria, Illinois debited in dollars. She can initiate a payment using her Citibank credit card in a German restaurant and have the transaction travel seamlessly through Citibank's internal system to South

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[24] Former Chairman of the FDIC, Irvine Sprague describes the methods of Penn Square, the bank that failed in 1982 and nearly brought down Continental Illinois as follows: "Its mode of operation was to make large, high-priced but chancy loans to drillers and then to sell the loans, in whole or in part, to other banks while pocketing a fee for the service...The large participating banks were exposed, embarassed, and threatened... Their transactions with Penn Square violated all tenets of sound banking...They were content to rely on someone else's faulty and fragmentary loan documentation... See G. Gorton and G. Pennachi, "Banks and Loan Sales: Marketing Nonmarketable Assets", *Journal of Monetary Economics* 35 (1995), 389-411.

[25] See G. Gorton and G. Pennachi (1995), op. cit.

[26] See M. Carey, M. Post and S. Sharpe, op. cit.

Dakota and back so that the restaurant's account is credited. She can apply for credit to any mortgage lender, all of whom have access almost instantaneously to her credit history from the same credit rating agency. In fact, she can now get a loan from an Automatic Loan Machine. Finally, if she wants, she can track her wealth easily by allowing one financial institution to serve all her needs, and have it consolidate all her statements. This institution may be a bank, an investment bank, or even a mutual fund. Clearly, the tremendous advances in communications and processing technology, as well as de-regulation of entry have been at work to make all this possible. Does all this change suggest the bank form become obsolete? To answer this, let us first consider changes on the asset side.

The Changes: Disintermediation, Commercial Paper, Loan Sales, and Finance Companies.

One view of the changes is that computer and communications technology have dramatically reduced transactions costs, as well as increased the availability of public information about borrowers. Some argue that firms can now cut out the intermediary and borrow directly from the markets. They argue that banks as corporate lenders are, therefore, dead. I think these arguments miss the point of the changes. Banks have not been driven out of corporate lending, even to high credit quality customers, they have simply refocussed on their core competence. I elaborate.

A bank's core competence, as I have argued in the previous section, is to provide funding on demand, not provide funding per se. In fact, there may be compelling reasons why a bank is at a competitive disadvantage in funding especially high quality clients. Since the bank continuously transforms its assets, its balance sheet is opaque to the investor, and is becoming more so as transformation activities such as proprietory trading, loan purchases and sales, and derivative trading increase. So investors charge a hefty asymmetric information and moral hazard premium. Furthermore, the rate of interest demanded by investors does not respond to the marginal loan made by the bank because investors do not see the loan, and have no idea how long it will be on the balance sheet.

To make this point clear, consider a bank that is A rated and borrows at 12%. Theoretically, it can make a new loan to a AAA customer at 10% and still make a profit. The rationale is that the bank's lenders, seeing the new safe loan, will adjust downwards their estimate of the bank's credit risk, and demand a lower rate. In a perfect world (also known in finance as the Modigliani and Miller world), the downward adjustment

on the bank's average cost of funds will be just enough to make the loan worthwhile. But if bank balance sheets are opaque, their cost of capital does not adjust downwards to the marginal high-quality loan because investors do not know whether, and for how long, it is there. A bank that wants to improve the credit quality of its lending has to either bolster its capital so that its own credit quality improves, or implement a strategy of moving up market, making new loans only to good credits below its own funding cost, until the bank's financiers believe the strategy and reflect it in the bank's cost of borrowing. The transition may be long and very costly.

In other words, when bank credit ratings were high because of rents from the deposit business, funding high quality firms was not a problem. When bank credit ratings fell, after deregulation increased competition, it made sense for the bank to unbundle the products; to allow investors to finance the firm directly through commercial paper while providing back up lines of credit or letters of credit to assure the commercial paper investors that they would get their money back. The virtue of investors directly financing the firm is that they charge a rate appropriate to the risk of the firm rather than a rate commensurate with the average risk of the lower credit quality bank. The bank still monitors the firm (because it has offered guarantees to the commercial paper) and provides liquidity insurance, but does not fund it any more. It turns out that bank profits are typically no lower with this strategy than if it funded the loan.[27]

The growth of finance companies can be similarly explained. Finance companies offer longer term credit than banks and are also very focussed in their activities -- typically, they provide secured term financing for a narrow range of industrial products. This makes finance companies more transparent to their own investors. As a result, finance companies have a better match between the interest income they receive on an additional loan and the cost of funding it. Of course, finance companies would lose their ability to fund if they ventured to lend outside their area of focus. This is why finance companies do not typically lend to high quality credits or make as many general purpose loans as banks.[28]

Finally, the growth of the bank loan sales market is yet more evidence that banks are focussing on

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[27] See Boyd and Gertler (1994), op. cit.

