

# MUTUAL FUND BANKING: A MARKET APPROACH

*Tyler Cowen and Randall Kroszner*

## Introduction

We examine mutual fund banking as an alternative form of financial intermediation. Individuals would hold checkable deposits at financial intermediaries structured as mutual funds. Although the nominal value of depositor holdings would not be fixed, risk could be hedged through the choice of portfolios. The regulations embodied in the Glass-Steagall Act, federal deposit insurance, and Federal Reserve operations would not be necessary to provide a sound and efficient banking and financial system. Our treatment of mutual fund banking is intended as a likely and viable scenario for the evolution of banking and financial institutions under *laissez faire*.

After a brief discussion of problems with current institutions, we outline the operation of a mutual fund banking system and the forces that would encourage its evolution and development. Comparisons and contrasts with a number of related ideas will help clarify the mutual fund banking proposal.

## The Current Depository Institution Crisis

When examining policy alternatives, stability, and security of the monetary and financial sectors is a consideration of prime concern. Current regulatory policy utilizes deposit insurance and a lender of last resort as a response to the instabilities of a debt-based, fractional

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Tyler Cowen is Associate Professor of Economics at George Mason University and Randall Kroszner is Assistant Professor of Economics at the University of Chicago, Graduate School of Business. The authors wish to thank Robert Barro, Richard Cooper, Kevin Dowd, David Glasner, Stephan Kalb, David Meiselman, Giovanna Mossetti, Joseph Salerno, and Stergios Skaperdas for useful comments and discussions. An earlier version of the paper was presented at the Cato Institute's Seventh Annual Monetary Conference, which was funded by the George Edward Durell Foundation.

reserve banking system; such instabilities include bank runs and asset-liability maturity mismatches (see McCulloch 1981 and 1987).

Although deposit insurance has eliminated certain sources of financial instability, the cost has been high. The current deposit insurance system subsidizes bank risk and creates a moral hazard problem, ultimately at taxpayer expense. In the long run, deposit insurance is likely to make the banking system less secure, because depositors lose the incentive to monitor and foster stability (see Kane 1985).<sup>1</sup>

The regulatory dynamic has responded to the moral hazard problem associated with deposit insurance by regulating bank assets and bank risk taking. Such regulations, however, are not a long-term viable solution to the problem at hand. In the early 1980s, for instance, regulatory change was considered pressing because thrifts were rapidly losing money as a result of their inability to use asset diversification to insulate themselves from interest-rate risk. Maintaining previous regulations on thrift industry assets would also have created serious, although perhaps less-immediate, financial problems for the industry and the deposit insurance fund. Although the situation for commercial banks is not at a crisis level, as with the thrifts, regulators still face the Scylla of asset restrictions and capital requirements, which reduce bank profitability and viability against competitors, and the Charybdis of continued deregulation, which could engender moral hazard problems.

Current banking institutions and regulations are thus subject to long-run erosion. Mutual fund banking has the potential to alleviate many of the problems of traditional deposit banking—the combination of deregulation and mutual fund structure examined in this paper would radically differ from the current structure of depository institutions. Although depositors would not be required to use mutual fund banks, mutual fund banking is likely to arise in the absence of government intervention.<sup>2</sup>

<sup>1</sup>Deposit insurance has already created disastrous consequences in the savings and loan industry. Savings and loan institutions were allowed to diversify their asset holdings into riskier assets than mortgage loans, the traditional S&L staple. S&Ls subsequently invested in risky real estate ventures and loans, playing a “heads, I win; tails, the deposit insurance fund loses” game. As a result, government funding requirements may be as high as \$300 billion.

<sup>2</sup>Recent advocates of variants of mutual fund banking include Black (1970), Fama (1980), Glasner (1987, 1989), Greenfield and Yeager (1983), and Kareken (1986); the related views of Simons (1948), Friedman (1960), and Litan (1987) will be discussed below.

