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# FRBSF WEEKLY LETTER

August 22, 1986

## Monetary Policy in a Deregulated World

Recently, the traditional relationship between the M1 monetary aggregate and the economy appears to have broken down. Some economists argue that the partial deposit rate deregulation of M1, which eliminated interest ceilings on personal checking accounts, has made the aggregate behave more like other interest paying financial assets and less like money. If this process of deregulation were carried to its logical conclusion — with both deposit rate ceilings and reserve requirements eliminated — it is conceivable that virtually all financial assets could become checkable, thereby rendering useless the traditional definition of money. Consequently, monetary policy would have to focus on something other than the quantity of assets that can be used as media of exchange.

Such a world may not be as far off as might first appear. Some brokerage firms now offer "cash management accounts" that enable investors to write checks on a wide variety of assets. Moreover, there have been several legislative proposals to pay a market rate of interest on reserves, which essentially would eliminate their association with money. This *Letter* considers how money could be controlled in a completely deregulated world in which all deposits were free of both interest ceilings and reserve requirements, and assesses the resulting effects on economic efficiency and price stability.

### **Allocative efficiency**

The traditional argument for deregulation of deposit rates and reserve requirements is that it would increase allocative efficiency, that is, it would allow depositories to provide services that more closely matched their customers' preferences at lower costs.

Currently, banks, thrifts and other depository institutions (hereafter, "banks") are required to hold reserves against deposit accounts that offer unlimited checking privileges and on some other types of accounts as well. Reserves are held either as vault cash or as noninterest-bearing deposits at the Federal Reserve.

The foregone interest on required reserves is similar to a tax on bank-provided financial intermediation (that is, the bringing together of borrowers and lenders). This tax is partly reflected

in lower interest rates on reservable (mainly transactions) deposits and perhaps partly in higher rates on bank loans. As a result, the reserve tax distorts decisions regarding the allocation of funds between deposits and non-deposit assets. It induces the public to hold more savings-type and fewer transactions-type deposits than otherwise because of the higher reserve tax on transactions deposits. And, it induces them to hold more funds in nondepository financial instruments, such as money market mutual funds, which are not reservable. This shift of funds out of banks in turn reduces the amount of financial intermediation services performed by banks.

Paying a market rate of interest on reserves or eliminating reserve requirements in conjunction with eliminating all prohibitions against paying interest on deposits would free the resources now employed in trying to minimize the burden of these regulations. Moreover, the public also would benefit because the allocation of its portfolios between transactions and nontransactions balances would be based on economic, not regulatory, considerations, and because the amount of bank-provided financial intermediation services would increase. Although there is widespread agreement that these effects would be beneficial, there is concern about the implications for monetary control and, hence, price stability.

### **Monetary control in the current system**

Currently, the Federal Reserve has the power to influence the quantity of transaction deposits by varying either (1) reserve requirements — that is, the fraction of deposits that must be held as reserves or (2) the total quantity of reserves outstanding (changed primarily through open market operations). For example, by selling a Treasury security to the public, the Federal Reserve can contract the quantity of reserves.

As long as reserves pay no interest, banks have an incentive to hold very few reserves in excess of what is required. Thus, increases in reserves will translate into a multiple expansion of reservable deposits as banks attempt to rid themselves of excess reserves by using them to purchase additional interest-earning assets (e.g., to make loans).

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## **Monetary control with interest on reserves**

In contrast, if a market rate of interest, such as the rate on U.S. Treasury securities, were paid on reserves, and check clearing and wire transfers were priced at their marginal costs, the Federal Reserve would no longer have the power to affect the quantity of reservable deposits directly. Banks would have little incentive to minimize their reserve holdings as they do now because reserves would become a perfect substitute for Treasury securities, which they voluntarily hold. (Banks currently voluntarily hold about 15 percent of their assets in Treasury securities.)

Thus, if the Federal Reserve increased the quantity of reserves, banks simply would reduce the quantity of Treasury securities voluntarily held because they would continue to earn comparable interest on the new reserves. Since there would be no overall change in the quantity of banks' assets earning the Treasury security rate, only in the distribution of those assets between Treasury securities and reserves, the quantity of deposits would be unaffected.

