

Voice

of
the Federal Reserve Bank of Dallas

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Since You Asked

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A fringe benefit of working at a Federal Reserve Bank is the frequent invitation to speak before various groups. And speeches inevitably generate questions. These are brief responses to the questions asked most frequently following speeches during the past month.

“Just how fast has money been increasing?”

My short, and somewhat frivolous, answer is, That depends . . . on your taste in money. But since you asked, I'll elaborate a bit.

As of midyear, there was \$102 billion of currency and coin in circulation. That was 9 percent more than in June 1978, a strong increase. In addition, there was \$268 billion of checkbook money—demand deposits of individuals, businesses, and state and local governments in commercial banks. That was 3 percent more than a year earlier, a moderate increase. Since nearly all kinds of payments can be made readily with currency, coin, and demand deposits, these are what most people have in mind when they talk about money. Together, they are generally called M-1 and were up 4.7 percent from a year ago, a fairly strong increase.

Many people consider time and savings deposits at banks as well as deposits at savings and loan associations, mutual savings banks, and credit unions to be a part of their spendable funds and, hence, money. There was \$1,183 billion of these at midyear—up 9.4 percent from mid-1978, a strong increase.

The list of liquid financial assets that one might add into his definition of money goes on and on. If savings deposits are money, why not U.S. savings bonds, U.S. Treasury bills and notes, or, for that matter, any readily marketable financial asset? Total liquid financial assets were estimated to be about \$1,840 billion as of midyear—up about

10 percent from mid-1978, a strong increase.

If we are interested in money because it provides a measure of one's capacity to spend, why stop with liquid financial assets? Why not include readily accessible credit as well? Bank credit cards? Department store charge accounts? Petroleum company credit cards? Unused credit lines at banks? And so on. I have no estimate of total unused credit, but it must be large and undoubtedly has been increasing rapidly.

Overall, and speaking generally, money has been increasing rapidly in recent years relative to earlier experience but by amounts that vary, depending on one's taste in money. For example, during 1960-65, a period of strong economic growth and price stability but fairly high unemployment, average annual increases were: currency, 3.4 percent; checkbook money, 2.3 percent; M-1, 2.5 percent; time and savings deposits, 10.7 percent; and total liquid financial assets, 7.6 percent.

“But hasn't the money stock been acting crazy lately, and isn't it true that the Fed doesn't know why?”

Growth in the money stock has been erratic in recent months; we have some clues as to the reasons behind it.

Some very interesting wrinkles have appeared in the money numbers in recent months. For example, from September 1978 through March 1979, the most commonly used measure of money—currency and demand deposits—changed hardly at all. It is very unusual for this measure of money (M-1) to show no growth when both production and prices are rising, as they were during that period. Historical experience strongly indicates six months of no growth in money would occur only during a period of economic decline. The financial landscape apparently has changed.

One new wrinkle added to the landscape beginning last November was the authorization to banks that they could provide automatic transfers of funds from savings deposits to demand deposits for their customers. A similar, but smaller, wrinkle: banks in the state of New York were authorized, beginning in November, to offer negotiable orders of withdrawal accounts.

It is estimated that ATS was extended to about \$5.5 billion of savings accounts during the September-March period. About \$1.2 billion was placed in NOW accounts at New York banks during this period. Both were expected to reduce the growth of M-1, which appears to have happened, and to increase the growth of savings deposits and, hence, M-2, which appears not to have happened. M-2 growth during the period was at a relatively low 3.2-percent annual rate.

Another wrinkle has been a rapid growth of money market mutual funds. With high inflation and high interest rates, and ceilings on the rates banks can pay on some time and savings deposits, funds may have been transferred from both demand and savings deposits to money market mutual funds. During the six months ended in March 1979, assets of these funds doubled, reaching the \$16 to \$17 billion level.

Another wrinkle was the authorization and the widespread use of six-month money market certificates of deposit for both banks and other thrift institutions beginning in June 1978. Over \$100 billion was added to these accounts during the six months of no growth in M-1. These deposits are included in the reported M-2 but not in the reported M-1.

Still another wrinkle was the rapid growth of repurchase agreements—a transaction in which banks sell customers Government securities for one or more days and agree to repurchase the securities at a specified price. Thereby, customers receive a return on money invested for less than the 30-day minimum required for time deposits and possibly also a higher return than is authorized for time deposits. RP's are estimated to have increased about \$10 billion over the September-March period.

And there are other wrinkles that could be drawn on the financial landscape, all of which presumably had some effect on the amount of liquid assets held in M-1 or M-2 forms. A very rough estimate indicates all such adjustments by individuals and financial institutions to inflation, high interest rates, and various regulations might have reduced the increase in M-1 midyear to midyear by around \$2.3 billion, or about 3.5 percent. If there were any validity to such estimates, the 4.7-percent increase reported for M-1 midyear to midyear would have been equivalent to about 8.2 percent, a very strong increase.

Since midyear, M-1 and M-2 have increased rapidly even though the Federal Reserve has imposed policies to restrain the pace of monetary and credit expansion. Inflation has continued unabated, interest rate ceilings remain in place, and the array of liquid financial alternatives to deposits is similar to that in the September-March interval. Yes, the money stock numbers have been acting crazy and the explanations are "shaky" at best.

Speaking broadly, however, it appears there has been a rapid overall rise in money, apparently both a cause and a result of the strengthening inflation in recent years. Clearly, one ingredient of an effective anti-inflation policy must be a slow growth of money, however defined. That alone, however, probably would not enable us to achieve the twin economic goals—full employment and stable price level.

—Ernest T. Baughman
President, Federal Reserve Bank of Dallas

New Fine Sort Program Employed Nationwide

The Federal Reserve System implemented a nationwide Fine Sort Program on August 15. This new procedure gives member banks additional time to meet deposit deadlines, provided the checks are fine-sorted by the paying bank. The program represents an improved check collection service to member banks and is expected to reduce remote disbursement.

To participate, a member bank should request authorization from its Reserve Bank. At that time, detailed schedules and operating guidelines will be provided.

For further information, contact the Payments Mechanism Department, (214) 651-6280.

Cash Letters Sorted by \$50 Categories

Revisions in check collection procedures, effective September 3, require that cash letters deposited after 11:00 p.m. through the North Texas Regional Check Processing Center must be dollar-sorted into the categories "\$50 and Under" and "Over \$50."

These new procedures have been adopted in order to improve the local payments mechanism and to maintain processing and collection schedules for the increasing volume of checks being deposited at the center.

For further information, contact Robert White at (214) 651-6280.

New nonmember banks

Louisiana Bank of Ouachita Parish, West Monroe, Louisiana, a newly organized insured nonmember bank located in the territory served by the Head Office of the Federal Reserve Bank of Dallas, opened for business August 15, 1979.

Sunrise Bank, Brownsville, Texas, a newly organized insured nonmember bank located in the territory served by the San Antonio Branch of the Federal Reserve Bank of Dallas, opened for business August 21, 1979.

Texas Bank & Trust of Brownsville, Brownsville, Texas, a newly organized insured nonmember bank located in the territory served by the San Antonio Branch of the Federal Reserve Bank of Dallas, opened for business August 22, 1979.

Vista Hills Bank, El Paso, Texas, a newly organized insured nonmember bank located in the territory served by the El Paso Branch of the Federal Reserve Bank of Dallas, opened for business September 4, 1979.

Oil, Inflation, and the Mexican Peso

By Leroy O. Laney

Many financial institutions, businesses, and individuals in the Eleventh Federal Reserve District have greater cause than their counterparts elsewhere to follow developments that can affect the Mexican economy and balance of payments. Compared with many other countries, Mexico does not play an important role in international trading relations or as the origin or destination of capital movements. But many U.S. firms conduct business with or in Mexico, and many U.S. citizens work or are retired there. The border industries, or in-bond twin plants, composed mainly of labor-intensive manufacturing operations in the border zone or farther into the interior of Mexico, have U.S.-based counterparts.¹

In addition to individuals living in Mexico who may have peso bank accounts or peso investments, U.S.-based investors have been attracted to the higher interest rates on peso time deposits. And U.S. financial institutions lend sizable amounts to Mexico. It has been estimated that in December 1978, banks in Texas had outstanding loans to the country of approximately \$635 million, \$372 million with the private sector and the remainder with the public sector.² While this amount is not

large relative to total U.S. bank loans to foreign countries, it is quite significant for the banks involved.

Since all of these entities can be affected greatly by the evolution of Mexico's internal and external financial position, it is important to focus on underlying forces that influence this evolution. The United States shares a special relationship with trading partners such as Mexico and Canada because of geographic proximity and cultural ties. A common denominator of all international economic relationships is money and the convenience of exchanging one currency for another, so that external financial developments are watched closely. This article reviews important factors that are relevant in the current environment for Mexico.

The 1976 devaluation

Traditionally Mexico has pegged the peso to the U.S. dollar. For a number of years in the early part of the 20th century, the parity was about 2 pesos per dollar. With the U.S. dollar devaluation in 1933, the peso was fixed at 3.60 per dollar and then refixed at 4.85 in 1940, 8.65 in 1949, and 12.50 in 1954. On August 31, 1976, the peso was again devalued and was officially "floated" in response to accumulated balance-of-payments pressures and erosion of international competitiveness.