## Mutual Fund Banking

The alternative banking structure we explore entails changes on both the liability and asset side of bank balance sheets. Depository institutions would resemble mutual funds rather than current banks. On the liability side, the deposits of mutual fund banks would represent a claim on the asset portfolio held by the intermediary. Consequently, these bank liabilities may fluctuate in nominal value, depending on the worth of the underlying assets. "Non-par" banking would be possible, in which the number of deposit units or "shares" required to clear a check for a stated nominal sum would not be fixed at a one-to-one ratio. On the asset side, a wide variety of marketable claims, including equity, bonds, commercial paper, government obligations, options, futures, and commodities, would be available as investment vehicles for the fund.<sup>3</sup>

The ownership and management structure of mutual fund banks deserves special attention. The mutual fund intermediaries we discuss are different from the current-day mutual savings banks, credit unions, and mutual savings and loans, which we will refer to as mutual banks.<sup>4</sup> In both mutual banks and mutual funds banks, the depositors constitute the bank's "shareholders." One becomes an "owner" of the bank by making a deposit and ceases to be an owner only by withdrawing the deposit. In the mutual fund banking proposal we consider, depositors are residual claimants and hold a direct claim to the assets of the intermediary, thus earning a return tied to the performance of the underlying portfolio. Under the historical structure of mutual banks, in contrast, depositors receive a predetermined interest payment and are not true residual claimants.

<sup>3</sup>Although mutual fund bank accounts would not have a fixed par value, mutual fund banks might find it convenient to maintain par value check clearing as an accounting convention for the course of ordinary business. Fluctuations in the nominal value of the account would still occur, but the value of a share would be priced at one, and capital gains would simply increase the number of shares. A check written out for a certain number of dollars would be used to transfer the same number of shares; a similar procedure is often used for today's money market mutual funds. If an account suffers sufficiently large capital losses, however, par value clearing might no longer be sustainable. The purchasing power of each share would then float with the price of the underlying asset basket, and the account would be marked to market each time a check was cleared.

<sup>4</sup>Rasmusen (1988) and Woodward (1988) analyze these institutional forms. Rasmusen shows that mutual banks held a significant percentage of time deposits (sometimes more than 80 percent) before the onset of deposit insurance and also had significantly lower failure rates than shareholder-owned banks. Rolnick and Weber (1988) discuss a form of mutual fund banking that prevailed during the American free banking era. See also Goodhart (1987), Selgin and White (1987), and Wicker (1987) on issues related to mutual fund banking.

Mutual fund banks are likely to evolve along the lines of current money market mutual funds. Depositors would invest in open-end mutual funds in which depositors/shareholders would be full residual claimants to the performance of the asset portfolio.<sup>5</sup> The mutual fund would be managed by a separate entity that probably would be a division of a "financial supermarket," a publicly traded stock or private company such as J. C. Penney, Dreyfus, Merrill Lynch, or Citibank. As with today's mutual funds, managers could be compensated with a percentage of the value of the fund's assets, although more complex performance-based reward schemes are also possible.<sup>6</sup>

Depositors could select their portfolios from a large set of possible alternatives. For the most risk averse, funds holding purely short-term federal government or government-guaranteed issues would provide the highest degree of security from capital value fluctuation, as both interest-rate and bankruptcy risk would be negligible. Other investment-grade instruments of varying maturities, combined with the use of interest-rate futures, also would have a high degree of safety.

For securities or commodities with well-developed and liquid options and futures markets, various hedging strategies are available that can be used to eliminate much of the risk of capital value fluctuations. The stock index futures market, for instance, permits hedging of broad equity portfolios. A great diversity of risk-return configurations—for example, insuring downside risk without eliminating upside potential—are available through existing markets for securities and their derivatives.<sup>7</sup>

The development of mutual fund banking would undoubtedly augment the liquidity of these rapidly developing markets and encourage additional innovation. Individuals need not learn the intricacies

<sup>5</sup>A closed-end mutual fund format could be used also, although such funds often trade at a premium or discount to their net underlying asset value (see Thompson 1978). The unresolved questions surrounding closed-end fund pricing make them less likely candidates than open-end funds.

<sup>6</sup>There is thus no danger that "depositors' funds" would be used to subsidize nonbank activities; the mutual fund principle requires the bank to serve as a pure intermediary. Account holders and not banks would possess the legal claims to the assets behind their accounts; the only "funds" remaining for the use of the intermediary would be the commissions charged on accounts.

<sup>7</sup>In the absence of deposit insurance, the use of bank debt (rather than equity) as a form of wealth insurance for depositors appears counterintuitive, as insurance theory implies that individuals wish to insure their portfolio against large swings in value, not small swings. Fixed nominal claims imply that thinly capitalized banks (themselves vulnerable to large losses through runs) are protecting depositors against small nominal losses. Insurance policies, in contrast, usually protect against large losses but not small losses (i.e., they contain a deductible). See Calomiris and Cone (1984).

of futures and options markets to hedge; mutual fund banks would offer a variety of claims to fully, partially, and unhedged funds, so the depositor need only choose his desired risk-return structure (see, e.g., Fama 1980). Hedging, of course, cannot decrease the aggregate risk faced by the economy as a whole, but it can shift this risk away from depository institutions and the payments system.

