

Innovations in the Financial Markets

Radical changes in the instruments used in financial transactions are occurring today. Instruments developed a while ago have suddenly become popular; at the same time, some brand new ideas are being experimented with. These changes are affecting many aspects of our economic environment, including the interest rate risk borne by various borrowers, and are complicating monetary policy decisions.

Money market mutual funds are one of the money substitutes whose appeal has recently widened substantially. Although only ten years ago money market funds were a new invention, today for every dollar held in a checkable deposit there are 57 cents held in a money market mutual fund. The nature of loans is also changing. While variable interest rates on business loans or mortgages were a rarity in the United States a decade ago, today over half of bank loans to businesses carry interest charges that float with the prime rate or with money market interest rates, frequently the London Interbank Offer Rate (LIBOR). And, of the conventional home-mortgage commitments made in late 1981, one out of every three carried an adjustable rate of interest.

Another striking change on the financial scene is the development of a financial futures industry where contracts for future delivery of, say, Treasury bonds or Swiss francs are traded alongside contracts for silver and cattle.

Many factors contributed to this changing financial environment. Certainly, the historically high interest rates witnessed in 1979-81 and the great variation in both rates of interest and rates of exchange between

currencies played a significant role. Other key factors included regulations which affected the profitability of one type of asset versus another. In addition, the use of computers facilitated frequent transfers from one asset to another, while the growing sophistication of the typical American household, not to mention the corporate treasurer, added to the momentum of change.

In this issue of the Federal Reserve Bank of New York's *Quarterly Review*, we include several articles on the innovations in the financial markets. These articles explore the causes of change as well as the implications for the economy and for monetary policy.

High interest rates and asset choices

The rapid acceleration in inflation in the 1970s put enormous pressure on both long- and short-term interest rates as investors sought a rate of return to compensate them for the dollar's eroding purchasing power. As interest rates rose, financial innovations and shifts into new assets accelerated, with the effect of high interest rates on people's decisions reaching a crescendo in the 1979-81 period.

Businesses and households substantially reduced their checkable deposits and passbook savings accounts—whose rates were subject to legal ceilings—relative to their expenditures. Taking a long view over the decade, households reduced the ratio of their checkable deposits to their consumption spending by 18 percent and corporations reduced their checkable deposits relative to gross national product (GNP) by 38 percent. In the case of passbook savings accounts, households reduced the ratio of their passbook sav-

ings balances to consumption spending by 50 percent.

Businesses and households moved funds from checking and savings accounts into traditional market instruments such as Treasury bills, commercial paper, and large certificates of deposit (CDs), as well as into the relatively new money market mutual funds and six-month money market certificates (MMCs).

Through money market mutual funds, people with only moderate amounts of financial wealth could for the first time invest, albeit indirectly, in large CDs, commercial paper, and Treasury obligations. In addition, while money funds offered a slightly lower rate than money market instruments, they provided greater liquidity. For some people, then, they were a good temporary resting place for funds that might be needed for purchases, not unlike the traditional savings account.

Besides shifting funds into money market mutual funds, households took advantage of regulatory changes and purchased close to \$500 million of six-month MMCs at banks and thrift institutions. They now comprise one fourth of these institutions' deposits. MMCs were authorized in June 1978. Although they are available only in minimum denominations of \$10,000, the ceiling rate on MMCs is keyed to the rate on six-month Treasury bills, making them an attractive alternative to other types of deposits—which were subject to legal interest rate ceilings. Another newly authorized deposit that attracted funds was the small savers certificate, a 2½-year time deposit with a ceiling rate keyed to the rate on 2½-year Treasury notes.¹

Issues for monetary policy

Some of these shifts of funds have created new difficulties for the monetary targeting approach used by the Federal Reserve. For example, a huge inflow to money funds occurred in 1981 at the same time that M-1B—checkable deposits and currency—was weaker than would have been expected considering general economic financial conditions. Were money funds substituting for checkable deposits in their use as transactions balances? If so, should the definition of M-1B be changed to include money funds and should this new money supply concept be the one that the Federal Reserve seeks to control. In an article entitled "Money Market Mutual Funds and Monetary Control", Michael Dotsey, Steven Englander, and John C. Partlan examine these questions.

Another problem for monetary policy is evaluating

the potential consequences of various regulatory changes. The Depository Institutions Deregulation and Monetary Control Act of 1980 specifies that the Regulation Q interest rate ceilings on deposits, other than demand deposits, must be phased out by the end of March 1986. As ceiling rates on negotiable order of withdrawal (NOW) and automatic transfer service (ATS) accounts are removed, rates on such accounts may tend to move closer to market interest rates and vary more with them. This could have major implications for monetary control as Betsy Buttrill White discusses in the article "Monetary Policy Without Regulation Q."

Interest rates and financial intermediaries

Shifts of wealth into new assets by households and businesses affected the risk position of banks and thrift institutions. The attractiveness of the new six-month MMCs, for example, resulted in a shortening of the average maturity of thrift institutions' and banks' time deposits. Also, since these MMCs paid a market-related rate of interest, the cost of banks' and thrift institutions' funds became increasingly sensitive to market rates of interest as these certificates became a larger fraction of deposits.