The events of the ensuing autumn were characteristic of the turmoil that often accompanies abrupt changes in exchange rates. Immediately after the August 31 devaluation, the peso was allowed to fall in response to market forces. When markets reopened on September 2, after a bank

1. See Edward L. McClelland, "U.S.-Mexico Border Industry Back on Fast-Growth Track," *Voice of the Federal Reserve Bank of Dallas*, July 1979.

2. See Gustavo Romero Kolbeck, Director General of the Bank of Mexico, "The Economic Development of Mexico and the Prospects for a Mutually Beneficial Relationship with the Texan Community," remarks before the 95th Annual Convention of the Texas Bankers Association, Fort Worth, Tex., May 7, 1979.

holiday, there was considerable confusion as many peso holders attempted frantically to exchange pesos for dollars.³

In mid-September, increased peso stability allowed fixing the spread at 19.70 pesos per dollar bid and 19.90 asked. Market pressure forced abandonment of this range on October 26, however. The Bank of Mexico stated it intended to be present in the market but that it would not necessarily be bound to the 19.70-19.90 margin. Further devaluation rumors on November 21 again weakened the peso, and the authorities suspended operations of credit institutions in foreign currency and gold coin, transferring the function of buying and selling foreign exchange from the banks to exchange brokers. The peso's value fell on November 22 to a 28.20-28.48 range.

By allowing the market largely to determine the peso's value in 1976, the Mexican authorities avoided the uncertainty of fixing the peso at a new lower level, which might have been found to be too little or too much. But it is also true that many of the unpleasant repercussions of such sudden changes can be avoided if situations in which the exchange rate is obviously out of line are not allowed to develop in the first place.

This period of exchange market uncertainty was accompanied by an increased "dollarization" of the economy, with Mexican businesses and private citizens tending to hold U.S. dollars and use them for internal transactions. But some of the speculative capital that had earlier left Mexico returned, and the dollarization process decreased

3. It was reported that the going rate in Acapulco, Ciudad Juarez, Guadalajara, and Reynosa was 20 pesos to the dollar, but it was 25 in Cozumel and Nuevo Laredo and 16.20 in Tijuana. In New York the market opened at 24 pesos asked and 16 bid. It was announced that a new parity would be established later in September, and Bank of Mexico officials met daily with exchange managers to decide maximum asked and minimum bid rates for the following trading day. The central bank then bought and sold unlimited dollars at the rates established. For an extended discussion of Mexican financial developments in late 1976, see *Comercio Exterior de Mexico*, Banco Nacional de Comercio Exterior, October, November, and December 1976, February and April 1977.

following the December 1 inauguration of President Lopez Portillo. On December 20 the Bank of Mexico restored participation of private banks in the exchange market, and in January 1977 the peso reached a level that has been maintained, with relatively narrow fluctuations, ever since. From February 1977 through mid-1979, the strongest New York interbank spot bid price for the peso was 22.22 pesos per dollar in February 1977, and the weakest was 23.31 in July 1977. Since the beginning of 1978, the range has been even narrower, between 22.72 and 22.88 pesos per dollar.

The trauma of a large, discrete change in the external price of a currency was well illustrated by Mexican developments in late 1976. The inflation rate surges almost inevitably with rising import prices, and these are reflected in higher prices of domestic goods and increased wage demands. By allowing the market largely to determine the peso's value in 1976, the Mexican authorities avoided the uncertainty of fixing the peso at a new lower level, which might have been found to be too little or too much. But it is also true that many of the unpleasant repercussions of such sudden changes can be avoided if situations in which the exchange rate is obviously out of line are not allowed to develop in the first place.

The Mexican recovery since 1976

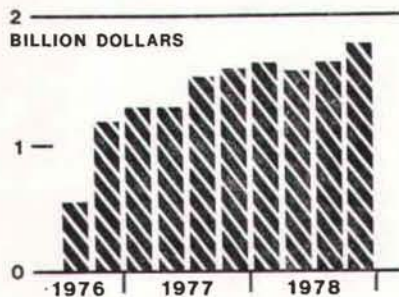
Mexico's recovery from the crisis of 1976 has been heralded as a success story. The overly expansive if well-intentioned policies of the previous administration to redistribute income and employ Mexico's burgeoning population had left the public sector quite overextended. A government deficit financed by liquidity creation fomented inflation, which aggravated existing current account disequilibrium, sluggish real growth, and high unemployment.⁴ Since then the picture has changed.

Emphasis was placed on achieving targets specified under an International Monetary Fund stabili-

4. The link between the government deficit and money creation was not always as strong as it came to be in the 1970's. See D. Sykes Wilford, *Monetary Policy and the Open Economy: Mexico's Experience*, Praeger Special Studies in International Economics and Development (New York: Praeger Publishers, 1977), pp. 113-38. Wilford mentions the income inelasticity of government tax receipts in Mexico as a cause. As national income grew, government tax revenues did not grow proportionately, increasing the deficit and putting more pressure on the monetary authorities to finance it.

CHART 1

Mexico's gross official foreign exchange reserves have risen steadily since 1976



SOURCE: International Monetary Fund.

zation agreement, so that Mexico could remain eligible to draw on a negotiated three-year credit line with the IMF. Consumer price inflation was reduced, on a year-on-year basis, from 29.1 percent in 1977 to 17.4 percent in 1978. Fixed investment, private as well as public, was increased, and the real economic growth rate rose from 3.2 percent in 1977 to 6.6 percent in 1978.

Mexico has had little trouble attracting financial inflows to finance the current account deficit. Since 1976, banks in the United States and the international financial community in general have viewed Mexico as a good credit risk.

Although the current account deficit was halved in 1977 from 1976 figure, from \$3.1 billion to \$1.5 billion, it rose again in 1978 to \$2.5 billion. The 1978 figure reflects substantial increases in capital goods imports linked to the expansion of private and public investment, as well as increases in raw materials and other imports caused by expanding economic activity generally. Still, oil exports rose in 1978, as did other foreign sales that were

stimulated by the favorable price effects of the devaluation.

Mexico has had little trouble attracting financial inflows to finance the current account deficit. Since 1976, banks in the United States and the international financial community in general have viewed Mexico as a good credit risk. Capital inflows have exceeded current account deficits, and official monetary reserves of the Bank of Mexico have risen (Chart 1). During 1978, it was possible for the monetary authorities to retire the debt to the IMF that was incurred in early 1977 under the Extended Facility Agreement.

The optimism of the international banking community about Mexico's future and its ability to service foreign debt has been influenced more by one factor than anything else. This is the implication of the country's oil and natural gas reserves for exports and for development of the economy in general.

Oil and gas

Mexico's proved energy reserves did not lie undiscovered until the crisis of a few years ago. The first oil well was drilled in the 19th century, and early in the 20th century, Mexico was one of the world's major oil producers. In 1938, Mexico drove out foreign interests and nationalized its oil industry under Petroleos Mexicanos (Pemex). Output fell, and the country became highly nationalistic and even secretive about its energy resources. Important new oil finds were made in the early 1970's, but this information was not widely known. Recognition of these resources began to spread when Mexico developed a surplus in crude oil supplies and started exporting crude in 1974. After the 1976 economic problems, and with some foreign urging, Mexico switched from conservatively estimating its reserves to broadly publicizing them. Exploration for new reserves was also accelerated. Previously, petroleum was produced mainly by using Mexican-made equipment; now, most new equipment is imported.

The country's known hydrocarbon resources are located primarily along the Gulf of Mexico, stretching from the Texas border to the Reforma area in the Southeast, where major new discoveries have been reported recently, as well as offshore in the Bay of Campeche. In addition, Baja California is also expected to be rich in crude oil. At the end of 1978, Mexican oil and gas reserves were estimated at the equivalent of 40 billion barrels, of

which 29 billion barrels were crude oil. This was twice the figure being announced as late as the previous September. The reserves of crude are only about one-sixth those of Saudi Arabia but are larger than for several other members of the Organization of Petroleum Exporting Countries (OPEC). Mexico ranks even higher with respect to its natural gas, and unlike OPEC countries, it has a common border with the major U.S. gas market. Known Mexican reserves will probably be increased in the future since only an estimated 10 percent of possible oil-bearing areas have been explored. Unlike the OPEC low absorbers of the Persian Gulf, however, Mexico's own more developed and populous economy consumed an estimated 79 percent of the country's crude oil production in 1978.

Mexico plans to develop energy resources quickly for both domestic consumption and export but has been emphatic in its desire to see Mexico remain an "economy with oil" rather than an "oil economy." Diversified growth is a long-run goal for both the internal economy and foreign trade. Because oil development can cause inflationary bottlenecks, price pressures can be a constraint on oil production. If energy output is emphasized at the expense of more stable prices, it can negate many of the beneficial effects. In the spring of 1979, Mexico announced an expanded industrial development program and raised oil production targets—something of a change from its emphasis since 1976 on gradual development and containment of inflation.