The superior returns available on certain financial instruments would be attractive for those who do not demand full guarantees and are willing to accept a higher variance of returns. Equity portfolios, for instance, outperform other investments with respect to long-run rates of return.<sup>8</sup> In addition, even strongly risk-averse depositors may prefer asset holdings with varying nominal returns and will not necessarily seek refuge in fixed nominal claims that do not protect the real value of the holder's assets. The loss of personal savings through inflation is a common theme in economic theory; as recently as the last 1970s, Americans were earning negative real rates of return on interest-bearing banking accounts.

### *Bank Stability*

In contrast to traditional banks, depository institutions organized upon the mutual fund principle cannot fail if the value of their assets declines. Since the liabilities of the mutual fund bank are precisely claims to the underlying assets, changes in value are represented immediately in a change in the price of the deposit shares. The run-inducing incentive to withdraw funds at par before the bank renders its liabilities illiquid by closing vanishes with the possibility of non-par clearing. In effect, there would be a continuous (or, say, daily) "marking to market" of the assets and liabilities. Such a system obviates the need for much of the regulation long associated with a debt-based, fractional reserve system, as the equity-nature of the liabilities eliminates the sources of instability associated with traditional banking institutions.

Although money market mutual funds operate without government insurance, their safety record has so far been impeccable. With assets in excess of \$300 billion, they have gained the confidence of a large set of depositors (*Federal Reserve Bulletin*, January 1989, p. A45). Money market funds have been able to handle very large and rapid inflows and outflows without disruption. In 1983, for instance, money market mutual fund shareholders withdrew roughly one-quarter of

<sup>8</sup>Smith (1988) reports that in the 1926–87 period stocks delivered an average annual nominal return, including dividends, of 9.9 percent. In comparison, bonds averaged 4.9. Mehra and Prescott (1985) present a detailed, technical study of superior stock returns—the so-called equity premium puzzle.

their total balances without precipitating any runs or liquidity problems (McCulloch 1987, p. 8). A drain of such proportion from bank deposits for cash is unlikely to have been so smooth. Withdrawals of a smaller percentage were enough to trigger the banking crises of the early 1930s (see Friedman and Schwartz 1963, pp. 712–13). While widespread demands for redemption may depress the value of depositor assets, the solvency of mutual fund banks cannot be threatened by such redemptions.

Even panic selling in equity markets will not disrupt the stability of mutual fund banks. An equity market panic would involve a sale of asset claims, a fall of asset prices on the secondary market, and a capital loss for depositors; however, no further first-order effects on financial intermediation need occur. In contrast, a run on a debt-based bank may require the bank to call in loans (thus interrupting production), or liquidate loans. Traditional bank assets are typically illiquid, and the rush to liquidate will impose further costs on the bank.<sup>9</sup>

Historical experience illustrates the importance of preventing the bankruptcy of financial intermediaries. Benjamin Bernanke (1983), for instance, provides strong evidence that the bankruptcy of financial intermediaries was a significant factor contributing to the depth and persistence of the Great Depression. Intermediary bankruptcy disrupts the flow of capital from savers to borrowers, which chokes off investment, disrupts long-term plans, and leads to business bankruptcies. The breakdown of the intermediation and credit allocation system, according to Bernanke's evidence, appears to have made the Great Depression "Great."

## Commercial Lending

With the transformation of banking institutions to a mutual fund basis, commercial loans now originated through banks instead would be financed largely through commercial credit facilities and securities issues. Even currently, where banks receive the benefits of membership in the Federal Reserve System and have access to federally insured depositors' funds, other financial intermediaries have competed successfully with banks in the commercial loan market. In the early 1950s, for instance, banks' share of lending to (nonfinancial) corporations was nearly 90 percent; by 1985, this figure had fallen to just slightly above 60 percent. As of 1985, banks held less than 40

<sup>9</sup>Dowd (1989) and Cowen and Kroszner (1989) discuss the use of the option clause, which permits banks to suspend redemption temporarily and pay interest, to mitigate the causes and consequences of runs in debt-based, fractional reserve systems.

percent of the collective assets of financial institutions (Litan 1987, pp. 45–46).

