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ECONOMIC
PERSPECTIVES

Currency and the subterranean economy

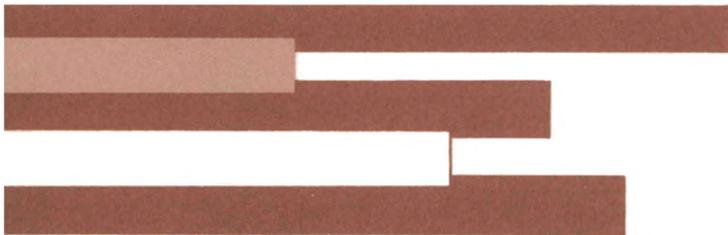
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measures

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Currency and the subterranean economy

Robert D. Laurent

Currency holdings have always fascinated the public. The fascination is only heightened by the lack of hard data that confines investigators to conjecture in explaining currency holdings. Growth in the number of checking accounts and the expanding use of such currency-saving instruments as credit cards have often led to predictions of a "cashless society." Yet along with the growth in credit cards and checking accounts there has come a large increase in currency holdings.

Currency in circulation has increased nearly 13 times in the past 40 years, boosting per capita holdings to \$510. Even casual observation indicates that \$2,000 in currency is more than a family of four needs for ordinary transactions.

Aside from the increased use of checking accounts and credit cards, there are other reasons for expecting the use of currency to decline. Holding wealth in the form of currency is risky as it can be lost or stolen. On the other hand, experience with widespread deposit insurance shows that holding wealth as deposits is relatively risk free. Also, currency holdings sacrifice interest returns, which, with the rise in interest rates, have become considerable.

One possible explanation for the rapid growth has long been recognized. That is currency held for illegal purposes. Higher tax rates would seem to increase the use of currency to avoid taxes. There is also some feeling that certain inherently illegal activities have expanded greatly, particularly dealings in illegal drugs. Transactions of this sort would necessarily be made in currency.

Subterranean economy estimate

Reliable data on currency usage in illegal activities are, of course, hard to obtain. This explains the widespread attention given to a recent estimate of currency usage in what is called the "subterranean economy." In this underground economy, activities are either inherently illegal or not reported to avoid taxes. In an article in the *Financial Analysts Journal* (November/December 1977), Peter M. Gutmann used the ratio of currency to demand deposits to estimate the amount of economic activity in the subterranean economy. He estimated that activity in the subterranean economy amounted to at least \$176 billion in 1976. That was nearly a tenth of the reported GNP.

Gutmann used the currency stock and demand deposit holdings in a straightforward way to estimate the magnitude of illegal activity. Over the period 1937 to 1941, the ratio of currency to demand deposits was 21.7 percent. By 1976, the same ratio had risen to 34.4 percent.

Assuming (1) that a dollar of currency and a dollar of demand deposits support the same amount of economic activity (legal and illegal) at the same point in time, and (2) that the ratio of currency to demand deposits needed to support legal activities had not changed, he figured that illegal activity had increased substantially. Even if there was no illegal activity in the earlier period, illegal activity in 1976 would amount to \$176 billion.

There are some important implications involved in this estimate, however. One is the implication that economic activity (legal and

illegal) associated with currency has grown faster than activity associated with demand deposits. Another is the implication that a dollar in currency or demand deposits supports about twice as much GNP activity in 1976 as it did in the earlier period. This follows because GNP averaged \$98 billion in 1937-41 and currency plus demand deposits (M-1) averaged \$33.6 billion. Every dollar of M-1, therefore, supported \$2.9 of GNP in 1937-41 and \$5.6 in 1976. Most important, the estimate depends critically on the use of demand deposits as the "yardstick" magnitude compared with currency. This choice determines not just the estimate of growth in the subterranean economy, but whether there was any growth at all. For example, comparison of the ratio of currency to total bank deposits shows currency declined relative to total bank deposits from 1939 through 1976. Indeed, over the period 1959 through 1978, of the five money measures (all including currency) that the Federal Reserve reports, currency declined as a proportion of all except M-1. This comparison suggests that what was striking about this period was the slowness of growth in demand deposits. Currency did not increase relative to other deposit measures.

before an exchange can be made for goods and services. This implies that currency and demand deposits should be more closely related to GNP. They perform the transfers associated with the production of goods and services.

The analysis that leads to a focus on the behavior of currency relative to demand deposits suggests that transfers of currency and demand deposits would be more indicative of economic activity than the stock of currency and demand deposits. Activity carried out in the visible economy requires payments for labor and materials, probably by check. Once an activity is carried out at least partially in the subterranean economy, even transactions that are in the visible economy, such as purchases of materials, may be paid for with currency.

It might seem that emphasizing currency and demand deposit transfers instead of the stock of currency and demand deposits gives little new insight into illegal activity. Nothing could be further from the truth. Figures are available on the turnover of demand deposits—the average number of times a dollar of demand deposits transfers over time. The average from 1937 through 1941 was 21

Some evidence from stocks . . .

	1937-41	1976
Currency stock (billion dollars)	6.0	77.8
Demand deposit stock (billion dollars)	27.6	226.2
Currency/demand deposits	.217	.344
"Excess" currency/demand deposits	.0	.127
Reported GNP (billion dollars)	98.	1693.
"Excess" currency/((M-1) - "excess" currency)	.0	.104
GNP output of subterranean economy (billion dollars)	0.	176.

times a year. In 1976, it was 117 times. Demand deposits outside New York—a series that reduces the effects of purely financial transactions—turned over an average of 20 times a year from 1937 through 1941. In 1967, they turned over 80 times.

Importance of transfers

There are compelling reasons for thinking M-1 is the best money magnitude to relate to GNP. Currency and demand deposits are the only components of any money measure that can be immediately transferred for goods and services. Other deposits must first be transferred into currency or demand deposits

One of the main reasons for the faster demand deposit turnover has been the effect of increasing interest rates, which have encouraged better management of cash balances. Banks are prohibited from paying explicit interest on demand deposits and rising interest rates have increased the foregone income represented by demand deposits. This leads the demand deposit holder to

economize and reduce idle balances, increasing the turnover of demand deposits. The increase observed in turnover further reinforces the earlier observation that demand deposits have behaved vastly different among deposits in growing so slowly.

Impact of transfers

The increase in demand deposit turnover has important implications for estimates of the subterranean economy. Debits to demand deposits increased by more than 30 times over the period from 1939 to 1976. By contrast, the currency stock increased only 12 times. Unless the turnover rate for currency has also increased substantially, growth in currency transfers has actually lagged growth in demand deposit transfers over this period. Demand deposit transfers put an entirely different perspective on the changes in currency relative to demand deposits.

Moreover, what scant evidence is available suggests that currency turnover has actually slowed rather than increased over the past 40 years. Although there is no direct evidence on currency transfers, a rough idea of the velocity of currency transfers can be inferred from observing currency redeemed and destroyed. Currency is redeemed and destroyed when notes show signs of wear. If currency becomes worn as a result of transfers, then the volume of currency redemptions and destructions can be used as an indication of currency transfers.

This interpretation is supported by evidence on destruction of different denominations. Smaller denomination notes are more suitable for most transfers. Larger denomination notes are more suitable for storing wealth. It has long been observed that denomination and currency lifetime decline together, presumably as transfer velocity

increases.