Although oil may have a favorable impact on the Mexican economy generally and on the balance of payments in particular, one cannot assume that Mexican authorities will avail themselves of any future option to raise the dollar/peso exchange rate even if it comes to exist.

It is important to recognize the role of petroleum resources in a discussion of almost any major aspect of Mexico's economy in today's environment. First, higher energy exports will lead to a direct strengthening of the country's balance of payments. Crude oil exports are only beginning to grow, but in 1978 their volume grew almost 80

percent over 1977. Balance-of-payments forecasting is always laced with pitfalls, however. Some recent projections have seen a current account surplus as early as 1981, but Mexico's external debt is likely to remain large into the 1980's and interest payments on the debt may keep the current account in deficit for some time.⁵ Also, as a highly absorptive country, Mexico can be expected to spend much of its oil proceeds on more imports.

In addition to these direct balance-of-payments effects, there is also likely to be some favorable fiscal impact of increased government tax revenues from Pemex. This is obviously quite important in an economy in which one of the major problems in the past has been financing of the public sector deficit by noninflationary means.

Although the above factors may have a favorable impact on the Mexican economy generally and on the balance of payments in particular, one cannot assume that Mexican authorities will avail themselves of any future option to raise the dollar/peso exchange rate even if it comes to exist. Mexican emphasis on diversified domestic and international trade requires some consideration of the unfavorable price effects such currency appreciation would have on nonenergy exports and tourism, for example. But there are other basic factors to consider in assessing prospects for the balance of payments and long-run exchange rate equilibrium.

Market fundamentals and exchange rates in the long run

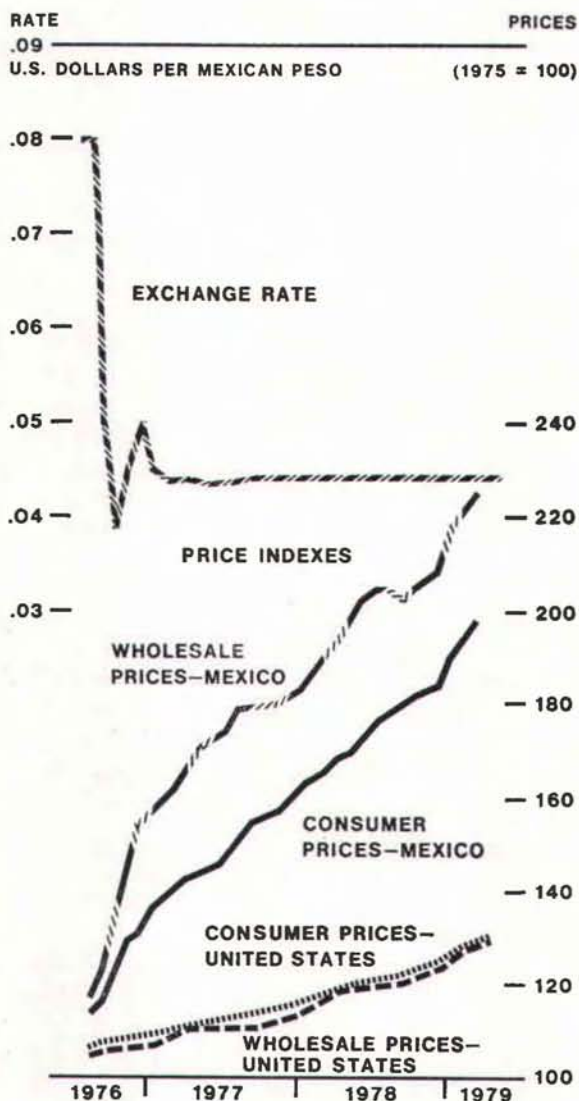
Several economic relationships can be expected to be important for any market-determined bilateral exchange rate in the longer run. Although each relationship is somewhat different, they are similar in the sense that to some extent, each reflects changes in price levels in the two economies concerned. This, in turn, depends ultimately on growth of the money supply relative to demand for money in the two economies.

Market-determined interest rates in the two economies will incorporate a component reflecting actual or anticipated inflation in those economies. This requires a differentiation between nominal and real interest rates, a distinction drawn increasingly in these days of higher inflation everywhere,

5. For a more extended discussion of the implications for Mexico of its oil and gas, plus more quantified balance-of-payments projections, see "Mexican Oil and Natural Gas: Implications," *World Financial Markets*, Morgan Guaranty Trust Company of New York, February 1979.

CHART 2

The spot dollar/peso exchange rate has not reflected price level movements in the two countries



SOURCE: International Monetary Fund.

and simply reflects the propensity of investors to demand a premium for the expected depreciation of money.⁶ Although expansionary monetary policy may be undertaken to lower observed interest rates, changes in inflationary expectations will tend to move market-determined nominal rates in the other direction.

The difference in short-term interest rate levels in the two economies tends to be reflected in the premium or discount on the forward exchange rate. This is Keynes' well-known "interest parity condition," even though other economists had set forth less developed versions of the concept before him.⁷ Exact correspondence of the relationship depends on a sufficient volume of liquid funds engaged in international interest arbitrage and can be difficult to measure empirically because there usually exists not just one but several short-term interest differentials to be compared against the forward premium or discount of the same maturity. When the forward discount on the foreign currency is as large as the difference between the higher foreign interest rate and a domestic interest rate on an instrument of the same maturity, covered interest arbitrage will cease to be profitable. The interest arbitrageur, of course, has the option of engaging in uncovered arbitrage, but in such a case he is openly exposed to exchange rate risk. And a depreciation of the foreign currency may be considered likely if the foreign interest rate is higher because of higher inflation in the other country. To the extent that the forward premium or discount compensates for the difference in anticipated inflation in the two countries, the covered interest differential only reflects the difference in interest rates adjusted for domestic inflation.

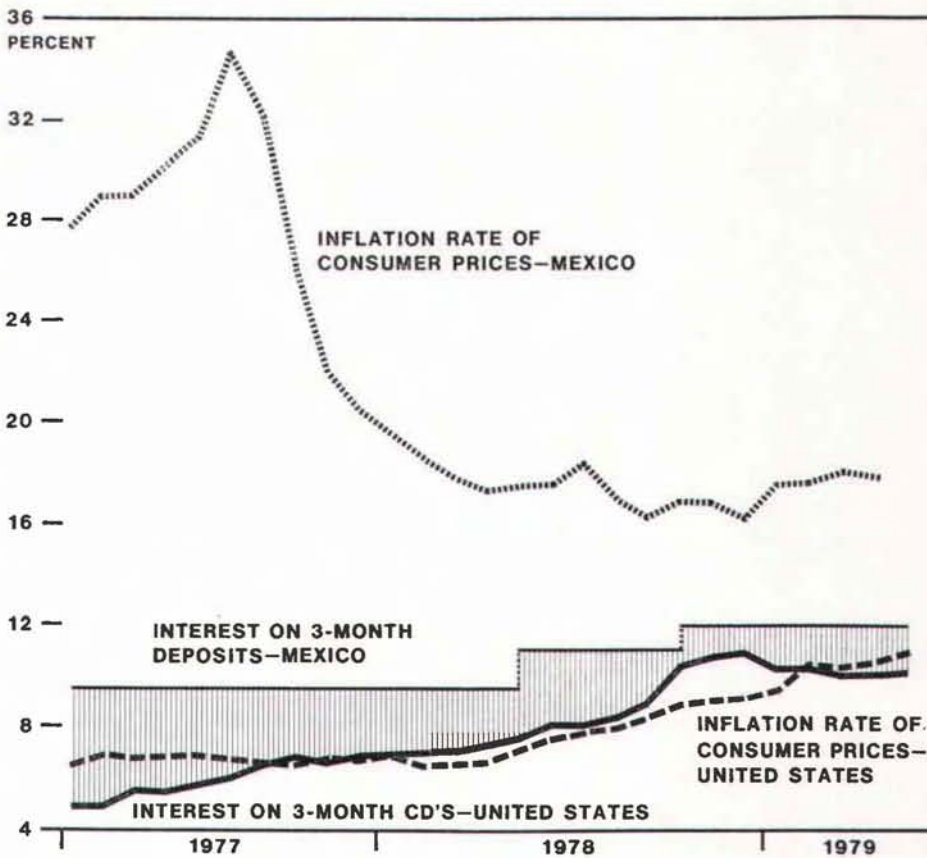
In the longer term the bilateral spot exchange rate will tend to reflect the difference in international price levels.⁸ The use of this tool, or what has come to be called "purchasing power parity," as an indicator of what the equilibrium spot exchange rate should be also has problems in empirical application, primarily because of difficulties in

6. For an early discussion, see Irving Fisher, *The Theory of Interest* (New York: Macmillan Company, 1930; reprint ed., New York: Augustus M. Kelley, 1965), pp. 36-44.

7. See John Maynard Keynes, *Monetary Reform* (New York: Harcourt, Brace and Company, 1924), pp. 125-51. For a discussion of earlier expositions of the concept, see Paul Einzig, *A Dynamic Theory of Forward Exchange*, 2d ed. (London: Macmillan; New York: St Martin's Press, 1967), pp. 132-34.

