



Review

FEDERAL RESERVE BANK OF DALLAS

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**The Payments Mechanism—
Current Issues
In Electronic Funds Transfer**

Review of 1976

**Monetary and Fiscal Policies—
Alternatives for 1977 and Beyond**

Current Issues in Electronic Funds Transfer

By Charles J. Smaistrila

This is the second of a series of articles on electronic funds transfer. The first, "The Payments Mechanism—A Primer on Electronic Funds Transfer" by Mary G. Grandstaff and Charles J. Smaistrila, is in the Business Review for September 1976.

Electronic funds transfer (EFT) is rapidly becoming an integral part of the payments mechanism in the United States. As EFT systems develop, they will change both our way of making payments and the institutions that have been developed to facilitate transactions. Eventually, payments through electronic media will become as conventional as checks and currency in conducting transactions.

The automated clearinghouse and electronic terminals are two major segments of EFT systems, and a number of issues are arising as they come into use. Who should own them? What will be their impact on financial institutions? Should they be regulated; by whom; to what ends? Decisions are being made in these areas, but the situation remains fluid.

Automated clearinghouses . . .

Automated clearinghouses (ACH's) can greatly increase the efficiency of the payments system, largely by substituting magnetic tapes for checks and other paper items. Although the operation of ACH's has been oriented to specific geographic areas, the Federal Reserve System will soon begin operating, on an experimental basis, a network linking several ACH's together to provide an interregional exchange of electronic payments items.

The ACH's are parallel in function to conventional check clearinghouses. They have been organized by regional groups of financial institutions that establish the operational procedures and responsibilities of the members. The actual processing is carried out for the associations under two different types of arrangements. Two of the 28 ACH's now operational, one in Chicago and the other in New York, are privately operated. For the rest of the ACH's, the regional Federal Reserve banks provide the facilities for the clearing operations. Presently the Federal Reserve provides its service at no charge to users, in the same way it provides check-clearing services.

The development of ACH's raises several public policy questions. Should a region be served by only one ACH or should there be competing ACH's? Should the Federal Reserve continue to operate ACH facilities? If the Federal Reserve does continue operating the facilities, what pricing policy should it adopt? Should all financial institutions have access to these systems? Who should determine access policies?

. . . and issues of ownership . . .

A fundamental question relevant to the ownership and regulation of ACH's is whether these facilities are "natural" monopolies. In a natural monopoly situation there are justifications for government ownership or regulation of prices. The most common examples of natural monopolies are public utilities.

Such monopolies exist where a firm's minimum average cost of production occurs at a rate of output more than sufficient to supply the entire market at a price covering full costs. A single firm can therefore produce and sell the product at a lower average cost than can two or more firms, so market forces lead to domination of the entire market by one firm, with few if any competitive forces to protect the public interest. The situation is commonly handled by either granting an exclusive franchise to a single firm and regulating its operations or establishing a government agency to provide the service.

As the market for ACH services grows, the likelihood of a natural monopoly situation existing for ACH services within many markets should decline, making the structure more conducive to private alternatives.

Thus, the issue of ownership of ACH's turns partly on whether ACH's have such extensive economies of scale in their operations as make them natural monopolies. The Atlanta Payments Project made a projection of ACH costs prior to operation of the ACH there by the Atlanta Federal Reserve Bank. The costs are shown in the accompanying table.

ESTIMATED ACH OPERATING COSTS

Monthly transaction volume	Monthly costs	Cost per transaction
20,000	\$2,150	10.8¢
152,500	2,650	3.3
285,000	3,150	1.8
417,500	3,650	1.1
550,000	4,150	.8

SOURCE: Atlanta Payments Project.

The average cost of ACH transactions declines substantially as the volume of transactions increases, reflecting that total costs of operating an ACH do not vary greatly with the number of transactions processed. These data indicate that the substantial declines in average cost come very rapidly; as volume rises to higher levels, average costs do not decline nearly so much.