From 1937 through 1941, the average life of a dollar of currency was 3.12 years. In 1976, it averaged 5.31 years.¹ With the assumption that the number of transfers in the life of a currency note did not change, the data indicate that currency in 1976 transferred only about 59 percent as fast as in the earlier period.

By use of the changes in transfer rates for currency and demand deposits and with the assumption that currency transfers accounted

... and from transfers

	1937-41	1976
Currency stock (billion dollars)	6.0	77.8
Currency turnover (per year)	c*	.59c
Currency transfers (billion dollars/year)	6.0c	45.9c
Demand deposit stock (billion dollars)	27.3	226.2
Demand deposit turnover (per year)	20.3	79.9
Demand deposit transfers (billion dollars/year)	554.2	18073.4
Currency stock/demand deposit stock	.217	.344
Currency transfers/demand deposit transfers	.0108c	.0025c

*Where c represents currency transfers per year in the period 1937-41.

for the same proportion of transactions as in the earlier period, it is possible to compute what the ratio of currency to demand deposits would have been in 1976. The result is that currency in 1976 would have to be 1.45 times the level of demand deposits. The combination of the speedup in demand deposit turnover and the slowing in currency turnover means that currency would have to be larger than demand deposits in 1976 to perform the same proportion of transfers that it did from 1937 through 1941. In fact, the ratio of currency to demand deposits in 1976 was only 0.34.

¹The increase in currency lifetime may be due, in part, to a conscious decision by the Federal Reserve to lengthen the life of a note through changes in its currency redemption policy in the mid-1970s. However, examining data from the early 1970s indicates there was a substantial increase in currency lifetime aside from the effects of any changes in Federal Reserve redemption policy.

Two trends

Adjustment for turnover changes the interpretation of the currency stock numbers completely. Instead of a currency stock that seems too large, the stock now appears far too small to perform even the same proportion of transfers as in 1937-41. Yet the currency stock and the per capita holdings have risen sharply. The explanation appears to lie in two distinct trends. One trend does, indeed, seem to be a move toward a cashless society, with currency performing a smaller and smaller proportion of transfers in the economy. Apparently, the growth in the use of checking accounts and credit cards is substituting for currency transfers.

A second trend has been a growing use of currency as a store of value, with much lower turnover rates. The rapid increase in \$100 notes, until there is now more money outstanding in this denomination than any other, could reflect the increased use of currency as a store of value. Even larger denominations might be used if they were still issued. This trend in large denomination notes could easily be connected with illegal activity, but these notes do not have the same relationship to economic activity as in the visible economy.

Why illegal activity might increase the stock of currency while reducing the turnover rate can be seen in a comparison of the problem facing a small tax evader with the problem facing a large tax evader. The small tax evader evades the tax on a relatively small part of his income. As his biggest risk is that the unreported income will be detected, the small evader uses a currency transaction to receive the income in a way that cannot be detected. Having received the currency, the small evader has no problem disposing of it, since it is a small amount relative to his income. The small evader is affected by the same factors that lead the holder of legally obtained currency to economize on his currency holdings—the interest return that must be foregone to hold currency and the depreciating value of the dollar.

The large tax evader may be required to

hold much larger amounts of currency that transfer much slower. Notice that with a currency per capita figure of \$510, casual observation suggests that currency holdings are sharply skewed with some holders having very large amounts. Large tax evaders have the reverse problem of small evaders. Since a great part or all of their income is hidden from the tax collector, it is likely that the payments are already arranged in currency. However, there is a danger in transferring it into visible assets. Visible assets substantially greater than previously reported income could arouse suspicion. If the income came from an activity that was itself illegal, the currency holder might even purchase a legitimate business and “launder” the illegal income by pumping it through the business and paying taxes on it. This might explain the reputed attraction for large scale organized crime of such currency intensive businesses as legalized gambling, where large amounts of currency could be resurfaced.

One piece of supporting evidence for the difficulty of eliminating currency hoards comes from the period just after the Second World War. Currency increased rapidly during the war. This presumably reflected an increase in illegal activities, hoarding as a store of value, and increased foreign holdings. Currency declined after the war. The decline was slow and protracted, however, as though currency hoards could not be disgorged quickly. Per capita currency holdings actually declined for 15 years—from 1946 to 1961.

The evidence presented here does not deny the possibility that illegal activities have been growing. Indeed, increasing tax rates would seem to increase the incentive for such activities. Nor does the evidence deny that a great part of the increase in currency may be due to illegal activities. The analysis of demand deposit and currency transfers does suggest, however, that the proportion of total economic activity associated with currency has declined substantially over the past 40 years. Thus, it seems unlikely that the subterranean economy could presently account for a tenth of reported GNP.

Proposed redefinition of money stock measures

Anne Marie Laporte

This article summarizes proposals by the staff of the Board of Governors for redefining the monetary aggregates that were presented in the January 1979 Federal Reserve Bulletin. The proposals raise important issues regarding the payments system, the evolving role of depository institutions, and the basis on which the public chooses to hold various financial assets. To aid in further consideration of these proposals, comments are invited from the public. Please address comments to Office of the Staff Director for Monetary and Financial Policy, Board of Governors of the Federal Reserve System, Washington, D.C. 20551.

“Money” is generally defined in terms of the functions it serves—medium of exchange, standard of value, and store of purchasing power. And because the Federal Reserve has primary responsibility for regulating the volume of money available to meet demands of the public, it devotes significant resources to measuring “money.” Recognizing that different financial assets serve different money functions and that no one measure of money is adequate for all purposes, the Federal Reserve currently publishes six measures of the money stock.

The current measures, however, have become less meaningful as a result of recent regulatory changes and financial innovations that have changed the character of the public’s monetary assets. And as a result, the staff of the Board of Governors has proposed a redefinition of the monetary aggregates to replace those currently published.¹ The proposed redefinitions take into account the

changing character of the public’s financial assets, as well as some of the recommendations of the Advisory Committee on Monetary Statistics (the Bach Committee).² This article summarizes the staff’s proposal.

Evolution of the current monetary aggregates

While many financial assets serve the standard of value and store of purchasing power functions of money, only a few are accepted as a means of payment—that is, for making transactions. When introduced in 1960,³ the measure of money based on daily average data published now as M-1 represented financial assets that could be used directly in transactions. Although refinements and revisions to the data have been made since, current M-1 is still defined in basically the same way, as the public’s holdings of currency, coin, and demand deposits at commercial banks. The “public” means exclusive of holdings by commercial banks and the U.S. government.

It has long been recognized that various savings instruments provide potential purchasing power. They were not originally included in the measured concept of money, however, because they usually had to be converted first into cash or demand deposits before the funds could be used for transactions. Nevertheless, related data on all commercial bank time deposits, also measured on a daily average basis, were published

²*Improving the Monetary Aggregates: Report of the Advisory Committee on Monetary Statistics*, (Board of Governors of the Federal Reserve System, June 1976).

³“A New Measure of the Money Supply,” *Federal Reserve Bulletin*, October 1960, pp. 1102-21. Monetary data published prior to late 1960 was as of a single day.

¹“A Proposal for Redefining the Monetary Aggregates,” *Federal Reserve Bulletin*, January 1979, pp. 13-42.

separately beginning in 1962.

It was often argued that a broader measure of money was sometimes more appropriate. And while broader measures could be constructed from data published by the Federal Reserve, not until 1971 was more than one money supply measure, labeled as such, published. That was when M-2 and M-3 were added.