CHART 3

Controlled Mexican interest rates have not reflected Mexico's inflation as well as U.S. rates have reflected U.S. inflation



SOURCES: Board of Governors, Federal Reserve System.
International Monetary Fund.

choosing appropriate price indexes in the two countries and in choosing a base period for measuring when the two price levels were supposedly in equilibrium originally. And in the shorter run, in-

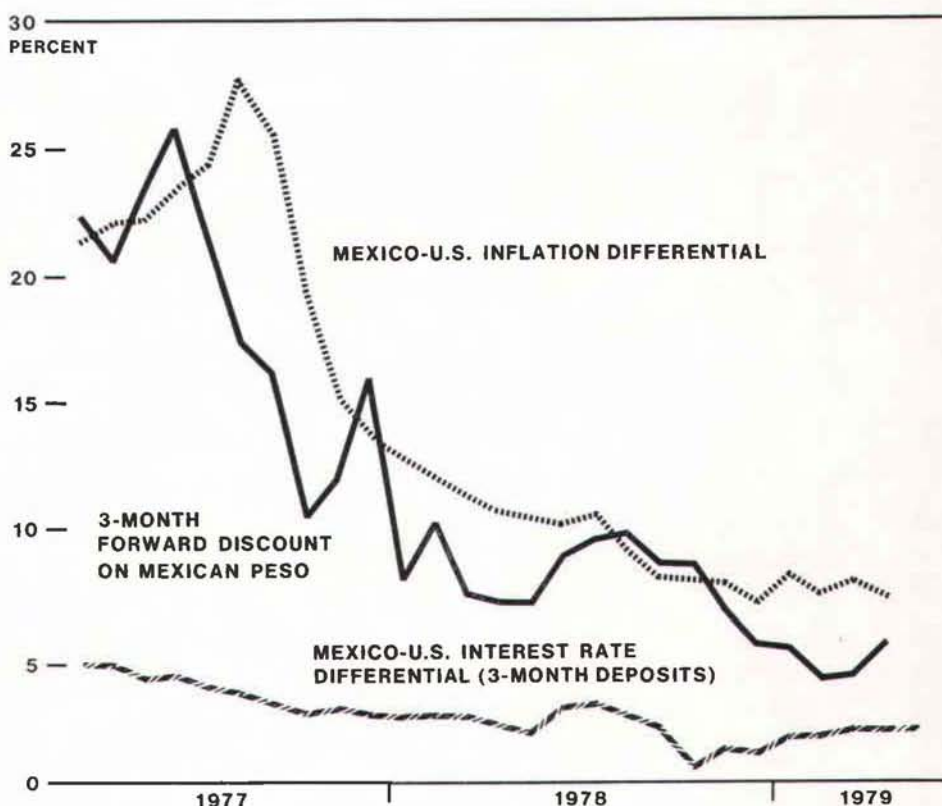
8. A classic exposition of the concept of purchasing power parity is Gustav Cassel, *Money and Foreign Exchange After 1914* (New York: Macmillan Company, 1922), pp. 137-46. For development of the concept and a review of its proponents and critics, see Thomas M. Humphrey, "The Purchasing Power Parity Doctrine," *Economic Review*, Federal Reserve Bank of Richmond, May/June 1979.

ternational capital flows can offset current account flows and prevent the exchange rate from adjusting. As an economic principle, purchasing power parity can be extended too far if it is presumed that the exchange rate will move eventually to equate exactly the real price of some nontraded good or service with its counterpart abroad. But as a general guide to international competitiveness and balance-of-payments forces that do move the spot rate, it can be useful.

We are brought full circle when we observe that the forward exchange rate represents the market's

CHART 4

The 3-month forward discount on pesos tracks the Mexico-U.S. inflation differential better than a 3-month interest rate differential



SOURCES: Board of Governors, Federal Reserve System.
Federal Reserve Bank of Dallas.

estimate at any given time of what the future spot rate will be. If interest arbitrageurs and those engaged in international trade feel compelled to hedge their long foreign currency exposure by the sale of a forward contract, for example, and if speculators deliberately assume the foreign exchange risk by buying forward contracts, then the forward rate at which the supply of and demand for forward exchange are equalized should provide an unbiased estimate of this information.

Although it is done less frequently, it is even possible to combine the concept of forward rates as predictors of future spot rates and the purchas-

ing power parity principle to derive a "purchasing power parity theory of forward exchange."⁹ It is feasible, in other words, for the forward rate rather than the spot rate to reflect price level changes in the two relevant countries. This phenomenon would be likely, for example, in a situation in which the monetary authorities prevent the spot rate from moving to equate price level differen-

9. Einzig (*Dynamic Theory of Forward Exchange*, pp. 205-13) attributes the origination of this possibility to a banker. See W. W. Syrett, "A Revision of the Theory of Forward Exchanges," *The Banker*, June 1936, pp. 202-6.

tials, either by pegging the rate absolutely at some level or by some other exchange rate management strategy that disallows adjustment. The forward rate, if determined in a market free from official intervention, can move toward a value that the spot rate would have if it were allowed to adjust.

How have these relationships applied to the Mexican peso in the period since the 1976 devaluation?

The fundamentals and the Mexican peso since 1976

Since early 1977 the spot dollar/peso exchange rate has not responded to relative price level changes in Mexico and the United States, as measured by either consumer or wholesale price indexes (Chart 2). As discussed earlier, after the devaluation and rather erratic movements in late 1976 and early 1977, the spot rate has remained relatively steady, buoyed by private capital inflows. But Mexican prices have noticeably outstripped U.S. prices overall, even though the greatest divergences occurred during and just after the devaluation when Mexican price indexes were reflecting rising import prices, domestic pass-through effects, and wage pressures. In more recent times, inflation rates in the two countries have converged on average, although Mexican inflation has remained higher.

During the extended period when the peso was pegged at 12.50 per dollar, from the year 1954 to August 1976, the Mexican consumer price index rose 303 percent while the corresponding U.S. index rose 114 percent, a relative divergence of 189 percent. From August 1976 to the end of 1978, the same calculations yield 64 for Mexico and 18 for the United States. Excluding the period just after devaluation when inflation was higher because of steeply rising import prices, the consumer price index changes from March 1977 to December 1978 for Mexico and the United States totaled 31 percent and 14 percent, respectively.

Reference to Chart 3 indicates that interest rates reflect domestic inflation more in the United States than in Mexico. Interest rates on three-month time deposits in the two countries are taken here for comparison against the contemporaneous consumer price inflation rates, calculated as the percentage increase over the same month in the previous year. Other interest rates and inflation rates lead to a similar conclusion, however. (It is, of course, difficult to measure real interest rates since it is not the actual concurrent inflation rate but the anticipated future rate that should be reflected

in nominal interest rates.)

Many Mexican interest rates are not truly market-determined but, rather, are subject to ceilings set by the Bank of Mexico. The central bank, in determining the ceilings for various maturities, has been conscious of the desirability of having interest rates on peso deposits higher than those on dollar deposits and on deposits abroad generally, and the chart illustrates how the ceilings have been raised as U.S. interest rates have risen. The present structure of rates on deposits in Mexico rises more steeply for increasing maturities than do corresponding structures abroad, in order to favor longer-term savings, so the absolute interest rate differential would appear larger if yields on longer-maturity instruments were taken for comparison. But in general, the same picture would emerge, with Mexican ceilings rising in response to U.S. rates rather than reflecting Mexican inflation.

Chart 4 compares the three-month forward discount on pesos, over the recent period during which the spot rate has been stable, against the differential on interest rates of Chart 3. The forward discount was quite high in early 1977 but has narrowed considerably in 1978 and 1979. While the chosen three-month uncovered interest differential in favor of Mexico also starts higher and declines as the period progresses, it does not bear much relationship to the forward discount.

The differences in the consumer price inflation rates of Chart 3 are also plotted in Chart 4 against the forward discount. There is a much closer correspondence to the forward discount than for the calculated interest rate differential. This outcome is not so surprising if one considers arbitrage in real assets rather than financial assets. If the gains on representative real assets in Mexico and the United States are proxied by inflation rates in the two countries, then higher returns on Mexican assets are more nearly offset by what it would cost to cover forward the risk of a peso depreciation in line with the higher inflation in Mexico.

Although forward rates may represent collective judgment on future values of the spot rate, Chart 5 shows *ex post facto* how market anticipations have consistently underestimated the spot rate's value. With the spot rate being held relatively constant, peso futures contracts on the Chicago International Monetary Market, which were initially quoted at a discount because of higher Mexican inflation, simply converged upward in price to the spot rate as maturity neared.

Exchange Rate Depreciation and Inflationary Vicious Circles

It may be argued that the surge in inflation experienced by Mexico after the 1976 peso devaluation was attributable in large degree to the devaluation itself, as import prices rose and affected domestic prices and wages. Here one encounters familiar conundrums concerning the direction of causation in the exchange rate-inflation linkage under flexible rates. Does the exchange rate fall because domestic inflation has become too great relative to inflation abroad, simply restoring relative prices in the economy to their configuration before higher domestic inflation began? Or is the depreciation an independent cause of domestic inflation, contributing to further price rises that call for still more exchange rate depreciation—creating a vicious circle from which the inflation-prone country cannot escape?