Whether a natural monopoly situation exists in a given ACH market depends on the size of the market for ACH transactions relative to the volume of transactions at which relatively constant average costs are achieved. If a given monthly transaction volume appears to lie within the range of significant decreases in average costs, ACH services would be provided most cheaply by one operator in the market. A public body, such as the Federal Reserve, or a regulated private firm could supply ACH services in this circumstance. For the Federal Reserve, it would be a logical extension of its current role in the payments mechanism.

The Department of Justice has argued that the case for a natural monopoly in ACH's has yet to be established. Its argument partially depends on the market demand for ACH services being sufficiently large for several firms to operate in a range of relatively constant average costs. Under these conditions, it is believed market forces and existing anti-trust regulations could ensure that the public interest would be protected, without the necessity of a role for the Federal Reserve or a regulated private firm.

Justice Department officials have cited several factors to support the argument that a natural monopoly situation does not exist for ACH's.¹ The

vast bulk of interbank transfers is within relatively small geographic areas, and since all areas need not be served by the same system, many companies could enter the ACH "industry." A particular private system operating within an area would face potential competitive pressures from the expansion of clearing systems of other areas—or simply from large banks within the area that generate enough volume among their own correspondents to offer electronic clearing. In addition, firms other than financial organizations could provide electronic clearing. For example, data communications companies could offer clearing as part of a package of electronic data processing services.

Of course, as the market for ACH services grows, the likelihood of a natural monopoly situation existing for ACH services within many markets should decline, making the structure more conducive to private alternatives. But before private competition could develop in the ACH industry, the Federal Reserve would have to begin charging for the payments services it now provides without an explicit charge. The Federal Reserve recently announced its intention to develop a pricing schedule for users of both its check and electronic clearing and settlement facilities. The Federal Reserve's objectives are to encourage the use of the more efficient electronic payments technology while charging users the allocated costs of the services.

Eisenmenger, Munnell, and Weiss have suggested a pricing policy based on an assumed average cost of ACH transactions much like the one presented above.² That is, it assumes that long-run average costs tend to become relatively constant at volumes above a certain level.

This pricing policy would invoke three general principles. First, prices for clearing paper checks and electronic items would be set at minimum long-run average costs. Such a policy leads to an efficient allocation of resources once constant average cost volume is achieved. When average cost is constant, marginal cost is equal to it; hence, this pricing would be consistent with the traditional marginal cost pricing suggested by economic theory.

The second principle is to charge the party that initiates a transaction. This policy confronts the

1. Donald I. Baker, "Competition, Monopoly and Electronic Banking," *The Economics of a National Electronic Funds Transfer System*, Federal Reserve Bank of Boston Conference Series, no. 13, October 1974.

2. Robert W. Eisenmenger, Alicia H. Munnell, and Steven J. Weiss, "Pricing and the Role of the Federal Reserve in an Electronic Funds Transfer System," *The Economics of a National Electronic Funds Transfer System*, Federal Reserve Bank of Boston Conference Series, no. 13, October 1974.

initiator with the real costs of alternative methods of transferring funds. It thus provides him with an incentive to select the alternative with the least social cost.

The third principle applies only to ACH operations. If services were priced at minimum long-run average costs, these systems would initially operate at a loss. In order to encourage EFT development and benefit from its ultimately lower costs, the Fed would absorb these initial losses.

A problem the Federal Reserve must inevitably encounter in pricing its services is developing a pricing schedule that is nondiscriminatory toward member banks and other depository institutions. Even without explicit pricing of clearing and settlement services, Fed member banks implicitly pay for them with required reserves—not unlike compensating balances held by business customers at banks. Charging member banks and nonmembers the same price for ACH transactions would mean that member banks would, in effect, pay for these services twice. Announcements by Federal Reserve System officials indicate the Fed will set equal prices for member and nonmember banks but that consideration will be given to the burden of member bank reserve requirements.

... and competitive balance

The impact of ACH's on the competitive relationship between commercial banks and thrift institutions will increase as more and more payments are channeled through the ACH's; hence, the right of access to ACH services has become a major policy issue. Legal questions have been raised concerning the terms of access to ACH services by depository institutions that are not members of an ACH association.