Then, as now, M-2 was defined as M-1 plus commercial bank time and savings deposits other than large negotiable CDs issued by large banks. As first introduced, M-3 included M-2 plus mutual savings bank deposits and savings and loan shares. In 1975, when the number of published monetary aggregate measures was increased to five, M-3 was redefined to also include credit union shares.

The two additional money stock measures introduced in 1975 were M-4 and M-5, defined by adding large negotiable CDs to M-2 and M-3, respectively. Thus, current M-4 represents public holdings of currency, coin, and all deposits at commercial banks, while current M-5 represents public holdings of currency, coin, and all deposits at banks and thrift institutions.

Because of the uncertainties associated with the introduction of prearranged automatic transfers from savings to checking accounts (ATS), a sixth monetary aggregate measure, M-1+, was introduced in late 1978. Current M-1+ includes M-1 plus savings deposits at commercial banks and transactions accounts at thrift institutions. Although M-1 is affected by deposit shifts between demand and savings accounts subject to ATS, such shifts do not change M-1+. The introduction of ATS and the development and growth of transactions accounts outside the commercial banking system are two factors leading to the proposed redefinition of the monetary aggregates.

Changing character of the public's monetary assets

As a result of regulatory changes and financial innovations, the character of the

public's monetary assets has undergone basic alteration in the 1970s. In some cases, certain types of deposits have become more alike. Others have become more dissimilar. In addition, distinctions between deposits at different depository institutions have become blurred.

Some developments have increased the number of financial instruments that can be used for making transactions. These include the authorization of negotiable orders of withdrawal accounts (NOWs) in some states, credit union share drafts, and demand deposits at thrifts. If adopted, the Federal Home Loan Bank Board's proposal to allow federally chartered S&Ls to offer payment order accounts would introduce still another transactions instrument.

With ATS and the development of these alternative forms of payment, current M-1 has become a less comprehensive measure of transactions balances. Furthermore, other developments have also greatly increased the liquidity of savings accounts, making it much easier for savings accounts at commercial banks and at thrift institutions to be used for transactions purposes.

In addition to ATS, preauthorized payments can be made from savings accounts, and funds can be transferred from savings accounts to checking accounts by telephone. Point-of-sale (POS) terminals allow S&L customers to withdraw funds from their savings accounts and make deposits through use of remote terminals at retailers. And businesses and domestic governmental units can hold savings accounts at commercial banks, a development that allows them to hold highly liquid interest-earning deposits instead of demand balances.

While savings deposits have become more liquid, small time deposits at commercial banks and thrift institutions have generally become less liquid. As the regulatory ceiling rates on four, six, and eight-year time deposits were increased, depository institutions were able to issue longer-term, less liquid time deposits, lengthening the average maturity of their time deposits. The recent introduction of six-month money market cer-

Chronology of developments in the 1970s affecting the character of the public's monetary assets

I. Developments leading to new transactions instruments

June 1972 State-chartered MSBs began offering negotiable orders of withdrawal (NOWs) accounts in Massachusetts.

Sept 1972 State-chartered MSBs began offering NOWs in New Hampshire.

Jan 1974 Depository institutions in Massachusetts and New Hampshire authorized to offer NOWs.

Oct 1974 Temporary experimental share draft programs first approved for federal CUs.

Mar 1976 Depository institutions in Connecticut, Maine, Rhode Island, and Vermont authorized to offer NOWs.

May 1976 State-chartered MSBs and S&Ls in New York State authorized to offer consumer demand deposits. (Prior to this time they could offer payment orders of withdrawal (POW) deposits. In addition, thrift institutions in some states have been permitted to offer noninterest-earning transactions balances to households. State-chartered S&Ls in Illinois, for example, have been able to offer noninterest-bearing negotiable orders of withdrawal (NINOWs) accounts since Oct. 1975.)

Mar 1978 Final regulations for permanent share draft programs at federal CUs became effective.

Nov 1978 Depository institutions in New York State authorized to offer NOWs.

Nov 1978 Federal Home Loan Bank Board proposed authorizing federally chartered S&Ls to offer payment order accounts (POAs).

II. Developments increasing liquidity of savings accounts

Sept 1970 S&Ls permitted to make preauthorized nonnegotiable transfers from savings accounts for household-related expenditures.

Jan 1974 Point-of-sale (POS) terminals permitting remote withdrawal of deposits from savings balances at S&Ls allowed.

Apr 1975 Telephone transfers from savings balances at CBs permitted. (Telephone transfers from savings balances at thrift institutions have been allowed since the 1960s.)

Apr 1975 S&Ls permitted to make preauthorized third-party nonnegotiable transfers from savings accounts for any purpose.

Sept 1975 CBs permitted to make preauthorized third-party nonnegotiable transfers from savings accounts for any purpose.

Nov 1978 Prearranged automatic transfer services (ATS) from savings balances at CBs and thrifts having transactions balances authorized.

III. Developments expanding liquid investment alternatives available

Early 1974 Money market mutual funds came into existence on a large-scale basis. (These funds, which invest in money market instruments, allow their shareholders to redeem shares by checks drawn on accounts established at designated banks, by wire transfer, or by mail.)

Nov 1974 Savings accounts at CBs for domestic government units permitted.

Nov 1975 Savings accounts at CBs for businesses, up to \$150,000 per account per customer, permitted.

IV. Developments affecting nature of time deposits

Jan 1970 Increase in interest rate ceilings on two-and-one-half year deposit approved.

Jun 1970 Interest rate ceilings on time deposits of \$100,000 or more maturing in less than 90 days suspended.

May 1973 Interest rate ceilings on time deposits of \$100,000 or more maturing in 90 days or more suspended.

Jul 1973 Increase in interest rate ceilings on four-year deposit approved.

Jul 1973 Substantial penalty on early withdrawal of time deposits imposed.

Jul 1973 Interest rate ceilings on multiple maturity time deposits of \$100,000 or more suspended.

Dec 1974 Increase in interest rate ceilings on six-year deposit approved.

Jun 1978 Increase in interest rate ceilings on eight-year deposit approved.

Jun 1978 Six-month money market certificates with ceiling rate tied to 6-month Treasury bill rate authorized.

CBs: commercial banks.

CUs: credit unions.

MSBs: mutual savings banks.

S&Ls: savings and loan associations.

tificates (MMCs) has tended to shorten the average time deposit maturity, but the liquidity of MMCs as well as other small time deposits has been lessened by the imposition of penalties for early withdrawal.

Also included in current M-2 and M-3 are some large time deposits, negotiable and nonnegotiable, that are more like the excluded large negotiable CDs of weekly reporting banks than either the savings or small time deposit components of current M-2 and M-3. Since the regulatory ceiling rates on time deposits of \$100,000 or more were suspended, banks and thrifts have tended to issue these large deposit liabilities in order to offset cyclical movements in other deposit liabilities.

Banks have also intensified use of non-deposit sources of funds in recent years. In particular, they have increased their reliance on security repurchase agreements (RPs) with customers. These RPs give a customer a highly liquid and earning asset as a safe alternative to holding deposits.

The public's more intensive use of cash management techniques has reduced the level of demand deposits needed to conduct transactions. Through use of such techniques as lock boxes, wire transfers, information-retrieval systems, and cash-concentration accounts, businesses especially have been able to invest funds in RPs, commercial paper, and treasury bills that would otherwise have been held as demand deposits. The incentive to make use of these techniques has increased with the rise in interest rates.