Most would agree that financial accommodation of the depreciation-induced price increase is necessary if the cumulative inflationary pressures continue, so that the falling exchange rate alone cannot set off the inflationary chain reaction. But in answer to the basic question, a number of economists have argued that causation runs from domestic

inflation to the exchange rate, rather than vice versa. It may appear, for example, that exchange rate depreciation precedes domestic inflation, but this may not take into consideration the fact that a flexible exchange rate is set in an instantaneously adjusting asset market while many domestic prices and wages are determined in more slowly adjusting contract markets.¹

There is one sense, however, in which proponents of such vicious circles, if monetary validation of the exchange rate-induced price pressure is forthcoming, may be on firmer ground. If in its fall the exchange rate maintains a momentum past the hard-to-define equilibrium point, because of an absence of stabilizing speculation, so that it overcompensates for the relatively higher domestic in-

1. For arguments along these lines, see John F. O. Bilson, "The 'Vicious Circle' Hypothesis," *International Monetary Fund Staff Papers*, March 1979, who concludes that the ultimate cause of both exchange rate depreciation and domestic inflation is an expansionary money supply. For a recent empirical analysis that takes an asset market approach to the exchange rate and finds that dollar/bilateral rates against some major currencies can be explained in terms of measured U.S. and foreign "excess" money supply growth rates, see Michael W. Keran, "Money and Exchange Rates—1974-79," *Economic Review*, Federal Reserve Bank of San Francisco, Spring 1979.

Chart 5 illustrates how confidence in the peso has been improving, in that contracts maturing further into the future have been opening at a higher price. And the average daily trading volume, which in the chart is roughly associated with these higher futures prices, also increased in early 1979, indicating that there may have been more funds willing to gamble that the peso's spot rate would remain the same. (The trading volume in pesos on the Chicago International Monetary Market still remains quite small relative to other currencies in which futures contracts are offered,

again emphasizing the thinness of the market. For the Mexican peso the average daily trading volume in the first five months of 1979 was only 120 contracts, compared with 1,149 for the German mark, 1,192 for the U.K. pound, 1,266 for the Japanese yen, 1,325 for the Canadian dollar, and 1,372 for the Swiss franc.)

Additional evidence on the longer-run outlook for the peso is found in Chart 6. The term structure of forward rates was steeply downward sloping in mid-1977, when inflation in Mexico was running much higher than in the United States.

flation that caused it initially to start depreciating, then the run on the currency will have independently added to domestic inflation. The exchange rate may afterward recover from its overshooting episode, but not until it has affected import prices and domestic prices and wages. If these prices and wages are less flexible downward than upward, as experience has shown some of them to be, exchange rate overshooting accompanied by monetary validation is indeed inflationary in and of itself, and advocates of more official management of rates to prevent such episodes have won an important point.² But it is noteworthy in the present context that such overshooting is more likely to occur after prolonged periods of pegging the rate at a level that increasingly becomes untenable. Built-up pressure then causes a larger over-

2. For general development of these "vicious circle" arguments and some fallacies involved in them, see Thomas D. Willett, *Floating Exchange Rates and International Monetary Reform*, American Enterprise Institute Studies in Economic Policy, no. 172 (Washington, D.C.: American Enterprise Institute for Public Policy Research, 1977), pp. 57-67. For empirical tests of "ratchet effects" of import prices on domestic prices, for which some very limited support is found, see Morris Goldstein, "Downward Price Inflexibility, Ratchet Effects, and the Inflationary Impact of Import Price Changes: Some Empirical Evidence," *International Monetary Fund Staff Papers*, November 1977.

compensation of the exchange rate when official support is eventually removed, and imported inflation can be greater than if the rate were allowed to adjust more smoothly all along.

Elements of such exchange rate overcompensation may have been present in the initial overadjustment of the peso in late 1976. (See Chart 2.) Overshooting of the rate in the fall of 1976 may not have been of long enough duration to have a major effect, but the implication is clear.³ Holding the rate constant and then allowing more abrupt adjustment runs greater risk of this phenomenon than the strategy of allowing the rate to respond more gradually to market forces over time.

3. A better illustration of exchange rate overshooting may be that for the Italian lira in the spring of 1976. After relatively heavy intervention to support the lira in late 1975 and January 1976, the currency fell precipitously in March and April, bottomed out in May, and then rose during the late spring and early summer until it again reversed itself in July and resumed its downward path. The lira did not fall back through the spring-1976 low point until early 1977. During and after this period, arguments were advanced that the depreciating lira was an independent cause of Italian inflation. See, for example, C. M. Pierucci and C. Tresoldi, "Price Sector: Institutional Aspects, Scheme of Reference, and Empirical Tests," *Bank of Italy Econometric Model of the Italian Economy (Edition II—M2B1)* (Rome: Bank of Italy, 1976).

While it still had a negative slope in subsequent periods, the slope was much shallower. But recently the term structure took a turn toward a steeper negative slope again.

Conclusion

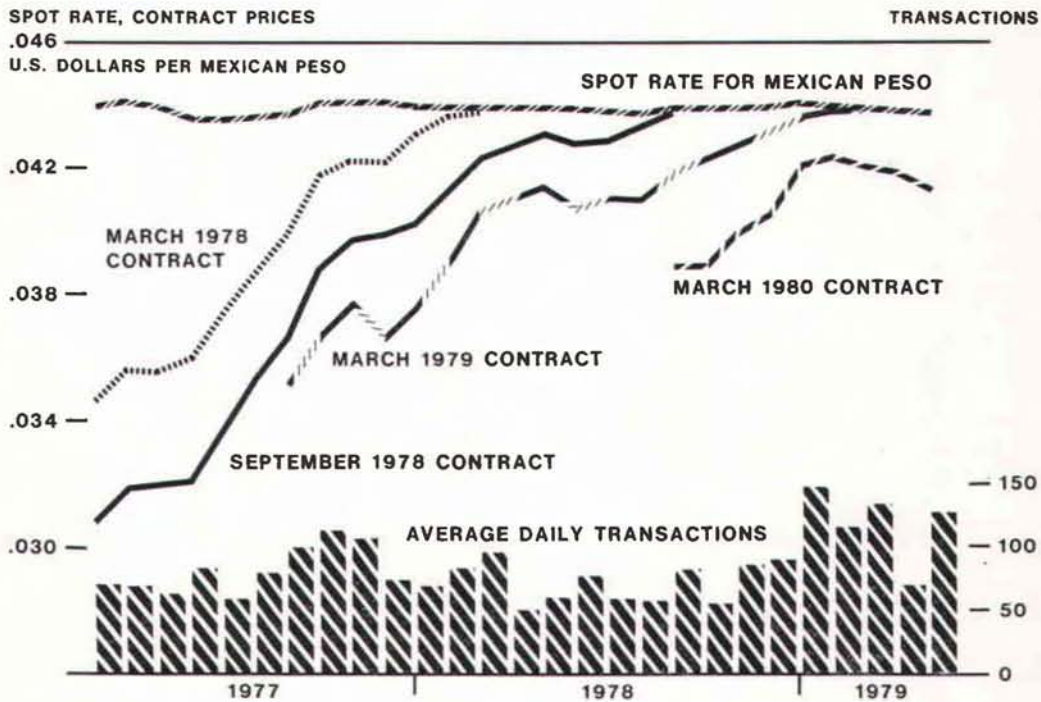
Mexico's inflation relative to that in the United States, its major trading partner, is crucial in the long run for the bilateral exchange rate. The inflation differential narrowed progressively in 1977 and 1978, with Mexico's rate falling and the U.S. rate

rising, and market indicators showed improved confidence in the peso. While forward pesos were still at a discount, that discount also narrowed, corresponding roughly to the inflation differential.

The first half of 1979 saw some resurgence of Mexican inflation but U.S. prices also rose, so that the gap did not widen appreciably. Although some Mexican price increases in this period may be nonrecurring, others are cause for concern. Growth of Mexico's narrowly defined money supply in 1978 was 33.5 percent, and recent estimates indicate that the rate of expansion did not slow in

CHART 5

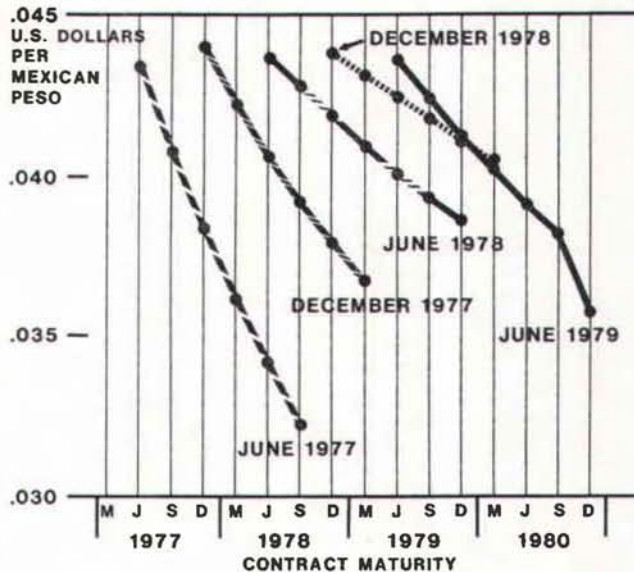
A consistent discount on peso futures, combined with a steady spot rate, generally has meant sharply rising futures prices as contract maturity is approached



SOURCE: Chicago Mercantile Exchange.