Several general antitrust principles apply. The first is that a group controlling an essential facility and obtaining a competitive advantage from it must grant access to all other firms in the trade. Generally, in order to obtain access, the other firms must show that the facility is essential to the particular trade and that it is not feasible for them to duplicate it. The courts have already ruled that thrift institutions are competitors with banks for certain types of deposits and services.³ To obtain access to ACH's, the thrifts must therefore show that direct access

is essential in those specific areas where they compete with banks and that they cannot operate their own ACH's.⁴

The second principle is that a group cannot force its members to use its system exclusively. Thus, the present ACH associations cannot prevent their members from using other clearing systems. So if the thrifts could form their own ACH associations as an alternative to direct access, the antitrust principle provides that the present ACH associations would have to allow their members to use the competing clearinghouses.

Policies of the Fed-operated ACH's have changed considerably over the last year or so. In its initial proposal for access guidelines published in June 1975, the Federal Reserve proposed to allow origination of ACH entries only by Fed member banks and other financial institutions "authorized to maintain demand deposit accounts," the latter only if minimum volume requirements were met. The National Automated Clearing House Association, representing mostly commercial banks, expressed general support for the policies.

But many comments received by the Fed argued that the policies were much too restrictive or placed some depository institutions, especially thrifts, at a competitive disadvantage. The Federal Reserve issued a new interim access policy in January 1976. The revised guidelines provide that the Fed will accept and process ACH items from all Fed member banks and any other depository institution that is a member of an ACH association. Under the present policy, thrift institutions that are members of an ACH association and have the legal capacity to make third-party payments may send items directly to the ACH. Thrifts that are not members of an association can use a "pass-through" method, by which the items are processed through an account of a member institution.

The thrifts maintain that these guidelines still discriminate against many thrifts and leave them at a disadvantage relative to banks that have more direct access. As of December 1976, 12 of the 28 automated clearinghouse associations had accepted thrift institutions as members.

3. *United States v. Connecticut National Bank, U.S.* (1974), and also *Fort Worth National Corp. v. FSLIC*, 469 F.2d 47 (5th Cir. 1972).

4. Credit unions in several states, including Texas, are obtaining access to ACH's by purchasing or forming banks under the aegis of their state credit union leagues. By the antitrust principle, a bank owned by credit unions could not be denied membership and access to an ACH association.

Electronic terminals . . .

Electronic terminals describes a variety of machines and systems. Automated teller machines (ATM's) perform electronically most of the functions of a live teller and may be located either on the premises of a financial institution or at other locations. Cash dispensers are simpler machines, usually allowing only withdrawals from accounts. Point-of-sale (POS) terminals are manned machines, located at retail outlets, that provide a variety of services, including check verification, deposits and withdrawals, and transfers between accounts. When operated by a bank, these machines are known as customer-bank communications terminals (CBCT's). When operated by a savings and loan association, they are called remote service units (RSU's).

. . . and issues of ownership . . .

As is the case with automated clearinghouses, economies of scale and transaction volumes have important implications for the ownership patterns likely to develop in electronic terminal systems. Although there are relatively little data on the costs of the various terminal systems, some rough guesses about their cost structure can be made based on studies to date.

The introduction of the terminals affects an institution's costs in two ways. The machines represent substitution of capital for labor in retail financial services, particularly in deposit and consumer loan activities, which have traditionally been labor-intensive. With the increased use of capital, labor functions become more specialized. In addition, the machines enable a financial institution to centralize certain deposit and consumer loan activities. If an institution has a sufficient volume of transactions, the specialization of labor and centralization of functions will increase its efficiency and decrease costs below those of conventional methods.

Present evidence on the use of ATM's and cash dispensers suggests that a relatively large volume of transactions is needed to realize their potential economies of scale.⁵ Currently, relatively few installations are attaining optimal volumes. Banks operating these facilities generally justify them on some other basis, such as customer convenience or the need to obtain experience with new technology.

These operational factors and cost considerations suggest in broad terms how the development of

electronic terminals may proceed. First, it is likely that institutions with existing computer capabilities will be the first to adopt ATM's and cash dispensers. By coupling the machines with their existing computer facilities, the institutions can bring the computer's laborsaving potential to previously labor-intensive functions.