Because of these changes, the meaning of the monetary aggregates as they are now defined has been altered, making movements in the aggregates difficult to interpret. The experience of the past few years further suggests that relationships between the current monetary aggregates and GNP may have also changed. It appears, therefore, that new definitions are needed. Furthermore, as regulatory changes and financial innovations will most likely continue, further refinements in the definitions of the monetary aggregates may be needed in the future.

Proposed monetary aggregates

Four redefined monetary aggregates have been proposed to replace those currently published. Because no one measure of money is adequate for all purposes, the separate components of the proposed monetary aggregates and such related financial assets as RPs would also be published.

In the proposed money stock measures, similar types of deposits are aggregated across depository institutions. In developing these measures, two questions were asked. First, do the assets in the aggregate serve as mediums of exchange—that is, as transactions balances? Second, can the assets be readily converted into transactions balances?

Once these questions were answered, other considerations were taken into account in proposing definitions. One was the availability of data. Another was the relationship of the proposed measures to other variables, particularly GNP. Still another was the ability of the Federal Reserve to control the proposed aggregates.

The proposed M-1 measure was designed to measure domestic transactions balances more adequately than current M-1. Proposed M-1 adds to current M-1 the new transactions-related savings deposits at commercial banks and thrift institutions—NOW accounts, ATS balances, credit union share drafts, demand deposits at such thrifts as mutual savings banks, and, if approved, S&L payment order accounts. In line with a recommendation of the Bach Committee, demand deposits of foreign commercial banks and official institutions are excluded. This is because foreign deposits are used primarily for international transactions and international reserves.⁴

Thus far, the new transactions balances to be added are smaller than the foreign-related demand deposits to be excluded so that proposed M-1 is smaller than current M-1. And while growth rates for the two series have been quite similar, they are likely to diverge in the future as transactions-related savings

⁴*Improving the Monetary Aggregates: Report*, p. 4.

balances are used more widely.

Proposed M-1+ adds savings accounts at commercial banks other than ATS and NOWs to proposed M-1. As a result, except for the exclusion of demand deposits of foreign commercial banks and official institutions, proposed M-1+ is basically the same as current M-1+. Recognizing the increased liquidity of commercial bank savings deposits, the Bach Committee had suggested that an aggregate like proposed M-1+ be considered.⁵

There is some evidence suggesting that savings accounts at commercial banks have been more liquid than those at thrift institutions.⁶ But as the public adjusts to ATS, developments could limit the usefulness of proposed M-1+ to a transitional role.

The third redefined aggregate is proposed M-2, which adds savings balances at all depository institutions to proposed M-1. Unlike current M-2, which adds the increasingly dissimilar savings and time deposits at commercial banks to current M-1, proposed M-2 aggregates similar deposits across depository institutions. Like proposed M-1+, an aggregate like proposed M-2 had been suggested by the Bach Committee.⁷ And while commercial bank savings accounts may be slightly more liquid, there is evidence that savings accounts at different institutions are good substitutes for one another.⁸

The fourth redefined measure is proposed M-3, made up of proposed M-2 plus all time deposits at all depository institutions regardless of denomination, maturity, or negotiability. As with proposed M-1 and proposed M-2, similar deposits are summed across all depository institutions. By including all deposit liabilities of all depository institutions, proposed M-3 represents the

In the proposed monetary aggregates, similar types of deposits are aggregated across depository institutions

Proposed aggregate	Components	Amount June 1978 (billions of dollars, not seasonally adjusted)
1. M-1	Current M-1	351.7
	PLUS: NOW balances	3.3 ¹
	Credit union share drafts	.6
	Demand deposits at thrifts	.9
	ATS savings	0 ²
	LESS: Demand deposits of foreign commercial banks and official institutions	11.3
	Total ³	345.0
2. M-1+	Proposed M-1	345.0
	PLUS: Savings balances at commercial banks ⁴	221.6
	Total	566.6
3. M-2	Proposed M-1	345.0
	PLUS: Savings balances at all depository institutions ⁵	495.3
	Total	840.3
4. M-3	Proposed M-1	345.0
	PLUS: All time and savings deposits (including large time deposits) at all depository institutions ⁵	1,154.6
	Total	1,499.7

¹Consists of NOW balances in New England states. In November 1978, NOW accounts were authorized in New York State and by March 7, 1979, the stock of NOW balances at depository institutions in New York is estimated to have been \$1.0 billion.

²Would also include payment order accounts (POA) at savings and loans, if the current Federal Home Loan Bank Board proposal is adopted. ATS savings were first offered on November 1, 1978, and by March 7, 1979, estimated ATS balances were \$5.7 billion.

³Total does not equal the sum of the components because of other miscellaneous adjustments to the total.

⁴Excludes NOW and ATS savings balances at commercial banks.

⁵Excludes all NOW, ATS, POA (if introduced), and credit union share draft balances.

SOURCE: "A Proposal for Redefining the Monetary Aggregates," *Federal Reserve Bulletin*, January 1979, p. 17. Data in the table do not reflect the benchmark revision to the money stock data announced in the February 1979 *Bulletin*.

broadest of the suggested monetary aggregates.

Because of the growing importance of nondeposit sources of funds, particularly RPs, a monetary aggregate that also included non-deposit liabilities of depository institutions might be useful. Data limitations, however, impede construction of such an aggregate at this time.

Data availability

In theory, concepts of money that satisfy the user's criteria can be developed. In practice, however, lack of data or availability of only poor data can hamper construction of a series corresponding to theoretical spec-

⁵*Improving the Monetary Aggregates: Report*, p. 11.

⁶William A. Barnett, "A Fully Nested System of Monetary Quantity and Dual User Cost Price Aggregates," (Board of Governors of the Federal Reserve System, Division of Research and Statistics, Econometric and Computer Applications Section, November 1978: processed), p. 2.

⁷*Improving the Monetary Aggregates: Report*, p. 11.

⁸Barnett, p. 2.

ifications. Furthermore, construction of a series based on data that are not timely can limit its usefulness for policy purposes.

An example is the poor quality of data on RP liabilities of banks held by the nonbank public. Without good data, these liabilities cannot be included in the proposed redefinitions of the monetary aggregates. Similarly, some transactions balances, such as money market mutual funds and traveler's checks issued by nonbanks, are excluded from proposed M-1 primarily because sufficient data are not available.⁹

Given current data sources, monthly estimates of the proposed aggregates can be made. However, the first published monthly data are apt to be less reliable than current data and subject to greater revision. This is primarily because of the lag in obtaining information on transactions and ordinary savings balances at thrift institutions. Weekly estimates of commercial bank deposits are available, but lack of weekly information on deposits at thrift institutions would introduce greater uncertainty into estimates of the proposed monetary aggregates. Publication of data on the proposed aggregates could be delayed, of course, or, in line with the recommendation of the Bach Committee, more timely information could be gathered from institutions that are not members of the Federal Reserve System.¹⁰ Indeed, efforts are under way to obtain better data from non-member institutions.