One answer to this sensitivity of funding costs to short-term interest rates was to make loans with yields that increased when the cost of funds increased. Business loans with interest rates linked to the prime rate were an example of this approach. Large banks, who had been relying increasingly on large negotiable CDs and similar instruments with market-determined interest rates, were already moving in the direction of floating rate loans before the advent of MMCs. And, by the end of 1980, over 70 percent of outstanding long-term business loans were of a floating rate variety, some tied to the prime rate alone, others with a LIBOR-pricing option. These loans were an adaptation of roll-over credits whose rates were tied to LIBOR, which had become the standard form of lending in the Euro-markets. The Eurobanks were not restricted in the interest paid to depositors. Since their deposits were largely short term, when interest rates rose, their cost of funds therefore also rose. To limit their risk, the Eurobanks tied the rates on loans to the rate which they would have to pay for funds.

Adjustable rate mortgages were another instrument designed to reduce the interest rate risk of the lender. Until recently, however, thrift institutions were not very eager to shift in this direction and so there was little pressure to change the regulations to permit such mortgages. For example, until mid-1979, no Federally chartered thrift institution could offer adjustable rate mortgages and many states prohibited state-chartered

¹ In October 1981 the all savers certificate, a one-year time deposit with a ceiling rate keyed to 70 percent of the 52-week Treasury bill, was authorized, \$1,000 of the interest earnings on these certificates is tax exempt on individual returns (\$2,000 on joint returns) for 1982

institutions from offering them. Thus, the thrifts' assets remained largely in fixed-rate mortgages, and they experienced substantial losses in late 1980 and early 1981 as interest rates again began to rise. But, by 1981, new regulations on adjustable rate mortgages and growing awareness of the dangers of mismatching the maturities of assets as liabilities led thrifts to alter their mortgage lending policy: in late 1981 about one third of new conventional mortgage commitments of savings and loan institutions were of the adjustable rate type. These new mortgage instruments, along with floating rate loans, represented efforts on the part of financial intermediaries to reduce interest rate risk by "match-funding"—shortening the effective maturity of their assets to match the shortening of their liabilities.

With such floating rate instruments, more of the interest rate risk is put on the borrower. How this will affect the behavior of borrowers remains to be seen. Firms might be more reluctant to make long-term investments in plant and equipment and families may be more reluctant to buy houses. In addition, the responsiveness of aggregate spending to interest rates might change: when interest rates fluctuate in the future, the effect on some households' spendable income and firms' profits will be greater than in the past. This could mean that the spending on consumer goods and investment items will be more sensitive to changes in interest rates.

A second answer for at least some types of interest rate risk was to hedge by taking an opposite position in the interest rate futures market. The financial futures markets—currency futures and interest rate futures—were set up in the mid-1970s largely in response to the increased variability of exchange rates and interest rates. These markets grew very rapidly. However, few financial intermediaries were participants, due in part to the fact that there was no good way to hedge a fixed-rate, long-term mortgage of twenty-five to thirty years with existing futures instruments.² Other financial businesses such as investment bankers and securities dealers, however, did participate in the financial futures market, though much of the activity was apparently for speculation or tax reduction reasons.³

² Shorter term loans, such as rollover mortgages renewed every three years, could be hedged in large part by selling three-month Treasury bill futures contracts which spanned most of those three years

³ See "Interest Rate Futures" by Marcelle Arak and Christopher McCurdy in the Winter 1979-80 issue of the *Quarterly Review* for a discussion of some of the early developments in these new futures markets

Effects on the capital markets

Activity in the long-term bond markets was greatly affected by interest rate movements. At times when rates appeared high, corporate treasurers were reluctant to issue long-term debt. Also, concern about the possibility of further rises in long-term rates of interest made the traditional buyers of long-term debt—life insurance companies and pension funds—wary of long-term fixed-rate bonds.

As a result of both investor and borrower reluctance to lock in interest rates, there was some shortening in the average maturity of new issues. In addition, there were new issues of bonds which had special features, such as convertible bonds, bonds with warrants, and commodity linked bonds. One particularly popular instrument in 1981 was the original issue discount bond. In "Original Issue Deep Discount Bonds", Andrew Silver discusses the reasons for their new-found appeal.

International financial markets

Just as high and varying interest rates created an impetus for change in the United States financial markets, continuing wide fluctuations in exchange rates generated pressures for new ways to hedge exchange rate risk.

This could be done by taking positions in the currency forward markets, and these markets grew substantially. In addition, futures markets, by offering standardized negotiable contracts in small denominations, were a useful way for small and medium-size businesses and for individuals to hedge their currency risk. This contributed to the growth of these markets.

Other efforts to reduce investors' risk included commodity linked bonds and those denominated in a market basket of currencies; some tailor-made, others fixed in special drawing rights (SDRs) or European currency units (ECUs). Bonds or deposits denominated in this way reduced exchange rate risk. The use of SDR-denominated instruments is discussed by Dorothy Meadow Sobol in an article entitled "The SDR in Private International Finance".

Concluding remarks

The inflationary experiences of the last ten years and the accompanying interest rate and exchange rate behavior may continue to produce more innovations for sometime to come. And the changes that have already occurred may have important ramifications for the behavior of the economy. Clearly there is much analysis yet to be done.

Marcelle Arak