[28] For evidence that finance companies lend to riskier borrowers, see M. Carey, M. Post and S. Sharpe, op. cit. That even finance companies who are not subject to regulation do not lend to high credit quality borrowers suggests that disintermediation has not been caused by excessive regulations imposed on the banks.

their competence. While a bank's desire to sell loans may be motivated by regulatory concerns or concerns about the cost of funding discussed above, what has enabled buyers to overcome their historical reluctance to purchase from more informed sellers? Is it that the originating bank no longer has an informational advantage and banks no longer have a role to play even in liquidity provision? Gorton and Pennachi (1995) do not find this to be the case. Instead, banks have devised a variety of mechanisms to convince buyers of their good intentions. For instance, they retain a share which increases in the riskiness of the loan, as a signal of their good faith. Gorton and Pennachi also conjecture that banks offer implicit commitments to buy back loans that turn sour (these commitments cannot be explicit for regulatory reasons) but their tests for this have low statistical power. Finally, the loan sales market is one where repeat sales are important so sellers have an additional reputational incentive to stay on the straight and narrow. The researchers conclude (p410) that their findings imply "banks still offer services for certain classes of borrowers that cannot be obtained in the capital market via the underwriting of public securities."[29]

I am not suggesting that improvements in technology and communications have had no effect. Public markets are now far better informed, and innovations have made it much easier to slice and dice financial services, and to value and place each part separately. But banks have also benefited from these improvements. For instance, even though high quality customers can now transact more directly with the market, banks can lend greater amounts to lower grade customers, confidant that their risk exposure can be reduced in the secondary loan sales market. Furthermore, the greater integration of markets as a result of innovation has made liquidity insurance even more important. A hint of distress -- even if rumor rather than fact -- can become self-fulfilling as all markets simultaneously close off to a firm. The presence of a supportive institution which has the information to sift rumor from fact, and a relationship to protect, can be very welcome in these circumstances. In summary, both theoretical arguments and the evidence suggest the fundamental services

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[29] See Gorton and Pennachi (1995) op.cit. What appears to be more of a violation of the Lemon's principle is the recent emergence of a market for credit derivatives. Here, the originating bank purchases insurance (a credit derivative) against a borrower's default. My guess is that the bank will still retain enough of the risk to convince insurers of its good faith. The pricing of the derivative will also probably reflect the exposure the bank retains to the firm, though knotty issues are raised about how the bank can commit to holding on to the exposure. Finally, it appears that banks want to reduce exposure to a client by purchasing insurance rather than selling the loan because they fear that selling the loan will offend the client. In fact, one of the advantages of credit derivatives is that insurance can be purchased without alerting the client that the bank is reducing exposure (see Euromoney, 1996).

banks provide corporations are alive and well, albeit much changed.

The Changes: Competition and the Deposit Business.

What about the deposit business? With deregulation bringing deposit rates to competitive levels, and the costs of phoning the competition being negligeable, banks have had to rethink this business. While there are still synergies in liquidity provision, all banks enjoy this synergy. So the challenge is to build around the competitive deposit business so as to create rents for the bank. There are only a limited number of ways in which long-run profits can be made: The holy grail for all banks is to find captive customers who are price-insensitive. Barring this, banks have to innovate continuously, or find scale economies and become the low cost producer. It helps, of course, if there is a substantial first mover advantage in a product so that the profits from innovation or scale can be reaped over a period.

"Captive" customers.

In the days when a customer had to be physically present to undertake most banking activity, proximity to the bank branch was important. The bank's customers were those who lived close to the branch. Higher prices could be charged, or lower interest rates paid to them because the customer had high costs of switching to another bank. Now, it is no longer clear who a bank should target, because the geographic area it has access to has expanded as a result of low communication costs. By the same token, the costs to a customer of switching between banks has decreased.