⁹In addition, infrequency or unavailability of data has precluded complete implementation of all of the Bach Committee's recommendations that interinstitution deposits be consolidated. (*Improving the Monetary Aggregates: Report*, pp. 12-14.) The committee recommended that deposits held by depository institutions at other institutions for the purpose of servicing the deposits included in an aggregate be consolidated rather than combined. To combine the interinstitution deposits results in double-counting and, therefore, in an overstatement of the public's monetary assets. Where possible, the proposed aggregates were constructed with these consolidation principles in mind. Insufficient data, however, resulted in a "not negligible" amount of interinstitution deposits being combined rather than consolidated. See "A Proposal for Redefining the Monetary Aggregates," p. 32. See also the appendix to the above article "Appendix: Data Sources and Construction of the Proposed Monetary Aggregates," pp. 40-41.

¹⁰*Improving the Monetary Aggregates: Report*, p. 3

Empirical evidence

One criterion that is often used in choosing between alternative definitions of money is the relative strength of the relationship between the various money measures and other variables, particularly GNP. The staff of the Board of Governors prepared several econometric studies investigating the empirical relationships between primarily GNP and both current and proposed monetary aggregates.¹¹ The evidence from these studies is somewhat inconclusive. The proposed aggregates appear neither substantially better nor worse than the current aggregates. But some of the evidence for the most recent period tends to indicate a marginally stronger relationship between GNP and the proposed aggregates.

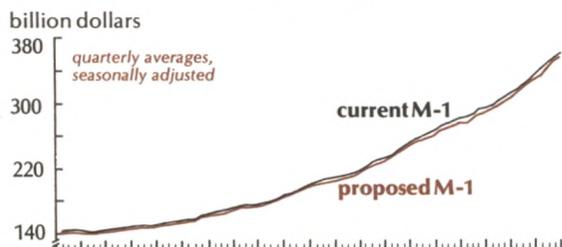
However, empirical studies comparing current and proposed aggregates should be analyzed with caution. Use of a monetary measure whose meaning has changed limits the usefulness of econometric evidence based on the measure. Because the character of monetary assets has changed, current monetary aggregate relationships that once held are not likely to be as strong in the future. Likewise, recent changes may lead to stronger relationships between the proposed aggregates and other variables than in the past.

Controllability

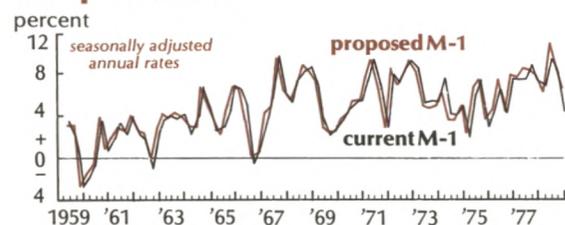
A final consideration is the ability of the Federal Reserve to influence the levels of the various monetary aggregates and their rates of growth. For implementation of monetary

¹¹Richard D. Porter, Eileen Mauskopf, David E. Lindsey, and Richard Berner, "Current and Proposed Monetary Aggregates: Some Empirical Issues," (Board of Governors of the Federal Reserve System, Division of Research and Statistics, Econometric and Computer Applications Section, January 1979; processed); P. A. Tinsley, P. A. Spindt, with M. E. Friar, "Indicator and Filter Attributes of Monetary Aggregates: A Nit-Picking Case for Disaggregation," (Board of Governors of the Federal Reserve System, Division of Research and Statistics, Special Studies Section, October 1978; processed); and Barnett. The results of these studies are summarized in "A Proposal for Redefining the Monetary Aggregates."

Proposed M-1 level is lower than current M-1 due to exclusion of foreign deposits



Rates of growth, however, are quite similar



policy, it is not enough for an aggregate to be closely related to the ultimate objectives of policy. The Federal Reserve must also be able to influence an aggregate through available instruments of monetary policy. The extent of control over a particular aggregate depends largely on the operating procedures the Federal Reserve uses.¹²

If the Federal Reserve uses a reserves operating target, control over a particular monetary aggregate is increased if the deposits in that aggregate are subject to reserve requirements set by the Federal Reserve.¹³ Under a reserves operating procedure, the Federal Reserve is likely to have less direct control over the proposed monetary aggregates than over the current aggregates. This is because deposits at thrift

institutions are not covered by Federal Reserve requirements.

If the Federal Reserve uses an interest rate operating target, control over a monetary aggregate depends primarily on the sensitivity of demand for that aggregate to changes in interest rates. Empirical estimates of demand for the various monetary aggregates, proposed and current, suggest that if the Federal Reserve uses an interest rate operating target, control over the proposed aggregates would be about the same as that over the current aggregates.

Summary

Four redefined measures have been proposed to replace the six monetary aggregate measures the Federal Reserve currently publishes. All the proposed monetary aggregates would include similar deposits at all depository institutions. By including transactions accounts at thrift institutions as well as commercial banks, proposed M-1 would be a more accurate measure of the public's transactions balances than current M-1.

Adoption of the proposed aggregates would have several implications for monetary policy. Unless new information sources were developed, information on the proposed monetary aggregates would not be as timely as now or as reliable on a current basis. More uncertainty about the amount of "money" available could impair implementation of monetary policy. Similarly, given its current range of reserve requirement authority, the Federal Reserve could have less control over the proposed aggregates than over the current aggregates, depending on operating procedures used.

The proposed monetary aggregates, however, are conceptually closer to theoretical "money" than the current measures. Instead of rejecting the proposed aggregates because of data availability or controllability problems, it would seem more appropriate to continue seeking ways of improving both the timeliness and quality of the data and the extent of Federal Reserve control over the proposed measures.

¹²Kenneth J. Kopecky, "The Relationship between Reserve Ratios and the Monetary Aggregates under Reserves and Federal Funds Rate Operating Targets," Staff Economic Studies 100 (Board of Governors of the Federal Reserve System, December 1978).

¹³Monetary control over a particular aggregate is further enhanced the more similar and higher the reserve requirement ratios are against the various deposits included in the aggregate, assuming a reserves operating target.

Banks and the securities markets: the controversy

Larry R. Mote

Commercial banks have tried hard over the past decade to expand their currently limited role in the securities markets. Firms already in the securities business have been determined to prevent any enlargement of that role. The confrontation could escalate into one of the most bruising legislative battles in recent years.

Some banks have argued that they should be allowed to underwrite municipal revenue bonds, as well as general obligation bonds, to offer commingled investment accounts (essentially, mutual funds), and to engage in the retail securities brokerage business. Federal banking law either prohibits banks from engaging in these activities or, as in the case of brokerage activities, is ambiguous.

The issues underlying the controversy date, at least in embryonic form, back to the beginnings of American banking. The role of banks in the securities markets, curtailed since passage of the Banking Act of 1933, is understandable only in terms of what was going on when the act was passed.

This article examines the controversy over securities activities by tracing the history of the involvement of banks in securities markets and describing their current activities. A later article will try to sort out the problems of public policy, separating those inherent in bank securities activities from those that were due to abuses since cured by legislation or changes in business ethics.

Commercial loan theory of banking

From its inception, American banking was based on the English model. Like their English brethren, American bankers professed to subscribe to the commercial loan theory of banking—the *real-bills doctrine*,

which held that the characteristic role of a commercial bank was to make short-term, self-liquidating loans for the purpose of financing industry and trade. The term “real bills” derives from the bills serving as evidence of indebtedness to a bank; the bills were real in the sense that they were secured by real goods moving to market.

The theory held that a bank could ensure its solvency and liquidity by confining its lending to this kind of short-term, self-liquidating loan. The theory held further that adherence to such a policy would result in just enough money and credit to support the prevailing level of economic activity, or “needs of trade.” It would stabilize prices.