Moreover, since the machines require a high volume of transactions to be cost-justified, there will be an incentive for institutions to share access to them. The facilities are likely to be made available to smaller institutions as part of traditional correspondent service arrangements or through operations of the joint-venture type. These arrangements could be similar to the way small institutions now obtain computer services through their correspondents or through vendors.

The observations about access to ATM's and cash dispensers would also seem to be true for POS systems. The need to generate a high volume of transactions before cost savings can be realized would encourage shared-access operations. At the same time, merchants operating POS terminals will want to assure as broad an access to customer accounts as possible to encourage trade in their stores. Hence, it is quite likely that POS systems will develop along the lines of present credit-card operations and correspondent service arrangements. The development will likely be initiated by large institutions, which will then offer access to the system, at some price, to other institutions.

. . . competition . . .

The deployment of electronic terminals—cash dispensers, automated teller machines, and point-of-sale systems—is raising many questions about the competitive relationships among different types of depository institutions. The terminal systems have a potential impact both among banks and between banks and thrift institutions. Within the banking industry, a line of division has been drawn between the relatively small, independent banks and the larger banks. Independent banks, especially those in unit-banking states, contend that CBCT's must be restricted to prevent large banks from encroaching on their markets.

The independents argue that the electronic terminal systems are too expensive for small banks to acquire and operate. Moreover, they contend that joint-venture operations will be inadequate to offset the big banks' economies-of-scale advantages. Perhaps most basic to the fears of unit banks is that the terminals tend to reduce the importance of geo-

5. David A. Walker, "An Analysis of EFTS Activity Levels, Costs, and Structure in the U.S.," Federal Deposit Insurance Corporation, Working Paper no. 76-4 (Washington, D.C., 1976).

graphic location to the bank customer and thus may erode a significant advantage of the unit bank.

The observations here about the cost and operating characteristics of the terminal systems indicate that the systems probably do not pose a threat to institutions in communities served by a single institution or a number of small institutions. Although they may offer cost savings, the terminals are limited in the functions they can perform. In particular, they cannot open new accounts or approve new lines of credit and thus can serve only existing customers. Customers would still have to deal with a full-service office for services not obtainable from machines. Furthermore, the level of transaction volume to make a machine profitable will probably remain higher than can be achieved in the small-town markets.

As long as unit banks have access to terminals through joint-venture or leasing arrangements, the increase in competition need not be at their expense.

On the other hand, in metropolitan areas, competition would be increased as the areas from which banks attract business expand and increasingly overlap. But because the functions performed by the terminals are more limited than those of full-service offices, their impact on competition in metropolitan banking markets is likely to be much less than that of adopting unrestricted branching in unit-banking states.

As long as unit banks have access to terminals through joint-venture or leasing arrangements, the increase in competition need not be at their expense. The decreased importance of geographic location means that a bank can keep its customers no matter where they move. And this effect is likely to be more important for the small bank that attempts to attract small depositors than for the large bank that attempts to attract large corporate accounts. Terminals enable a small bank to provide its customers with the broader geographic services heretofore provided only by large banks.

A major structural change is occurring as the terminals, particularly the manned terminal systems, are deployed by thrift institutions. Historically, thrifts have been handicapped in the market for money-transfer services. But with the introduction of NOW accounts in several northeastern states,

distinctions between accounts at thrifts and checking accounts at banks eroded. To the extent that terminals facilitate the transfer of funds in thrift accounts, they intensify competition between thrifts and banks.

... and regulation

The regulatory issues surrounding the establishment of terminal systems have centered on two questions. The first is whether the Federal Home Loan Bank Board (FHLBB), which regulates federally chartered savings and loan associations, has the authority to permit them to operate terminals. This question has for the most part been resolved in favor of the FHLBB and the savings and loan associations. The second and still controversial question is whether the terminals, when operated by a commercial bank, constitute a branch office of that bank.

The regulatory environment has generally been more conducive to experimentation in EFT by thrifts than by banks. In January 1974 the FHLBB adopted a regulation permitting its member savings and loan associations to operate off-premises terminals for the transfer of funds. A wide variety of facilities and services are allowed. The authorization originally permitted experimentation until July 31, 1975, but has been extended to December 31, 1977.