Banks have one big advantage in deciding who to target, how to bring them in, and then how to increase their switching costs; many customers have been slow to take advantage of their ability to use the phone to reach other providers.[30] They still prefer to use the bank branch for such activities as depositing checks (for fear they will not have a physical record otherwise).[31] The local bank branch also provides some human interaction and is less technologically intimidating. Moreover, bankers (at least in the U.S.) have been

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[30] While the number of ATMs in the U.S. has gone up from 13800 in 1979 to 109080 in 1994, the number of bank branches has also gone up over the same period, from 50,136 to 65, 610. See A. Berger, A. Kashyap, and J. Scalise, "The Transformation of the U.S. Banking Industry: What a Long Strange Trip It's Been", *Brookings Papers on Economic Activity*, 2 (1995), 55-217. Of course, the size of a branch is now changing, with one-person branches being placed in supermarkets at a fraction of the cost of a regular branch.

[31] It is now possible for an ATM to automatically produce an image of a check that is deposited so that the customer has a record. Banks will obviously be torn between the trade-off of driving away more customers from the branch versus attracting new customers with these machines.

seen as more trustworthy than other financial service providers such as stock brokers or insurance agents.

Some banks correctly view their branch network and current depositor base as an opportunity. Their idea is to use the branch as the gateway through which the depositor can access the entire financial system. They would like to convert the physical access and trust they currently enjoy with depositors into high switching costs so that when the depositor becomes more technically sophisticated, or access costs diminish further, she is not tempted to switch. There are a number of ways of increasing switching costs. The costliest approach may be to provide personal advisory services, but it builds human bonds that are hard to break. Other approaches include offering a variety of services and integrating the customer's interaction with them so that they seem seamless. For instance, a bank that offers the customer mortgage, credit card, and insurance services can link all these accounts to the deposit account, as well as to overdraft facilities and home equity loans. Within limits, authorized payments can be made automatically, if necessary by borrowing on behalf of the customer at her least cost rate. The bank can also provide a consolidated statement to the customer at the end of every month. The advantage of being the access point is that the cost of switching to a different access point increases with the number of services provided (and if the customer uses software, with the degree of specialization of the software needed to gain access).

An interesting question is whether the bank should offer access to more than its own in-house services. My conjecture is that it should, not simply because it will become more attractive as an access point if it offers the best services, but it is also a commitment to the customer that she will not be gouged later if she locks herself into the bank (economists call this technique "second sourcing"). Moreover, the bank that controls access can extract rents from the other service providers (it controls the unique asset, i.e., the captive customer).[32]

Innovation.

Innovation is clearly a way for a financial institution to differentiate oneself from the pack. But most product innovations on the retail side are easily imitated if they catch on (except, of course, the ones based on

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[32] This approach has been followed extremely successfully by Charles Schwab, a discount brokerage house, and by Intuit Home Banking. For example, with its Mutual Fund OneSource product, Schwab allows customers access to over 1100 mutual funds from over one hundred fund families. Schwab consolidates all fund statements into one consolidated statement for the customer. Schwab's market power through its control of access is evident in Fidelity's recent decision to withdraw most of its popular funds from this scheme.

proprietory technology). One way to build a sustained advantage is to use innovation to build a captive customer base. This is, in a sense, what Charles Schwab has done. It was one of the first brokerages to allow customers to trade electronically. In the process, it cross-sold a variety of products including information services and mutual fund services which locked the electronic customer in. At the same time, these customers give Schwab the scale to pursue further innovation.

Another kind of innovation is to identify areas of high transactions costs and to reduce these costs by internalizing the transactions. To the extent that there are first mover advantages in this, the bank can build a long term franchise. For example, Citibank has recognized that there are still very high costs in making cross-border payments. By setting up a global network of branches, and developing tremendous expertise in foreign exchange transactions, it has internalized cross-border payments. The savings in transactions costs coupled with the very high volume of transactions make this a very profitable franchise. Moreover, other banks are unlikely to challenge this franchise because there are costs of setting up a competing network and the prospective profits are meagre given that there is already an incumbent.

Economies of Scale.

Of course, nothing beats being the low cost producer. Automation is often the way to reduce costs. For example, the real cost of an electronic deposit has come down from being four and half times the cost of processing a paper check in 1979 to being half the cost in 1994. Since automation requires substantial investments, large banks have a competitive advantage. This may also explain the consolidation of the industry in recent years; the percentage of assets in the banking industry in megabanks (banks with assets over $ 100 billion in 1994 dollars) has doubled between 1979 and 1994 while the percentage of assets in small banks has halved. [33]

Bank Strategies in a Changing World.