Though the subject of controversy for years, the real-bills doctrine survived well into this century. It was even incorporated into the Federal Reserve Act by the requirement that credit extended to commercial banks by the Federal Reserve banks be secured by *eligible paper*, meaning paper evidencing short-term loans similar to those envisioned by the real-bills doctrine.

The real-bills doctrine has since been relegated to the dustbin of the history of economic thought. Long before the doctrine was thrown out, however, the demand for credit in a vigorously developing country produced important departures from its dictates. With few other financial institutions—and no organized securities markets to meet the enormous requirements for new fixed investments—banks were called on very early to supply a large part of the long-term credit business demanded.

It was apparent as early as the 1830s that American banks were heavily into the business of making long-term loans secured by fixed assets. It is estimated that, by the

beginning of World War I, a substantial proportion of commercial bank credit was going to finance fixed capital. In addition to extending direct loans, banks were heavy purchasers of corporate and government securities.

Moreover, although data are scant, banks appear to have been leading participants in the underwriting and distributing of securities in the first half of the nineteenth century. Failure of the Second Bank of the United States following its conversion to a state charter was widely blamed on the bank's involvement in investment banking. This criticism was forgotten in the 1860s, however, as demands for credit during the Civil War set off another burst of bank underwriting of securities.

By the turn of the century, the role of commercial banks in investment banking had become a matter of controversy. In 1902, the Comptroller of the Currency ruled that the National Banking Act prohibited national banks from underwriting and distributing equity securities.

To get around this restriction, national banks, led by the First National Bank of Chicago in 1903, organized state-chartered affiliates to carry on their securities business. This response was similar to the earlier organization of state-chartered trust companies to get around the National Banking Act's prohibition of trust activities to national banks.

In 1912, the Pujo Committee, a subcommittee of the National Monetary Commission, recommended that national banks also be prohibited from underwriting corporate bonds. The role banks were to play in distributing government securities in World War I, however, would soon allay criticism of bank securities activities.

Banking in the twenties

The 1920s saw a further blurring of the distinction between commercial banking and investment banking, occasioned by a sharp shift in business demand for credit. Largely as a result of waves of mergers, first around the

turn of the century and then in the twenties, large corporations had become dominant in American business. Having easy access to the emerging national credit market, corporations often found it better to raise long-term funds by selling securities than by borrowing from banks. This tendency was reinforced in the twenties by the growing popularity of stock ownership, even by those with modest incomes.

Corporations cut back on their short-term borrowing from banks even more because, after several years of rapid growth in earnings, they were flush with funds. Many companies, in fact, entered money markets as lenders in competition with banks, particularly in call loans for carrying stocks on margin.

To put funds derived from their rapidly growing deposits to profitable use, banks sought alternatives to the shrunken market for short-term commercial loans. One alternative was to increase their term lending to business—loans with maturities of more than a year. Despite this shift in emphasis, commercial loans declined from over 50 percent of banks' total earning assets in 1923 to 39 percent in 1929. As a proportion of total loans, commercial loans declined from 71 percent in 1923 to 54 percent in 1929.

Within the bounds of regulatory constraints, banks also increased their purchases of corporate, utility, and municipal bonds and expanded their participation in consumer and mortgage lending. As two eminent banking authorities wrote in 1933, ". . . American banks ceased to a large extent to be commercial banking institutions and became instead investment trusts." But for all their efforts to compensate for the loss of their traditional lending business, banks' share of total credit fell from 25 percent in 1923 to 22 percent in 1929.

To maintain their preeminence among financial institutions, banks relied more and more on their securities activities, either directly (the McFadden Act of 1927 explicitly authorized national banks to underwrite investment securities) or through securities affiliates. They were so successful that by 1929 banks and their affiliates were underwriting

over half the new issues reaching the market. Banks appeared to have made the transition from narrowly focused short-term business lenders to general-purpose financial institutions.

The banking crisis

Then the bottom fell out. The crash of 1929 and the ensuing Depression and banking holiday brought to grief not only most of the banking system, including some large banks and their securities affiliates, but also many depositors and small investors. After the banking crisis in 1933, when some 4,000 banks failed, Congress conducted several investigations of the banking system and passed banking reform legislation.

The most sensational of the Congressional investigations was conducted by Ferdinand Pecora, counsel for the Senate Banking and Currency Committee. This investigation focused on the securities activities of banks and their affiliates in the 1920s. Abuses by several banks, especially one of the largest New York banks, and their officers and affiliates captured the public's imagination and aroused its indignation in a way not seen again until the Watergate affair.

Among these abuses were the investment of deposit funds in speculative foreign bonds, the promotion of securities sales on behalf of affiliates, excessive lending to affiliates, speculation by affiliates in the stock of parent banks, a bank president selling the stock of his own bank short—and making a fortune in the process—and indirect payment of huge salaries to bankers through their affiliates. The responses of the government and the public were limited at the time to expressions of outrage. None of the activities was strictly illegal. But it is clear that revelations coming out of the hearings had a great deal to do with the kind of banking reform legislation that was adopted.

The Banking Act of 1933

The centerpiece of banking legislation of the thirties was the Banking Act of 1933. Often

called the Glass-Steagall Act after its sponsors, Senator Carter Glass and Representative Henry Steagall, this act was later reenacted with significant revisions as the Banking Act of 1935.

Although the act dealt with a host of banking matters—including the size and composition of the Federal Reserve Board, membership in the Federal Reserve System, and branching by national banks—the two key provisions of the act were the establishment of federal deposit insurance and, of most interest here, the separation of commercial banking from investment banking. Section 16 of the 1933 act as amended restricts investments of national banks. The section reads in part:

. . . The business of dealing in securities and stock by the association shall be limited to purchasing and selling such securities and stock without recourse, solely upon the order, and for the account of customers, and in no case for its own account, and the association shall not underwrite any issue of securities or stock: *Provided*, that the association may purchase for its own account investment securities under such limitations and restrictions as the Comptroller of the Currency may by regulation prescribe . . . As used in this section the term “investment securities” shall mean marketable obligations, evidencing indebtedness of any person, copartnership, association, or corporation in the form of bonds, notes and/or debentures commonly known as investment securities under such further definition of the term “investment securities” as may by regulation be prescribed by the Comptroller of the Currency. . . . The limitations and restrictions herein contained as to dealing in, underwriting and purchasing for its own account, investment securities shall not apply to obligations of the United States, or general obligations of any State or of any political subdivision thereof . . .

Section 5(c) of the 1933 act applied the same restrictions to state member banks. Section 20 outlaws bank security affiliates:

After one year from June 16, 1933, no member bank shall be affiliated in any manner described in subsection (b) of section 221a of this title with any corporation, association, business trust, or other similar organization engaged principally in the issue, flotation, underwriting, public sale, or distribution at wholesale or retail or through syndicate participation of stocks, bonds, debentures, notes, or other securities . . .

Section 21 of the act forbids individuals and companies in the investment banking business from engaging in deposit banking, and vice-versa.

Whatever the merits of the case against the securities activities of banks, the Banking Act of 1933 unequivocally restricted them. But the separation of banks from securities markets was not complete.