CHART 6

The changing term structure of forward rates over time is some indication of changing expectations and confidence in the peso



SOURCE: Chicago Mercantile Exchange.

early 1979. Central bank financing of the government deficit continues to be at the root of inflationary worries.

Mexico's inflation relative to that in the United States, its major trading partner, is crucial in the long run for the bilateral exchange rate.

For over two years, under a managed float, the peso's spot rate has remained relatively constant with respect to the dollar. It has been the objective of Mexican monetary authorities to intervene to prevent speculative or erratic short-term fluctuations in the rate. Concentration on the U.S. dollar value of the peso is understandable and even inevitable, given the geographic proximity and trade

linkages of the two countries. Since the 1976 devaluation the economy has recovered remarkably, and confidence in the peso largely has been restored. Moreover, official reserves now stand at a level that represents considerable resources to defend the rate if it should come under pressure.

Recently publicized energy reserves, in and of themselves make it less likely that downward market pressure on the peso will develop. Consideration of other Mexican exports, however, suggests that the authorities would not be happy with a rising peso. But the high absorptive capacity of Mexico for a larger volume of imports suggests that energy exports alone will not be a panacea. In addition, the border industry and tourism, areas in which Mexico runs a consistent surplus with the United States, are examples of sectors that might be particularly price-sensitive. This is bound to play a role in the implementation of exchange rate policy, as will Mexican economic diversification and employment creation goals.

“Fed Quotes”

Brief Excerpts from Recent Federal Reserve Speeches, Statements, Publications, Etc.

“The actual price-output mix will be determined primarily by supply conditions and by other structural or behavioral characteristics of the economy. These relationships are not known with certainty, of course, and thus many different price-output combinations must be viewed as possible for given rates of monetary growth.

“Monetary growth rates are much more closely related in the short run to nominal GNP than they are to the division of nominal GNP between output and prices. The tradeoff between output and price might be improved, however, through the use of other policy tools. Governmental action to eliminate regulatory or market impediments to price competition could be helpful in tempering inflationary pressures. So, too, could a continuing program of voluntary wage-price guidelines, which may help in restraining the anticipatory actions that have made the wage-price spiral so intractable.”

G. William Miller, Chairman, Board of
Governors of the Federal Reserve System
(At Washington, D.C., July 17, 1979)

“In recent years the size of current account deficits has been unprecedented. Without an efficient international financial market to channel funds from countries in surplus to those in deficit, exchange-rate pressures at times would have been much greater even than they were. The Eurocurrency markets have played an important role in moving excess savings to private and official borrowers in countries with current account deficits.”

Henry C. Wallich, Member, Board of
Governors of the Federal Reserve System
(Before the Subcommittee on Domestic
Monetary Policy and the Subcommittee on
International Trade, Investment and Monetary
Policy, U.S. House of Representatives,
July 12, 1979)

“Lasting stability of exchange rates can come only from stability and international compatibility of the fundamentals—prices, growth, interest rates, and payments balances. National policies, particularly with respect to inflation—and I regret that I must say this particularly of the United States—have left much to be desired. The growing dissatisfaction with instability of exchange rates provides a further impetus to improve performance in these areas. In other words, if the world wants more stable exchange rates, it must accept a stronger balance-of-payments discipline. Efforts to combat inflation will gain strength from the perceived desirability of reducing exchange rate fluctuations.”

Henry C. Wallich, Member, Board of
Governors of the Federal Reserve System
(In Berlin, Germany, June 18, 1979)

"What concerns me most about the recent financial growth and development outside the banking sector is that it has occurred mainly because banking laws have been too slow to adapt to changing conditions and the demands of the public, and not because banks have lost their desire to deliver financial services in an efficient way. Therefore, bankers and regulators should both have a strong interest in developing and supporting a new regulatory framework which ensures that commercial banks are allowed to offer competitive services to the public. At the same time, that framework must preserve the essential features which contribute to a sound banking system deserving of public confidence."

Roger Guffey, President, Federal Reserve Bank of Kansas City
("Regulation Tomorrow: Toward a New Framework for Competition," *Economic Review*, July-August 1979)

New member banks

Austin National Bank Northwest, Austin, Texas, a newly organized institution located in the territory served by the San Antonio Branch of the Federal Reserve Bank of Dallas, opened for business August 13, 1979, as a member of the Federal Reserve System. The new member bank opened with capital of \$1,250,000 and surplus of \$1,250,000. The officers are: Robert L. Ragsdale, Chairman of the Board; Bob J. Watson, President; D. W. Bohart, Vice President and Cashier; and Patrick S. Maloy, Vice President.

First National Bank, Boerne, Texas, a newly organized institution located in the territory served by the San Antonio Branch of the Federal Reserve Bank of Dallas, opened for business August 20, 1979, as a member of the Federal Reserve System. The new member bank opened with capital of \$1,000,000 and surplus of \$1,000,000. The officers are: Raymond Barker, Chairman of the Board; Don M. Edmondson, President; and G. Ryan Murray, Vice President and Cashier.

American National Bank, Mount Pleasant, Texas, a newly organized institution located in the territory served by the Head Office of the Federal Reserve Bank of Dallas, opened for business August 31, 1979, as a member of the Federal Reserve System. The new member bank opened with capital of \$625,000 and surplus of \$625,000. The officers are: James H. McGuire, Chairman of the Board; Michael K. Sanders, President; and Randall McDaniel, Cashier.

Earnings on Time and Savings Deposits: The Picture Varies, Bank to Bank

By Mary G. Grandstaff

Many bankers may feel they have little control over the profitability of their time and savings deposits, given the effects of competition and regulation. Minimum interest rates are largely governed by competition, and maximum rates on some deposits are established by regulation. But a relatively wide range of profitability on time and savings deposits is observed at banks, indicating that policies and practices of individual-bank management do affect the outcome. Analysis of data for the 83 banks that participated in the 1977 functional cost analysis (FCA) study compiled by the Federal Reserve Bank of Dallas indicates some banks may have opportunities to improve the profitability of their time and savings funds. The opportunity appears to lie in closer monitoring of the investment of these funds in earning assets and of the expenses in acquiring and maintaining the funds.

Most banks realize only minimal net return, and some incur a net loss, from their time and savings

deposit function. For those banks in the 1977 study, net earnings on time and savings deposits ranged from a 2.67-percent profit to a 2.21-percent net loss, with the overall average showing a net gain of about 0.6 percent.

Income

Portfolio income provides almost all the income on funds acquired as time and savings deposits at most banks. At the banks in the FCA study, other income—mostly transactions fees—averaged only 0.013 percent of the volume of time and savings deposits in 1977; several banks had no other income, and the bank with the highest ratio of other income had only 0.156 percent.

The portfolio income ratio on time and savings deposits depends on the proportion of those funds invested in loans and securities and the rates of interest at which the funds are invested. The banks in the study invested between 94 percent and 96

EARNINGS ON TIME AND SAVINGS DEPOSITS AT TEN BANKS WITH HIGHEST OR LOWEST NET EARNINGS

(From data for 83 member banks participating in 1977 Functional Cost Analysis Program, Eleventh Federal Reserve District)

Rank of bank's total deposits ¹	As percent of total time and savings deposits						
	Funds invested in portfolio	Portfolio income	Total income	Operating expenses	Earnings before interest	Interest	Net earnings
High-profit banks							
5.....	94.85	6.703	6.707	0.448	6.259	3.589	2.670
63.....	95.04	8.380	8.398	.466	7.931	5.780	2.152
52.....	94.78	8.211	8.211	.233	7.978	6.062	1.916
65.....	95.43	7.830	7.832	.346	7.486	5.741	1.745
60.....	95.05	7.921	7.923	.371	7.552	5.851	1.702
68.....	95.32	8.167	8.183	.630	7.553	5.936	1.616
23.....	94.38	7.605	7.606	.302	7.304	5.742	1.562
14.....	94.22	7.308	7.309	.161	7.148	5.607	1.541
31.....	94.59	7.978	7.981	.261	7.721	6.267	1.454
33.....	94.77	7.678	7.690	.622	7.068	5.710	1.358
Average.....	94.84	7.778	7.784	.384	7.399	5.629	1.772
Low-profit banks							
80.....	96.00	6.845	7.001	1.726	5.275	5.633	-.358
32.....	94.94	6.235	6.258	1.005	5.253	5.729	-.476
58.....	94.94	6.581	6.581	.691	5.890	6.542	-.652
82.....	96.00	6.119	6.194	1.564	4.630	5.342	-.694
81.....	96.00	6.232	6.247	1.750	4.497	5.284	-.787
83.....	96.00	6.176	6.188	.870	5.318	6.158	-.841
75.....	96.00	5.710	5.726	1.429	4.297	5.326	-1.030
70.....	96.00	5.197	5.198	1.319	3.879	5.372	-1.493
13.....	94.09	3.918	3.921	.156	3.765	5.874	-2.109
50.....	95.50	3.904	3.931	.520	3.410	5.625	-2.214
Average.....	95.55	5.692	5.725	1.103	4.621	5.687	-1.065

1. Demand deposits and time and savings deposits.

percent of their time and savings deposits in loans and securities. (Since these were Federal Reserve member banks, they were required to hold reserves on their time and savings deposits in the form of either vault cash or deposits at the Federal Reserve Bank. These reserve requirements ranged from 1 percent on time deposits maturing in four years or more at banks with time and savings deposits of \$5 million or less to 6 percent on one- to six-month time deposits at larger banks. The reserve requirement on savings deposits was 3 percent at all member banks.)