I conclude this section by examining some strategies followed by banks. Even though their fundamental competencies have not changed, banks do serve different segments using a variety of strategies.

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[33] These figures are from A. Berger, A. Kashyap, and J. Scalise (1995) op. cit. Interestingly, academics have been unable to find evidence of substantial scale or scope economies. My sense is that this has more to do with the weak power of the tests used rather than actual absence of these economies. For an excellent review of this literature, see A. Berger, W. Hunter, and S. Timme, "The Efficiency of Financial Institutions: A Review and Preview of Research Past, Present, and Future", *Journal of Banking and Finance,* 17 (1993), 221-249.

One way of classifying these is according to how operational and product decisions are made. Operational decisions such as what prices to charge could largely be decentralized -- made locally -- or centralized -- made globally. Similarly for product decisions. Consider then the following strategies.

Local-local.

Both operational and product decisions are taken by the local branch manager. Almost by definition, this describes the strategy followed by small banks (since many of them have only one branch). The advantage of such a strategy is that banks can make full use of the human touch and local information -- for example, the loan officer who has lived in the area all her life and understands local business, the client relations officer whose financial advice is trusted, etc. The disadvantages are obvious -- on the operational side, top management may not have adequate control while on the product side the bank does not enjoy scale economies. Some small banks have attempted to have the best of all worlds by contracting out processing and joining large scale networks in order to enhance the access their customers have. But in doing so, these banks may have to share a substantial fraction of the profits from their main asset -- the customer base -- with the access providers (and also risk the customer base being stolen). Moreover, the local-local strategy gives the bank branch an incentive to innovate only locally -- so the costs of any innovation can be amortized over only a small market. Perhaps this is why large banks like Banc One have abandoned the local-local strategy, at least for much of the retail market.

Local-global.

Banc One continues to have a largely local strategy for corporate lending. Since information about "middle market" firms that are the focus of Banc One's corporate lending is likely to be found locally, this seems appropriate. Lending relationships are thus more tailor-made, stronger, and can be a good source of revenue.[34] However, for the retail business, product development is more centralized. This is because retail customers have low switching costs in all but the most remote markets. It is hard to make money in traditional products without paring costs to the bone. New products, as discussed above, need scale. It seems most efficient to offer customers choice from a wide menu of products (which emerges from a global strategy) and

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[34]Banc One requires of its subsidiary banks that they be of "sufficient size to support and justify having management of a caliber capable of making lending and other management decisions at the local level under Banc One's operating philosophy" (Banc One Annual Report, 1995).

offer local pricing differences and advice only for large value added products (the "local" component).

Global-global.

Citibank wants to build a global retail franchise where products, branch layout, and pricing are similar in every Citibank branch. In other words, it wants to create a global brand like McDonalds as a low-cost way of inspiring trust in new markets and differentiating itself from other banks. Familarity will keep the global traveller loyal, while common standards will reduce the relative costs of innovation, and moving personnel and money across borders. Finally, standardization makes it easier for top management to control the business.

It seems fairly clear that the local-local strategy on the retail side will become less and less profiitable, especially as customers become more sophisticated. How long this will take is anybody's guess, and the strategy may be quite profitable in the meantime. But a global strategy is beyond the means of most small banks and some sort of consolidation or refocus on advisory services seems inevitable. As far as corporate relationships go, the challenge for banks, especially those with a middle market focus, is how to allow pricing and product choice decisions to be made locally, while promoting innovation and obtaining scale economies. A local-global mixture seems appropriate.

WHAT ELSE WILL BANKS DO?

What can banks do?

Banks have developed a number of competencies in the course of their traditional activities. They have access points to retail customers (the branch system, the phone and computer network), processing and communications systems (the back office operations), financial engineering expertise, substantial capital, and trust. Financial services essentially consist of assuring performance (as when an investment bank puts its reputation behind a client it underwrites), making contingent or non-contractable payments, reducing transactions and settlement costs, and providing information and expertise. If we compare the list of competencies with the services, it is obvious that large banks have the capability of offering most financial services.