In sum, with a market rate of interest paid on all reserves, neither open market operations nor changes in reserve requirements would have a direct effect on total reservable deposits. If the Federal Reserve just eliminated reserve requirements and paid a market rate of interest on voluntarily held reserves, the result would be similar.

## **Deposits out of control?**

In a world in which the link between reserve requirements on transactions deposits and the quantity of transactions deposits was broken, what would determine the quantity of such deposits? The answer is the benefits and costs of bank-provided financial intermediation. Deposits, as distinct from government currency, are a form of bank debt, and the quantity of transactions deposits would be determined in a manner similar to the way the quantity of other types of debt is determined.

In a competitive unregulated world, transactions deposits would pay a rate of interest determined by the market and transactions themselves (for example, check clearing) would be priced at their marginal cost. Since transactions deposits would pay interest, they would be issued only if

the interest could be offset by the earnings on the assets in which they were invested.

## **Stability of prices**

Some analysts are concerned that, with the quantity of transactions deposits outside the Federal Reserve's control, the Federal Reserve would be powerless to stabilize prices because it could no longer directly influence the quantity of transactions deposits and hence the quantity of money as traditionally defined.

However, according to one strand of contemporary monetary theory, which perhaps has been most clearly explicated by economist Eugene Fama, changes in the quantity of transactions deposits or other forms of debt would not directly affect the price level in an unregulated reserve-free system. According to this theory, the reason is that the price level is determined by the supply of and demand for government-issued money only. In the U.S., government-issued money currently consists of all publicly held currency and bank reserves, and is known as the monetary base or high-powered money. Thus, this theory views the supply of and demand for the monetary base as determining the price level.

In our current system, according to this theory, the quantity of transaction deposits affects prices not because the deposits are money as conventionally thought, but because reserve requirements directly link the demand for the deposits with the monetary base. That is, changes in the demand for transactions deposits change banks' demand for reserves as dictated by reserve requirements. It is this change in the demand for reserves (which are part of the monetary base) relative to the supply — not the change in the quantity of deposits themselves — that affects the price level. Accordingly, eliminating reserve requirements (while still paying interest on voluntarily held reserves), or equivalently, paying interest on all reserves, would sever the link between deposits and the monetary base and thereby eliminate the effects of deposit changes on the price level. In addition, with interest paid on reserves, reserves would no longer be part of the base since they would be a type of debt — not money in the strict sense.

Some have argued that without reserve requirements (and with interest paid on voluntarily held

reserves), there would be no demand for base money (i.e., currency) and that, as a result, the price level would increase without limit. However, there almost certainly would still be a demand for government currency for convenience reasons at least. It is simply too costly to use checks or credit cards for all transactions, particularly small transactions. Consequently, the public would continue to demand currency even though checking deposits paid a market rate of interest and were unregulated. In fact, approximately 80 percent of the base now consists of currency held by the public and only 20 percent of currency and Federal Reserve deposits held by banks. Thus, at most, reserve requirements account for 20 percent of the demand for base money.

Although there would be a demand for currency and hence a finite price level in such a system, the question remains of whether the price level would be stable. The stability of prices in a reserve-free system would depend in part on the stability of the demand for currency. However, it seems unlikely that eliminating reserve requirements would cause the demand for currency to become more unstable than the demand for currency and reserves is now (although the elimination of reserve requirements would cause a one-time decline in the level of demand). And, if deposit rate deregulation has caused the demand for checkable deposits to become unstable, eliminating reserve requirements might actually increase the stability of the demand for the base by severing the link between the demand for deposits and the demand for the monetary base.