Banks were expressly permitted to buy and sell securities, including equities, at the order of customers for their accounts. Banks were also allowed to purchase some types of debt securities for their own portfolios and to underwrite Treasury issues and general obligation bonds of state and local governments. The act did not explicitly mention the authority of banks to serve as advisors to investment companies or other institutional investors or prevent bank trust departments, as fiduciaries or agents, from managing the assets of individuals or corporations, including the purchase and sales of both debt and equity securities. In a recent suit brought by the Investment Company Institute, however, a federal appeals court held that bank holding companies were prohibited by the Bank Holding Company Act from acting as investment advisors to closed-end investment companies and strongly hinted that banks were prohibited from such activity by the Banking Act of 1933.

Reentry into the securities markets

For many years after the banking crisis of the thirties, banks were generally content with the restrictions, an attitude reinforced by the depressed state of securities markets. Not until the early sixties—when the economy and the stock market had both recovered from the Depression and banking was becoming more competitive under the stimulus of reviving loan demand and, in at least some respects, a more relaxed regulatory environment—did banks begin to test the limitations put on their securities activities in 1933.

Municipal revenue bonds. One of the first tests of these limitations came with an effort by national banks to underwrite municipal revenue bonds. Revenue bonds are debt securities with repayments that depend on revenue from a particular source, such as highway tolls. The authority of banks to underwrite general obligation bonds, generally construed to mean bonds backed by the general taxing power of the municipality, was expressly recognized in the Banking Act of 1933.

The Comptroller of the Currency, in a somewhat strained interpretation, ruled that the term “general obligation” had not been used in a strict technical sense in the act. In view of the alleged ambiguity and in light of studies showing that commercial bank entry into underwriting would increase competition and reduce borrowing costs for state and local governments, in 1963 the comptroller authorized national banks to underwrite certain bonds issued by the state of Washington that were previously considered ineligible. He followed this ruling with others that broadened still further the definition of general obligation.

As a result, the comptroller was sued by an investment banking firm in the business of underwriting revenue bonds and in 1966 the ruling was overturned. Since then, banks have lobbied for statutory authority to underwrite revenue bonds. For the first time, they may be close to succeeding.

Commingled investment accounts. The

Comptroller of the Currency tested the limits of the Banking Act of 1933 with another ruling in 1963. In this case, the comptroller approved the application of First National City Bank of New York to serve as investment advisor to a commingled managing agency account—essentially, a bank-sponsored mutual fund operated by the bank's trust department.

Authority for banks to commingle individual trust accounts, pooling funds for investment purposes, is well established. Similarly, their management, in an agent's capacity, of large individual accounts is universally accepted as permitted under the law. What had not been tried before was the combination of these two powers—management of commingled accounts on an agency basis.

In a landmark decision, the Supreme Court upheld the district court decision (reversed by the Court of Appeals) that found the Comptroller of the Currency had exceeded his authority in ruling that national banks might engage in this combined activity. The court held that the collective investment fund violated both sections 16 and 21 of the Banking Act of 1933.

Automatic investment services. Competitors believe that the particular manner in which banks have expanded into some otherwise legal activities violates the act. Some banks, for example, have interpreted their authority under the act to buy and sell securities, "upon the order, and for the account of customers," to mean they are free to enter the retail securities brokerage business.

As a move in that direction, banks have obtained permission of the Comptroller of the Currency to offer automatic investment service (AIS) accounts. Through these accounts, customers authorize the bank to deduct regular amounts from their checking accounts every month to buy a number of preselected stocks. The list of stocks a customer can choose from is usually limited, as for example to the 25 stocks on the New York Stock Exchange with the largest capitalizations.

To hold down commission costs, funds from all the banks' AIS accounts are pooled so the stocks can be bought in large blocks. The

price a customer is charged for a stock is usually the average price paid for the stock that month. It is not the price paid in any one transaction.

The appeal of these accounts is their comparatively low commission costs and the convenience they give customers, many of whom might not otherwise invest in stocks. But the accounts have not come up to expectations. Originally expected to attract a large number of accounts and a great volume of funds, AIS plans have not been as widely accepted as banks had hoped. Several banks have dropped the service. At least two large banks are now negotiating with Merrill Lynch, the country's largest brokerage firm, to serve as agents in offering its Sharebuilder program—which is similar to an AIS plan—to customers of the banks.

Nevertheless, in offering AIS plans in the first place—and despite making all sales and purchases of stock through established brokers or dealers—banks raised the spectre of their eventually entering the brokerage business on a full scale. Indeed, Chemical Bank of New York has gone so far as to offer the general public brokerage services on an agency basis. This has raised the opposition of those already in the business, who argue that such services may be offered only as an accommodation to existing customers, and only at a price at or below cost.

Dividend reinvestment plans. More successful has been the banks' introduction of dividend reinvestment plans (DRP). Under these plans, stockholders authorize companies in which they own shares to send their dividend payments directly to the bank. There, the dividends of all participating stockholders in a company are pooled to buy more shares. Some plans allow stockholders to commit funds in addition to their dividends.

As many as 500 companies participate, including many of the largest in the country in terms of market value of outstanding shares. Ordinarily, 5 to 12 percent of the shareholders of companies represented in the plans participate. The number of participating shareholders, estimated at over a million, is

expected to grow.

Private placements. Also growing rapidly—but seen as much more threatening by the securities industry—are the private placement activities of banks and their affiliates. A private placement is a negotiated sale of securities to private investors that is exempt from the registration requirements for public issues of securities. The investors, often large insurance companies or other institutions, are sophisticated.

The bank advises the issuer on such details as the appropriate interest rate, maturity, indenture provisions, and timing of the sale. It helps locate potential investors and may help in negotiating with them.

Private placements are becoming important as an alternative to both public issues of securities and direct bank loans. According to estimates, bank-assisted private placements have increased from \$129 million in 1972 to \$1.5 billion in 1977.

Although most private placements are assisted by financial institutions other than commercial banks, mostly investment banking firms, the commercial bank share of the dollar volume of assisted placements rose from 1.8 percent in 1972 to 7.3 percent in 1975 and 1976 before declining to 6.7 percent in 1977.

Five large banks accounted for an estimated 77 percent of the dollar volume of bank-assisted private placements in 1977. The largest of these, however, ranked only twelfth among advisors in solo private placements, as opposed to private placements co-managed by two or more institutions. It was the only bank in the top 20.

The situation could, nevertheless, change dramatically if banks aggressively seek to expand their role in private placements and are allowed to do so.

Current controversy

Controversy has grown out of the recent incursions banks have made—or tried to make—into securities activities they had either neglected or thought prohibited to them by the Banking Act of 1933. Securities

brokers and dealers, investment bankers, and their trade associations have countered inroads by the banks in some cases with litigation and in others with appeals to bank regulatory agencies for rulings restricting bank securities activities. In at least one case—that of Merrill Lynch's Cash Management Account—the securities industry has struck back with a plan that, because it allows customers to write checks against the balance in their accounts, is perceived by bankers as unauthorized entry into banking.

More broadly, they and other individuals and groups concerned with the expansion of banks into securities markets are pressing for a general review of the role of banks in these markets. The ultimate goal appears to be the enactment of clarifying—and presumably, more restrictive—legislation.

To some extent, the securities industry's opposition is simply the predictable response of an industry threatened with new competition. Unless there are compelling arguments to the contrary, protection from competition has not been considered a suitable goal of legislation.