Many of the products they offer will be modernized versions of their traditional products. The attempt will be to reduce transactions costs while making transactions seamless for the customer. For instance, instead of carrying myriad payment instruments in her handbag -- money, checks, credit cards, debit cards -- the

customer will eventually be able to use her fingerprints or voiceprint to initiate payment. The payment will then be debited from a common transactions account, and the balance reinvested according to the customer's desired portfolio choice or borrowed from a preferred lender. With consolidated accounts, stored value cards, and automatic loan machines, the industry is converging towards this ideal.

Banks may also get into non-traditional financial business. Consider underwriting a corporate security. A bank already has an advantage because its lending relationship gives it frequent contacts with firms, and gives it a first mover advantage in making an underwriting pitch. The bank can also make a loan to bridge the gap between the emergence of a project opportunity and the time finance can be raised from the markets. While it may not have a network of institutional buyers who provide the information to price the issue, it can certainly develop these. Large banks have the credit experience to investigate the firm, and the reputation to certify issuers to the market. Congress willing, the branch system, and eventually Internet, will provide a low cost retail outlet for securities for U.S. banks. So banks can easily perform the functions of pricing, certification, and distribution that go into underwriting. Furthermore, they may have some advantage in capturing the business. While the underwriting business will not be a cakewalk, and should not be entered by every bank (see the caveats below), the vigorous lobbying by investment banks against the removal of Glass Steagall barriers suggests that the investment banks have something to fear.

The list of prospective non-financial activities also seems large, and perhaps more interesting. Banks have become very competent at reducing transactions costs through automation. The next frontier is for them to find routine non-financial transactions that can be automated and seamlessly merged with the financial transactions the bank already does. For example, libraries typically invest substantial costs in ordering magazine subscriptions from various publishers. Banks are only involved when the final payment has to be made. There is no reason why a bank cannot take over the entire process, reducing the number of interfaces across which transactions take place, and bringing scale economies to bear. This is, in fact what Banc One offers with its "Subscribe96" product. Library subscription orders are initiated in co-operation with RoweCom (a library service provider), routed to Banc One's web site and then sent on to the appropriate publisher. Banc One then debits library accounts and credits the publishers' banks through automated clearing house transactions.

Large banks also get an enormous amount of information routinely. While the confidentiality of some of this has to be respected (and the bank makes money of some information through proprietory trades), yet other pieces can be aggregated and sold to the public. For instance, mortgage lenders obtain information about house prices in the course of lending. It should be relatively easy for them to develop regression models of how prices depend on house characteristics, location, etc., and provide the pricing service at a fee to buyers. Of course, there may be legal issues such as whether the lender will be held responsible for poor estimates. But I see no fundamental reason why banks cannot bring their huge information gathering networks and processing technology together in brokering information to customers.

I could go on. But the pattern seems fairly clear. In the course of providing liquidity, banks have also developed other capabilities such as information gathering and transaction processing. Banks also have a history of being trustworthy with financial matters, an asset that new, specialized, providers do not have (would you bank on the Internet with a software company or a chartered bank?). The opportunities these open up may seem more attractive for some banks than the traditional business. But for the majority of banks, at least in the near future, business will consist of modernizing, and leveraging off, the traditional business of liquidity provision. I now conclude with what I think will limit bank activities even though banks may have the intrinsic competence to get into them.

Personnel.

Bank personnel require retraining, new incentive systems and new control systems to deal with a changed world. The biases ingrained from past ways of working are sometimes hard to see, let alone erase. For example, prior to deregulation in many countries, banks rationed scarce credit even to high quality customers. The credit decision was often centralized, and the loan officer essentially pleaded his client's case to the bank's credit committee. Credit evaluation by the loan officer was of secondary importance. This worked because the lack of competition and frequent government intervention meant that few companies were allowed to fail. But in a deregulated environment, the bank no longer has the luxury of dealing only with high quality clients. The loan officer has to sell his bank's services to clients of lower quality while making sure that they are sound credit risks. Often, banks do not recognize that the changed environment has to be met with changes in managerial practices. Loan officers then continue to advocate (but not evaluate) clients to a credit

committee that is out of touch with ground realities -- a certain recipe for disaster as banks in Japan, Norway and Sweden have realized.