Even if the demand for currency were unstable, the price level need not be unstable if the Federal Reserve could detect and accommodate changes in demand by varying the quantity of currency. Eliminating reserve requirements would not lessen the ability of the Federal Reserve to detect changes in money demand. Nor would there be any technical difficulties in controlling the quantity of currency, although the quantity of transactions deposits and the degree of financial intermediation would not be directly controllable. As Fama has pointed out, monetary control and the control of the degree

of bank-provided intermediation services would be separated. Moreover, this separation might lower the economic costs of controlling prices by making it possible to reduce the quantity of money without directly restricting bank credit.

### **Inflation and financial intermediation**

In our current monetary system, there is a short-run tradeoff between reducing inflation and the degree of financial intermediation because when the Federal Reserve wishes to slow inflation, it contracts the growth rate of reserves. While this reduces the growth of the monetary base and hence tends to reduce inflation, it also leads to contraction of transactions deposits and hence reduces bank intermediation services. Because the decline in transactions deposits cannot be completely offset by increases in other types of deposits, bank loans also decline. The result is a reduction of real economic activity because other sources of credit cannot be substituted for bank loans, at least in the short-run. Thus, the Fed cannot both increase bank credit (and financial intermediation) and keep inflation in check.

With a reserve-free monetary system, the Federal Reserve could reduce the growth of currency through open market sales of Treasury securities to the public (for which it pays in currency) and hence reduce inflation without directly affecting bank reserves, deposits, loans or the degree of financial intermediation. Moreover, in a reserve-free system the Federal Reserve, if it wished, could still target base money, the price level, or nominal GNP.

Many economists argue that monetary policy has real effects on the economy in addition to its effects on the degree of financial intermediation. If true, changes in base money would still have these real effects even in a reserve-free system and hence might indirectly affect financial intermediation. But under a reserve-free system, financial intermediation would not be singled out to be directly affected by monetary policy as it is now. A reserve-free system, or one in which interest was paid on reserves, in addition to increasing allocative efficiency, might therefore lessen the adverse short-run real effects of contractionary monetary policy.

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**BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT**

(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding	Change from	Change from 7/31/85	
	7/30/86	7/23/86	Dollar	Percent <sup>7</sup>
Loans, Leases and Investments <sup>1 2</sup>	199,679	272	4,600	2.3
Loans and Leases <sup>1 6</sup>	181,875	192	5,306	3.0
Commercial and Industrial	50,796	- 193	- 904	- 1.7
Real estate	66,964	63	3,022	4.7
Loans to Individuals	39,508	186	2,905	7.9
Leases	5,510	- 6	113	2.0
U.S. Treasury and Agency Securities <sup>2</sup>	10,365	25	- 1,266	-10.8
Other Securities <sup>2</sup>	7,439	56	559	8.1
Total Deposits	204,023	1,321	4,663	2.3
Demand Deposits	51,042	1,494	2,666	5.5
Demand Deposits Adjusted <sup>3</sup>	35,016	- 90	3,658	11.6
Other Transaction Balances <sup>4</sup>	16,294	- 34	2,457	17.7
Total Non-Transaction Balances <sup>6</sup>	136,687	- 140	- 459	- 0.3
Money Market Deposit Accounts—Total	46,948	63	1,980	4.4
Time Deposits in Amounts of \$100,000 or more	35,245	- 129	- 2,551	- 6.7
Other Liabilities for Borrowed Money <sup>5</sup>	22,934	- 141	- 904	- 3.7
<b>Two Week Averages of Daily Figures</b>	Period ended 7/28/86	Period ended 7/14/86		
<b>Reserve Position, All Reporting Banks</b>				
Excess Reserves (+)/Deficiency (-)	79	6		
Borrowings	35	23		
Net free reserves (+)/Net borrowed(-)	43	- 17		

<sup>1</sup> Includes loss reserves, unearned income, excludes interbank loans

<sup>2</sup> Excludes trading account securities

<sup>3</sup> Excludes U.S. government and depository institution deposits and cash items

<sup>4</sup> ATS, NOW, Super NOW and savings accounts with telephone transfers

<sup>5</sup> Includes borrowing via FRB, TT&L notes, Fed Funds, RPs and other sources

<sup>6</sup> Includes items not shown separately

<sup>7</sup> Annualized percent change