Bank involvement in the securities markets, nevertheless, raises several legitimate issues that need to be examined before public policy can be made. These issues include, but are not limited to:

- The likelihood of conflicts of interest when banks (1) lend to companies in which they buy stock as agents for their customers or (2) arrange private placements of securities for companies that use the proceeds to pay off loans to the bank.
- The effect on bank solvency of the failure of an investment company the bank serves as an advisor.
- The effect of bank managing agency and trust activities on the institutionalization of the stock market and market liquidity.
- The possibility of “voluntary tie-ins” in which, to increase their chances of obtaining a loan, customers use other services of a bank without regard for their own merits.
- The dangers to investors of banks not being subject to the broker examination, “suitability” requirements, and prompt ex-

ecution standards the SEC imposes on other brokers.

- The danger of increased concentration of resources from banks exploiting the competitive advantages of their exclusive charters.

Some of these issues have little substance. Others have been handled by legislation. Some, however, particularly those involving actual or potential conflicts of interest, are real and have not been dealt with adequately. In those cases, it is still open whether regulation can provide an adequate remedy or whether a structural solution such as divorcement is needed.

But bank entry into securities activities offers potential public benefits as well as possible dangers. Where entry is free and existing firms are exposed to new competition, the result is often better service, more innovation, a greater variety of services, and lower prices than where new competition is excluded. Consequently, a review of the securities activities of commercial banks should consider not only the need for forging new restraints but also the possibilities for loosening some old shackles. A subsequent article will discuss some of these issues and the costs and benefits of proposed remedies in more detail.

Holding company affiliation and scale economies in banking

Dale S. Drum

How affiliation with a holding company affects the cost structure of banks has been a controversial subject in banking for some time. In support of their applications to acquire banks, holding companies argue that economies in the operation of banks can be achieved through affiliation. If these opportunities for economies do exist and if these economies are passed on to the public, then it may be argued that the resulting public benefits can be presumed to offset, in part or perhaps in whole, any anticompetitive effects present in the application.

While holding company applicants and their advocates cite scale economies as an argument for acquisitions, they seldom support their position with concrete data. On the other hand, opponents rarely support their views either. Empirical studies examining this issue also have reached mixed conclusions.

A study of 208 Seventh District banks was undertaken to explore the impact of affiliation on the cost structure of banks. These banks ranged from \$6 million to \$650 million in asset size. The effect of branching on the efficiency of these banks was also examined.

Results of the Study. The results of the study indicate that independent banks—banks not affiliated with either a one-bank or a multibank holding company—are subject to at least moderate economies of scale. That is, the percentage increase in total cost is less than the percentage increase in output.¹ For

NOTE: A copy of the more technical working paper entitled "The Effect of Holding Company Affiliation Upon the Scale Economies of Banks," Research Paper No. 79-2, is available from the Public Information Center, Federal Reserve Bank of Chicago.

¹As employed in this study, output is estimated as loan revenue plus revenue from securities plus income from other sources. Thus bank output is viewed as the value of credit extended plus the value of other services performed by the bank. Total cost is defined as total operating cost less all service charges received by the bank.

independent banks, an increase in output of 10 percent increases total cost about 9.5 percent. Since cost rises more slowly than output, per unit cost declines.

Banks in SMSAs typically incur slightly higher costs than do comparable non-SMSA banks. Competitive pressures may force SMSA banks to engage in more advertising or to offer comparable services either free or at reduced prices. Higher costs can also be associated with an urban environment as, for example, higher taxes or real estate prices.

In addition, banks with branches appear to have slightly higher costs than banks without branches. This cost difference does not become particularly significant, however, until the bank has at least three branches.

Overall, affiliation with a one-bank holding company has no significant effect on scale economies. In fact, in most cases, the one-bank holding company is an organizational shell that merely transfers ownership of the bank from individuals to a corporation. Operating efficiency is probably not affected by this change in the form of ownership, although it may affect net income due to the difference in the tax status accorded a corporate entity.

Multibank affiliates, on the other hand, are slightly less efficient than banks not affiliated with holding companies. Although of marginal statistical significance, a 10 percent increase in the output of these affiliate banks increases total cost about 9.7 percent. There seems to be no empirical justification, then, for the assertion that affiliation with a multibank holding company will produce scale economies not otherwise available to independent banks.

Other findings. Additional information can be gleaned by grouping the banks into different size classes. Scale economies show up predominantly in medium and medium-

large banks. Banks having assets from \$50 million to \$100 million are considered medium-sized, while banks with assets from \$100 million to \$200 million are considered medium-large.

For medium-sized independent banks, a 10 percent increase in output will increase total cost approximately 8.8 percent. A similar increase in output for a medium-large independent bank increases total cost 9 percent.

Branching affects medium-large and large banks more than the other groups. In both groups, banks with branches incur slightly higher costs than comparable banks without branches.

Affiliation with a one-bank holding company has a negligible impact on the scale economies of all but medium-sized banks. These affiliates are somewhat more efficient than independent banks of the same size, with a 10 percent increase in output increasing total cost only 8.5 percent. This compares to an 8.8 percent increase in total cost for medium-sized independent banks.

Affiliation with a multibank holding company tends to reduce the efficiency of all banks except medium and medium-large banks. These banks share the same scale economies as their independent counterparts of the same size.

Policy implications. The Bank Holding Company Act provides the Board of Governors of the Federal Reserve System with guidelines for evaluating applications to establish a holding company or to acquire a bank in the case of an existing holding company. One of the principal concerns of the act is the probable effect such a holding company will have upon competition in the relevant market. An application that, if approved, would result in adverse competitive effects will be denied unless there is evidence of sufficient public benefits to clearly outweigh the anticompetitive effects.

In making its decision, one of the criteria the Board considers is whether an acquisition will result in gains in efficiency which will benefit the public. Section 4(c)(8) of the Act, which deals with the acquisition of *nonbank*

firms, requires the Board to consider gains in efficiency as one of the factors that could potentially offset adverse effects. No such specific requirement exists in section 3, however, which applies to *bank* acquisitions.

Together with the convenience and needs of the community, the Board is obligated to consider the financial and managerial resources and future prospects of the company. Since these will be affected if economies are realized, this serves as the springboard allowing the Board to consider gains in efficiency as a separate factor in assessing whether the public benefits will outweigh the anticompetitive effects of a bank acquisition.

Gains in efficiency resulting in reduced prices or better service are additional benefits falling within the competitive or convenience and needs criteria. Gains in efficiency do not have to be passed on to customers but can instead be held as higher retained earnings, thereby improving the capitalization of the acquired bank. The resulting increase in financial strength and soundness of the bank could be a factor weighing favorably for approval of the application.

Conclusion. The results of this study indicate that banks affiliated with holding companies do not achieve economies of scale beyond those available to independent banks of the same size. Therefore, considering economies of scale as a factor that can be relied upon to outweigh the anticompetitive effects of a proposed acquisition has little merit. The argument simply lacks firm empirical support.

Affiliation does seem to have a positive effect on scale economies in the case of medium-sized banks affiliated with one-bank holding companies. Competitive issues, however, are seldom a significant factor in these cases. They are more important in applications of multibank holding companies, where affiliation appears detrimental to scale economies of affiliated banks. Only among medium and medium-large banks do affiliates of multibank holding companies manage even to match the scale economies of independent banks.

AVAILABLE FROM THE CHICAGO FED . . .

The Federal Reserve has recently published a 46-page booklet providing a straightforward summary of consumer credit rights. Copies are available free of charge from the Public Information Center, Federal Reserve Bank of Chicago, P.O. Box 834, Chicago, Illinois 60690.