The rate of return on those assets, however, varied substantially. One bank, for example, placed 95.0 percent of its total time and savings deposits in loans and investments and realized a return of 8.38 percent of its total time and savings deposits. Another bank placed 95.5 percent of its total time and savings deposit funds in the portfolio but realized a return of only 3.90 percent. These repre-

sent the extremes in portfolio income on time and savings deposits. A few other banks were near those extremes, but most banks had portfolio income in the 6-percent to 8-percent range.

Expenses

While investing deposit funds in income-earning assets and obtaining a maximum rate of return on those investments are important factors affecting a bank's profitability, controlling expenses is equally important. In comparison with the demand deposit function, operating expenses for the time and savings deposit function at commercial banks usually are quite small. But when they are coupled with the interest paid on these funds, total expense is high.

Operating expenses for time and savings deposits are small because of low activity in these accounts. The number of deposits to regular savings accounts at the banks in the study averaged

**COMPOSITION OF TIME AND SAVINGS DEPOSITS
AT TEN BANKS WITH HIGHEST OR LOWEST
NET EARNINGS ON THOSE DEPOSITS**

(From data for 83 member banks participating
in 1977 Functional Cost Analysis Program,
Eleventh Federal Reserve District)

Rank of bank's total deposits ¹	As percent of total time and savings deposits			
	Regular savings deposits	Certifi- cates of deposit	Club accounts	Other time deposits
High-profit banks				
5.....	48.9	43.1	0.2	7.9
63.....	21.3	76.7	.0	1.9
52.....	18.4	80.3	.0	1.3
65.....	26.6	73.2	.2	.0
60.....	24.5	72.3	.0	3.2
68.....	32.1	62.5	*	5.4
23.....	23.3	65.0	.0	11.7
14.....	19.5	62.7	.0	17.8
31.....	27.9	70.2	.0	1.9
33.....	34.6	65.4	.0	.0
Average.....	27.7	67.1	*	5.1
Low-profit banks				
80.....	63.4	26.7	.0	9.9
32.....	40.9	54.6	.0	4.5
58.....	20.7	79.3	.0	.0
82.....	41.8	48.8	.0	9.4
81.....	53.6	46.4	.0	.0
83.....	20.4	75.2	.0	4.4
75.....	74.7	25.3	.0	.0
70.....	57.4	37.2	.2	5.2
13.....	14.8	72.4	.0	12.8
50.....	49.7	33.2	.2	16.9
Average.....	43.7	49.9	*	6.3

1. Demand deposits and time and savings deposits.

* Less than .05.

NOTE: Percentages may not add to 100.0 because of rounding.

fewer than five per account in 1977, while the average number of withdrawals was only a little more than three per year. Many of the banks incurred total operating expenses of well under 1 percent of the volume of time and savings deposits; these expenses ranged from a low of 0.16 percent to a high of 1.75 percent. As would be expected, the banks with the most profitable time and savings functions generally held operating expenses to lower levels than did those with the least profitable functions.

Even though these expenses seem quite small, opportunities for individual banks to reduce them further may exist. Analysis of the FCA data indicates a fairly wide range in various unit costs. For example, the average cost of opening a certificate of deposit account ranged from \$0.89 to \$5.49, and the average cost of making a deposit to a regular savings account ranged from \$0.20 to \$1.21. Similar variations were evident in other unit-cost figures. On average, the ten banks with the most profitable operations managed to hold their unit costs to levels well below those of banks with the least profitable experience.

Interest costs are the major expense associated with time and savings deposits. With the exception of time deposits in denominations of \$100,000 or more, the maximum rates of interest payable on time and savings deposits are set by regulatory authorities. In 1977, these ceiling rates ranged from 5 percent on savings deposits to 7½ percent on longest-term time deposits and up to 8 percent on time deposits issued to governmental units, regardless of maturity.

Most banks paid interest on time and savings deposits that ranged from an average of around 5.5 percent to a little over 6.0 percent of total time and savings deposits. The bank with the most profitable function, however, managed to hold its interest expenses to only 3.6 percent of total time and savings deposits. That bank paid a low average rate of interest (slightly over 1 percent) on regular savings deposits. Yet, regular savings accounts represented almost half of its total time and savings deposits, and it had 70 percent more savings deposit customers than any other bank in the study. Regular savings at the nine other banks with high-profit time and savings deposit functions accounted for about one-fifth to one-third of total time and savings deposits. Five of the ten least profitable banks held a higher proportion in regular savings than the most profitable bank, but each paid a con-

SELECTED COMPARATIVE COSTS OF TIME AND SAVINGS ACCOUNTS AT TEN BANKS WITH HIGHEST OR LOWEST NET EARNINGS ON THOSE DEPOSITS

(From data for 83 member banks participating in 1977 Functional Cost Analysis Program, Eleventh Federal Reserve District)

Rank of bank's total deposits ¹	Costs of certificates of deposit				Costs of regular savings deposits					
	Opening an account	Closing an account	Making interest payment	Maintaining an account	Per deposit	Per withdrawal	Opening an account	Closing an account	Making interest payment	Maintaining an account
High-profit banks										
5.....	\$1.54	\$1.37	\$1.16	\$2.02	\$0.34	\$0.65	\$2.06	\$1.13	\$1.27	\$ 8.62
63.....	2.04	1.82	1.54	2.68	.45	.86	2.73	1.50	1.69	11.43
52.....	2.41	2.14	1.82	3.16	.53	1.02	3.22	1.76	1.99	13.48
65.....	1.22	1.09	.92	1.62	.27	.52	1.63	.90	1.01	6.84
60.....	1.54	1.37	1.17	2.03	.34	.65	2.06	1.13	1.28	8.63
68.....	2.19	1.95	1.65	2.88	.48	.93	2.93	1.61	1.81	12.26
23.....	3.06	2.73	2.32	4.03	.67	1.30	4.10	2.25	2.54	17.16
14.....	1.57	1.40	1.19	2.07	.34	.67	2.10	1.16	1.30	8.82
31.....	1.51	1.35	1.15	1.99	.33	.64	2.03	1.11	1.26	8.49
33.....	1.85	1.64	1.40	2.43	.41	.78	2.47	1.36	1.53	10.35
Average...	1.89	1.69	1.43	2.49	.42	.80	2.53	1.39	1.57	10.61
Low-profit banks										
80.....	1.54	1.37	1.17	2.04	.34	.66	2.07	1.14	1.28	8.69
32.....	3.75	3.34	2.84	4.93	.82	1.59	5.01	2.75	3.11	21.01
58.....	3.69	3.28	2.79	4.86	.81	1.56	4.93	2.71	3.06	20.69
82.....	1.78	1.58	1.35	2.34	.39	.75	2.38	1.31	1.48	9.98
81.....	5.38	4.79	4.07	7.08	1.18	2.28	7.19	3.95	4.46	30.15
83.....	2.58	2.28	1.95	3.40	.57	1.09	3.45	1.89	2.14	14.47
75.....	3.15	2.80	2.39	4.16	.69	1.34	4.22	2.32	2.62	17.70
70.....	2.19	1.94	1.66	2.88	.48	.93	2.93	1.61	1.82	12.28
13.....	2.73	2.43	2.07	3.60	.60	1.16	3.66	2.01	2.27	15.32
50.....	1.56	1.39	1.18	2.06	.34	.66	2.09	1.15	1.30	8.77
Average...	2.84	2.52	2.15	3.74	.62	1.20	3.79	2.08	2.35	15.91

1. Demand deposits and time and savings deposits.

siderably higher interest rate on those funds than the most profitable bank.

Since the most profitable bank held a larger share of its time and savings deposits in the form of regular savings than the other nine high-profit banks, it also held a smaller proportion in certificates of deposit (CD's). With rates paid on these funds generally considerably higher than those paid on regular savings in 1977, the smaller proportion of funds held in CD's at the most profitable bank also helped to keep that bank's interest ratio on total time and savings deposits at a lower level than for other high-profit banks.