Bank competitors include diversified financial “supermarkets” such as Merrill Lynch, and finance subsidiaries of major companies, such as Ford and General Motors, which lend to home purchasers as well as automobile purchasers. General Electric’s finance subsidiary, GE Credit, is now one of the 10 largest commercial lenders in the United States (Litan 1987, p. 188). Such commercial lenders fund their loans by issuing equity and debt securities, rather than using deposits, thus illustrating that the efficient allocation of funds does not require the linkage of deposit taking and commercial lending.<sup>10</sup>

Commercial credit lending does not simply remove the runs problem to another environment (as argued by Diamond and Dybvig 1986). In contrast to a bank with (debt-type) demand deposits, the commercial lender has control over the maturity structure of its liabilities. Unlike demand deposits, commercial credit liabilities, such as commercial paper and long-term debt, cannot be presented for redemption at their holder’s will. Equity shares in the lending firm, of course, cannot be presented for redemption either. These liabilities of the commercial credit firm can still supply liquidity (even with later maturities) if they are traded in secondary markets. Furthermore, a commercial credit lender can fail without inducing a run on the banking system.

The rapidly expanding commercial paper market has been another important bank competitor in commercial lending, as major corporations increasingly have bypassed banks and gone directly to the securities markets for debt financing. From 1960 to 1985, outstanding commercial paper increased fortyfold to over \$200 billion, whereas bank loans increased only elevenfold over the same period to \$494 billion. For large manufacturing corporations (those with assets over \$1 billion), commercial paper accounts for 52 percent of their short-term borrowing; bank loans account for only 26 percent (Litan 1987, p. 42). As the costs of communications and monitoring technology continue to fall and financial markets continue to grow more sophisticated, more and more companies, not only the largest, will find the

<sup>10</sup>The process of “securitization,” repackaging illiquid loans (e.g., auto, credit card, mortgage) into marketable securities traded in liquid markets, provides another rapidly growing alternative to depositors’ funds for financing illiquid loans. Rosenthal and Ocampos (1988, p. 221) estimate that there is already \$100 billion in outstanding securitized credit without any government guarantees, with another \$600 billion in government-guaranteed securitized mortgages. Greenbaum and Thakor (1987, p. 397) argue that securitization (without government guarantees) would be more prevalent if there were no deposit insurance or subsidies offered through federal credit agencies.

commercial paper market a feasible and desirable means of debt finance.<sup>11</sup>

Eliminating the Glass-Steagall and other regulatory barriers to entry into the underwriting of corporate securities would expand the securities financing possibilities for firms of all sizes, especially small firms that are on the margins of the corporate securities market. In addition, smaller firms that may not have access to the commercial paper and equity markets would still have access to loans and funding from the commercial credit lenders and capital pools. Commercial credit and investment banking firms could open local branches in search of smaller-scale lending opportunities, just as many large banks have done recently (Litan 1987, p. 181).

### Comparisons and Contrasts with Related Proposals

Henry Simons (1948) and Milton Friedman (1960) have suggested 100 percent reserve banking to mitigate the instabilities and inefficiencies associated with a fractional reserve banking system.<sup>12</sup> Such proposals are motivated by many of the concerns we have voiced in this essay. One hundred percent reserves against demand deposits would provide an alternative to deposit insurance and address the problem of bank runs. Simons and Friedman also would permit free entry into deposit creation services, as long as assets of approved types were held as the 100 percent reserve.<sup>13</sup>

In contrast to mutual fund banking, demand deposits in the Friedman-Simons plan would be fixed nominal value claims. While Simons briefly considered the mutual form as a viable alternative for savings accounts, the Friedman-Simons plan did not explore the possibility of structuring demand deposits as mutual fund shares. In addition, the Friedman-Simons plan allows only a narrowly defined set of assets to be used as reserves. The reserves would be issued by the Treasury or central bank and, in Friedman's version, would earn interest. Even with interest payments on these funds, however, banks might wish to circumvent the government-mandated portfolio and hold a higher-yielding asset portfolio. The constraints on the

<sup>11</sup>Note that commercial paper issuers often obtain a backup "letter of credit" from a bank or other source that promises to pay if the issuing company cannot.

<sup>12</sup>Many writers have advocated various forms of 100 percent reserve banking. See Kareken (1986) for a recent discussion of this approach and Diamond and Dybvig (1986) for a critique.