The entry into new activities can also lead to internal conflict about pay equity. Many European banks have bought merchant banks in London in order to enter the securities business. Merchant bankers are typically more market driven than commercial bankers and are more highly paid. This sets up a clash of cultures and internal jealousies which can decimate a bank. Even if these tensions are smoothed over without the bank unduly pushing up personnel costs, there is still the problem that the investment banking business is much more cyclical than the banking business. There are constant changes in the power of different investment banking groups which, typically, are better managed by a more flexible, flatter, managerial structure. The historically more hierarchical, rigid, commercial bank has to adapt its organizational structure to absorb these shifts in power. Banks that do not take cultural and organizational issues into consideration while entering new activities are likely to have a lot of conflict management on their hands.

Spillover effects.

New activities have other indirect or spillover effects on the rest of the organization. They can affect the organization's reputation, incentives, cost of capital, and regulation. A bank has to be extremely confidant of its control over new activities because a rogue operation can jeopardize the entire bank. Salomon Brothers experienced this soon after its involvement in manipulating the Treasury auction became public in 1991 It experienced a dramatic drop-off in underwriting business (even though its underwriting group had no part in the scandal) as firms worried about the adverse publicity from doing business with, and the reliability of, a "tainted" investment bank. In a similar vein, a bank director once told me that his bank did not make loans to churches or convents. The reason was that the bank could never foreclose if the borrower defaulted, for fear of the adverse publicity it would generate.

New businesses can also create perverse incentives. In the late 1980s, Drexel Burnham had a competitive advantage over other investment banks in advising hostile takeovers because it could also provide funding for a substantial portion of the bid. Drexel's "highly confidant" letter convinced boards that the deal could be sold to the junk bond market and the cash would be there. Since other investment banks did not have the franchise in the junk bond market that Drexel had, they countered by entering the business of lending. They

offered bridge loans to the deal using their own capital. Since substantial fees (and bonuses) were involved in the deals, the bridge loans may not have been subject to the same degree of due diligence that an impartial lender may have exercised. Because the investment banks did not change incentive and control systems appropriately, a number of them, most notably First Boston, suffered substantial losses. First Boston eventually had to be bailed out by its parent, Credit Suisse.

Some activities can also reduce the confidence the public places in other activities because of the perception of conflicts of interest they generate. A number of studies show that an investment bank's analysts are overoptimistic when they report on the performance of firms their bank has relationships with. This causes investors to suspect all the advice they get. Evidence from the 1920s shows that commercial banks who integrated their lending and underwriting operations tightly did not get as good a price for the securities they underwrote as did banks who voluntarily set up firewalls and separate boards for the operations. The rationale seems to be that the public was wary that the lending arm would attempt to bail itself out of past mistakes by selling securities on behalf of distressed firms through the underwriting arm without disclosing the state of the firm. Thus the "lemons" problem was more severe if the operations were too tightly integrated.[35] Banks have to be aware of the changes in incentives when new activities are entered, and adjust organizational, compensation, and control structures accordingly.

New businesses can also affect the transformation risk on a bank's balance sheet and alter its cost of borrowing. The classic example of this is proprietory trading where the bank takes positions on its own behalf. Proprietory trading pushes up the transformation risk in a bank. Even if income volatility from trading is not high, the possibility (perhaps unfounded) that traders may "bet the bank" can push up the cost of borrowing. Casual evidence seems consistent with this.[36] Banks have also followed the opposite course and bought into steadier fee based franchises such as mutual funds to stabilize their income and co-insure activities with greater transformation risk. The effects of new businesses on the bank's average cost of borrowing should be a

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[35] See R. Kroszner and R. Rajan, "Organizational Structure and Credibility: Evidence from the Underwriting Activities of Commercial Banks before Glass-Steagall", N.B.E.R. Working Paper, 1995.

[36] An analyst commenting on J.P. Morgan in Euromoney, October 1994: "J.P. Morgan is more profitable than most banks as measured by Return on Equity, has better growth opportunities..., and has less credit risk than the average bank... but it sells at a discount. In our view, the market is myopically focussed on the trading business."

consideration when entering new businesses.

Finally, banks have historically been considered too important to be left alone by politicians and regulators. Every bank action prompts a regulatory reaction, and this will, no doubt, continue.

CONCLUSION

The fundamental banking business of liquidity provision is alive and well. Substantial new opportunities have opened up for the commercial banks. Their task is not so much how to get out of a declining business, but how to select judiciously between these opportunities. Therein lies the future.

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