A comparison of two similar banks that participated in the FCA study provides some interesting evidence of the ability to enhance the profitability level on time and savings deposits. Each was established at least 50 years ago, and both are in similar urban areas. The banks were of comparable size:

in terms of total deposits, Bank A ranked fourth and Bank B ranked fifth among the 83 participants. Bank A ranked 22nd in terms of net earnings on time and savings deposits; Bank B ranked 1st.

As stated earlier, the bank with the most profitable time and savings function—Bank B—had almost half of its total time and savings deposits in regular savings accounts at the very low average interest rate of slightly over 1 percent. Bank A had less than two-fifths of its time and savings deposits in these accounts at an average interest rate that was close to 5 percent.

Bank B paid an average 6.6 percent on its CD's, compared with 5.9 percent at Bank A. But because the former had a smaller proportion—43.1 percent, compared with 50.8 percent—of its total time and savings deposits in the form of CD's, interest cost on CD's at Bank B accounted for a smaller part of total interest paid on time and savings deposits

**NET EARNINGS ON TIME AND SAVINGS DEPOSITS,
BY TYPES OF ACCOUNTS, AT TEN BANKS WITH HIGHEST
OR LOWEST NET EARNINGS ON THOSE DEPOSITS**

(From data for 83 member banks participating in 1977 Functional Cost Analysis Program, Eleventh Federal Reserve District)

Rank of bank's total deposits ¹	Net earnings as percent of category's dollar volume			
	Regular savings deposits	Certificates of deposit	Club accounts	Other time deposits
High-profit banks				
5.....	4.922	-0.031	1.269	3.486
63.....	2.574	2.013	—	2.178
52.....	2.571	1.738	—	3.598
65.....	2.357	1.510	5.715	—
60.....	2.039	1.584	—	1.782
68.....	1.436	1.529	.200	3.405
23.....	1.716	1.516	—	1.506
14.....	1.852	1.549	—	1.165
31.....	2.730	.962	—	.994
33.....	1.784	1.122	—	—
Average.....	2.398	1.349	2.395	2.264
Low-profit banks				
80.....	-.625	-.139	—	.686
32.....	-.209	-.631	—	-1.549
58.....	-.838	-.603	—	—
82.....	-.894	-.815	—	.017
81.....	-1.823	.377	—	—
83.....	-2.413	-.468	—	-.010
75.....	-1.189	-.620	—	—
70.....	-1.987	-.783	-12.643	-.678
13.....	-1.837	-2.353	-9.061	-1.047
50.....	-1.906	-2.578	-6.267	-2.348
Average.....	-1.372	-.861	-9.324	-.704

1. Demand deposits and time and savings deposits.

than at Bank A.

The operating expense ratio at Bank B was about two-thirds greater than at the other bank. That, however, was due largely to servicing the much larger number of savings accounts, the average size of which was only about two-thirds as large as the average-size account at the other bank.

In analyzing data for the other participants, older banks overall tended to have a higher profitability ratio. Nevertheless, four of the ten most profitable banks were organized in 1960 or later, and two of the ten least profitable banks were organized prior to 1900. Similarly, banks in smaller urban areas tended to have a higher rate of profitability on time and savings deposits, but half of the most profitable banks were in medium-size to large urban areas and one bank located in a small urban area was among the ten least profitable banks.

Thus, similar to the findings of an earlier article on the demand deposit function, any small adverse

effects that might be associated with size, age, and/or location apparently can be overcome by astute management. In the final analysis, it appears that management policies and cost-effectiveness are the most important factors affecting profitability levels. Also, management needs to monitor closely all segments of each function; many could offer opportunities for increasing profitability.

It should be pointed out that this analysis has not addressed the overall profitability of banks. It applies only to the rate of profitability on funds acquired in one function—time and savings deposits. Most banks realize only marginal net earnings on these funds. Yet, with adequate capital structure, it is still advantageous to acquire additional time and savings deposits even though the costs of these funds are high. Moreover, funds available from most alternative sources are likely to command even higher interest costs much of the time.

COMPARATIVE DATA ON TIME AND SAVINGS DEPOSITS AT TWO SIMILAR BANKS

Item	Bank A	Bank B
Rank among 83 participating banks		
Total deposits ¹	4	5
Time and savings deposits	4	5
Net earnings on time and savings deposits	22	1
As percent of total time and savings deposits		
Regular savings deposits	39.1	48.9
Certificates of deposit	50.8	43.1
Net earnings rate (Percent)		
Regular savings deposits	1.53	4.92
Certificates of deposit72	-.03
Average interest rate paid (Percent)		
Regular savings deposits	4.92	1.01
Certificates of deposit	5.93	6.62
Number of accounts		
Regular savings deposits	28,408	48,662
Certificates of deposit	4,205	5,062
Average size of accounts		
Regular savings deposits	\$ 3,433	\$ 2,375
Certificates of deposit	\$30,139	\$20,130

1. Demand deposits and time and savings deposits.
 NOTE: Both Eleventh District banks participated in the 1977 functional cost analysis study; each was organized at least 50 years ago; and both are in similar urban areas.

Monetary Control Act of 1979 Passes House

The Monetary Control Act of 1979 (H.R. 7) has been passed in the U.S. House of Representatives by a vote of 340 to 20, and it is expected the Senate will soon be considering similar legislation. The act was designed to reduce the "cost" of Federal Reserve membership and promote greater competitive equity among depository institutions.

The Monetary Control Act includes the following elements:

1. Maintains the concept of voluntary membership in the Federal Reserve for banks operating with state charters.

2. Reduces the amount of reserves required to be deposited by member banks with the Federal Reserve.

3. Provides that all depository institutions shall maintain reserves with the Federal Reserve with respect to their transactions accounts. The act imposes an initial 3-percent reserve requirement on transactions accounts of \$35 million or less,

with an 11-percent reserve requirement for transactions accounts above \$35 million. The Federal Reserve Board would have authority to alter the ratio within a range of 1 to 12 percent and to set reserves on short-term nonpersonal time deposits within a range of zero to 8 percent.

4. Requires the Federal Reserve to charge for most of its services.

5. Opens access to borrowing from the Federal Reserve discount window and access to Federal Reserve services to all depository institutions subject to reserve requirements, nonmember as well as member banks and all savings-type institutions.

6. Provides that if deposits held by member banks were to drop below 67.5 percent of total insured deposits at all commercial banks, reserve requirements would then become mandatory for transactions accounts at all financial institutions. The amendments also change existing reserve requirements.



Regulatory Briefs

Review of Recent Actions of the Board of Governors of the Federal Reserve System

• **FINAL REGULATIONS TO IMPLEMENT THE DEPOSITORY INSTITUTION MANAGEMENT INTERLOCKS ACT** have been announced by the Federal regulatory agencies. The act prohibits certain management official relationships among nonaffiliated depository institutions.

Effective immediately, the new Federal Reserve Regulation L is applicable only to state member banks, bank holding companies, and their affiliates. The former regulation applied to all member banks.

The regulatory agencies have requested comments on several proposed amendments to the regulations. These proposals involve the "grandfathering" of certain existing relationships, provisions for terminating relationships that become prohibited by changes in circumstances, defining the term "representative or nominee," and consideration of whether, for the purposes of the act, management officials include business entities as well as natural persons.

• **PROPOSALS TO IMPLEMENT PROVISIONS OF THE INTERNATIONAL BANKING ACT OF 1978** were announced by the Federal Reserve Board on July 23. This act imposes reserve requirements and interest rate ceilings on U.S. branches and agencies of foreign banks whose parent banks have worldwide assets of \$1 billion or more. The Board's proposals relating to reserve requirements would amend Regulation D, and those dealing with interest rate ceilings would amend Regulation Q.

Additional proposals made by the Board under the provisions of the International Banking Act would grant branches and agencies of foreign banks access to Federal Reserve services and permit them to borrow from the Federal Reserve banks. Included in the Board's proposals was a request for advice on the amount of lead time needed before final regulations growing out of the proposals become effective.

• **REGULATION E HAS BEEN AMENDED** by the Board of Governors. Banks issuing electronic funds transfer (EFT) cards are required to inform consumers of notifications they must make if a card, lost or stolen, has been used by an unauthorized party. Under the final rule effective August 1, consumers have no financial responsibility for unauthorized use of EFT cards if the financial institution issuing the card has not disclosed (1) the consumer's liability for unauthorized use of the card, (2) the telephone number and address for reporting a lost or stolen card, and (3) the days when an institution can receive notification of a card's loss or theft.

In the EFT Act, guidelines have been set as to the consumer's liability for unauthorized use of the EFT card. If the consumer alerts the bank within two business days of discovering the loss or theft of the card, the consumer's maximum liability is \$50. However, if the consumer waits more than 2 business days but notifies the bank within 60 days, the consumer's liability can range up to \$500 until the day the bank receives notification. For transfers made after the 60 days, the consumer's liability may be unlimited if the consumer fails to notify the bank within 60 days after transmittal of a periodic statement that shows unauthorized use of the EFT card.

Effective September 10, notice in writing is considered given at the time the consumer deposits the notice in the mail or delivers the notice to the financial institution.