<sup>13</sup>Simons and, somewhat more ambivalently, Friedman also made government monopoly of the currency supply part of the proposal. In contrast, we envisage mutual fund banking as a move toward currency competition and away from government control of high-powered money.

earnings of depository institutions under the Friedman-Simons proposal would raise the costs of using bank services; as a result, depository institutions might attempt to offer bank-line services while avoiding the legal label of "bank."

Robert Litan (1987) has put forth a proposal for "narrow banking" that shares some features with the mutual fund approach outlined here. Litan's "narrow banks" would take deposits and receive federal deposit insurance but would not engage in personal or commercial loans; those functions would be carried out by separate subsidiaries of a financial holding company. The separately incorporated lenders would face few or no restrictions on their assets but would neither receive federal deposit insurance nor have access to the Fed's check-clearing and payments system. The assets held by narrow banks would be limited to highly liquid and "safe" securities, as determined by the regulatory authorities. Capital requirements might range from fractional reserves to collateralization in excess of 100 percent, and insurance premiums also would be set by the regulatory agencies. Litan (1987, pp. 169-170) envisions a guaranteed nominal value for narrow bank deposits.

Despite some parallels, mutual fund banking institutions would not require the complex regulatory oversight that Litan's narrow banking proposal would require. By treating depositor balances as mutual fund shares subject to non-par clearing, the possibility of bank failure is eliminated, and there is thus no need for deposit insurance and the regulatory structure it entails. Under Litan's proposal, in contrast, narrow banks would not be strong marketplace competitors but would survive only insofar as regulatory protection prevented other intermediaries from entering the payments system. Litan (1987, p. 185) acknowledges that there is an "end-run" problem (which also plagues the Friedman-Simons proposal): Non-insured intermediaries, which can circumvent the asset restrictions, may issue deposit-like liabilities yielding a better return than that offered by the narrow banks. If the public is willing to accept and to use these as demand deposits, then the narrow banks' liabilities are dominated and will not be held, undermining the proposal.

### Optimal Banking Structures: The Roles of Equity and Debt

Over the last decade, a large and growing theoretical literature has focused on the problem of optimal financial institutions and their regulation (see Williamson 1987 for a survey). The results of this literature are motivated by some form of asymmetric information and

the costs of monitoring. The bank, for example, may not know the actual pay-off of a borrower's project without costly auditing. In other cases, "preference shocks" to depositors' demand for withdrawals may be known only individually and may lead to welfare-reducing bank runs (see Jacklin and Bhattacharya 1988).

Models such as Townsend (1979) and Diamond (1984) find that diversification arguments and information asymmetries concerning project payoffs imply that financial intermediaries with fixed-commitment, debt-like liabilities are optimal. Focusing more on the depositors' conveniences, transactions costs and risk-sharing arguments for the optimality of a debt form for demand deposits also are put forth by Goodhart (1987, pp. 86-87) and Woodward (1988). Diamond and Dybvig (1983), drawing from Bryant (1980), argue intermediaries perform the key role of creating liquidity by transforming illiquid assets (e.g., loans) into liquid liabilities (e.g., standard debt-liability demand deposits) (see also Freeman 1988). In a model with some restrictions on trading opportunities (e.g., no credit cards), Jacklin (1987) shows that debt contracts provide better risk sharing than equity, although this advantage disappears if the restrictions are removed.

In the influential Diamond and Dybvig (1983) model with standard debt-type demand deposits, banks may be subject to runs, even when the banks' assets are riskless. Government deposit insurance, as well as alternatives to the standard demand deposit contract, can eliminate the runs problem. In a modification of the Diamond-Dybvig framework, Postlewaite and Vives (1987) find the even stronger result that bank runs are the unique equilibrium with fixed-commitment deposit contracts.

More recent developments in the theoretical literature demonstrate that the optimality of the debt contracts is not robust to reasonable changes in the theoretical model. By generalizing the Townsend approach to consider a richer set of monitoring technologies, most importantly random auditing, Mookherjee and Png (1987) conclude that state-contingent claims such as equity contracts are optimal and debt never is. In a model with asymmetric information about bank asset quality, Jacklin and Bhattacharya (1988) find that debt or equity may be optimal, depending upon the nature of the information available about the assets.

Unlike some forms of 100 percent reserve banking (e.g., the Friedman-Simons plan), mutual fund banking realizes the gains from trade resulting from the transformation of illiquid assets into liquid liabilities. Mutual fund banks still perform the valuable service of transforming mutual fund shares into liquid claims for transactions use.

The existence of a check and clearinghouse system enables these assets to be used for making purchases for current consumption, thus increasing the liquidity of the community's assets as a whole. Furthermore, the liabilities of commercial credit firms used to fund loan assets could be liquid as well, if traded in secondary markets. Maturity matching of assets and liabilities does not rule out the provision of liquidity services. For this reason, the institutional structure of mutual fund banking would have no problem performing the traditional "liquidity transformation" functions of banks.

In general, while the specific environments of these formal banking models may be tenuous bases for policy conclusions, a mutual fund banking system is consistent with recent developments in the theory of optimal financial intermediation.

### The Evolution of Mutual Fund Banking

The current structure of banking institutions stems in large part from legal restrictions on intermediation and banking services (see, e.g., Hall 1982 and Cowen and Kroszner 1988). If different financial intermediaries were allowed to compete on equal terms, mutual fund banking might evolve through the competitive pressures of the risk-return preferences of depositors and the desire of intermediaries for secure and profitable enterprise.

The potential for mutual fund banks is illustrated by the structure of nonbank financial intermediaries. When individuals invest money outside the network of depository institutions, non-par-value contracts such as stocks, mutual funds, and money market funds are common.<sup>14</sup> Certificates of deposit (CDs) are the primary fixed value investment claim that successfully competes with these non-par-value instruments. CDs, however, can offer only competitive rates of return by restricting access to depositors' funds, an infeasible option for deposit banking.<sup>15</sup>

Money market mutual funds have continued to flourish even after restrictions on bank interest rates (e.g., Regulation Q) were removed (Lown 1987). Furthermore, even with the advent of money market deposit accounts, where money market rates of return are offered

<sup>14</sup>Mutual insurance companies are also very common. Companies with a mutual ownership structure possess almost two-thirds of the total assets of the life insurance industry and account for one-half of the total amount of life and health insurance in the United States (Huebner and Black 1982, p. 567).

<sup>15</sup>Even with many CDs, the depositor's rate of return depends on the state of the world, such as the performance of the stock market. See Rankin (1988, p. 7). Of course, even CDs function as non-par-value instruments when they are "liquified" through sale at non-par-value in a secondary market.

through banks with deposit insurance protection, uninsured money market mutual funds have remained competitive. Money market mutual funds have been successful despite regulatory obstacles that put them at a disadvantage relative to “depository institutions” vis-à-vis services of the Federal Reserve.<sup>16</sup>

Increasing the scope of competition from mutual fund depository institutions would require a number of fundamental policy changes. First, Congress would have to repeal the provisions of the bank regulatory statutes that prohibit banks from freely purchasing, underwriting, and dealing in equity. Second, the Federal Reserve System could allow mutual funds and money market funds to enter its check-clearing and wire transfer systems, or privatize these systems and allow them to be supplied competitively. More generally, current fears of predatory pricing or regulation in retaliation for building a network to compete with the Federal Reserve’s clearing system provide powerful disincentives against private innovation and investment in this area. Third, the tax-induced biases against equity and for debt would also require modification. The current structure of capital gains taxes also discourages mutual fund banking by requiring that every transfer of equity instruments be recorded for the purposes of eventual taxation.

Level competition among financial intermediaries also would require the dismantling of deposit insurance. The FDIC, for instance, could gradually lower the amount of bank deposits that are covered by insurance. The current \$100,000 limit could be lowered \$10,000 each year, thus phasing out deposit insurance over a 10-year period. Banks with highly liquid asset portfolios (like today’s money market mutual funds) would gradually attract depositors from banks that held riskier portfolios of commercial loans. As these latter banks lost deposits, their loan portfolios could be purchased by commercial credit lenders, or perhaps the entire bank would be taken over by nonbank intermediaries.

## Conclusion

Depository institutions should be evaluated in terms of their ability to withstand volatile economic conditions and crises as well as by their success in serving the credit and transactions demands of the economy; mutual fund banks appear to offer considerable promise on these issues. Mutual fund banking thus merits serious consider-

<sup>16</sup>A list of Fed services accessible to only “depository institutions” can be found in *Leveling the Playing Field* (1984, p. 14). See also Calomiris and Cone (1984).

ation as a policy alternative to current banking institutions and as a model for the evolution of a deregulated financial sector.

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## MUTUAL FUND BANKING

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