One of the first projects under the regulation, initiated by First Federal Savings and Loan Association in Lincoln, Nebraska, attracted nationwide attention when it was challenged in court. State officials charged that the supermarkets in which the terminals were located were illegally engaging in banking activities. The Nebraska Banking Association also brought suit against First Federal, charging that it was violating state antibanking laws. Operations of the system were temporarily suspended, but First Federal consistently won its points as to the legality of the scheme in a series of court cases. The courts ruled that participation in the transaction by the store employee was essentially that of a courier of information and did not constitute a banking transaction. The rulings encouraged other savings and loan associations to set up terminal systems so that as of December 31, 1976, the FHLBB had approved 47 RSU projects in 23 states and the District of Columbia.

The resolution of the issue of whether the terminals can be legally operated by the thrift institutions has been critical in determining the relationship between bank and nonbank financial institutions. Many of the laws regulating these two groups of institutions are based on the presumption that thrifts need some regulatory advantage in obtaining funds.

For example, thrift institutions are subject to less burdensome reserve requirements than banks and are allowed to pay higher interest rates on deposits. However, since the terminals erode the differences between the banks and the thrifts, the question may be raised whether these regulations continue to be appropriate. If regulators wish to reinstate the previous competitive balance between the thrifts and commercial banks, the regulations should reflect the changes brought about by the use of terminals.

While the regulatory questions concerning thrift institution operation of the terminals were resolved relatively quickly, those surrounding commercial bank operations promise to be with us for some time. The major point of contention has been whether the CBCT's constitute bank branch offices under state and Federal statutes. Congress, through the McFadden Act of 1927 and the Banking Act of 1933, subjected national banks to state restrictions on branching. In this way, Congress left to the individual states the resolution of branch versus unit banking, and each state's decision is binding on national as well as state banks.

After the FHLBB issued its January 1974 ruling allowing savings and loan associations to operate terminals, the Comptroller of the Currency issued a ruling in December 1974 permitting national banks to operate CBCT's. Under the Comptroller's interpretative ruling, CBCT's of national banks were not branches within the Federal definition of a branch and therefore not subject to state branching laws. Furthermore, the ruling implied that national banks would be able to establish terminals across state boundaries. It was amended in May 1975 to restrict the location of the terminals to within 50 miles of the bank's head office or chartered branch unless the facility was shared with other depository institutions.

The Comptroller's ruling stirred immediate controversy within the financial community and set the stage for a round of litigation establishing the perimeters of Federal branching law. Lower court decisions covered the spectrum of possible rulings. In a suit brought against the Comptroller by the Independent Bankers of America Association, a U.S. district court in the District of Columbia declared the Comptroller's ruling null and void, holding that any off-premises facility that transacts business also carried on at the main office is a branch. The ruling was upheld in the Comptroller's appeal to the U.S. court of appeals, which held that any facility performing the traditional bank functions of receiving or disbursing funds is a branch.

However, a district court in Oklahoma reached the opposite conclusion, holding that a national bank could operate the terminals under Federal law.

In an important Illinois ruling concerning terminals operated there by two banks, a Federal judge held that the terminals were not branches if their use was restricted to cash withdrawals and payments of bills but that accepting deposits or making loans constituted illegal branching activity. Upon appeal, the U.S. circuit court of appeals ruled that the banks involved, the First National Bank of Chicago and Continental Illinois National Bank and Trust Company, could not operate the terminals even for cash withdrawals and payments. After almost two years of litigation, the issue was resolved, for the time being at least, in October 1976 when the U.S. Supreme Court refused to review the decisions involving the Illinois banks and the Comptroller of the Currency. The effect of the denial of review was to leave standing the lower court decisions that declared CBCT's to be branches under the McFadden Act. The CBCT's of national banks are thus limited to states that allow state banks to establish conventional or CBCT branches.

There is a possibility that Federal bank-branching regulations generally, and those applicable to CBCT's in particular, will be revised.

Following the Supreme Court's denial, the Comptroller's office issued special branch application procedures to facilitate the establishment of terminals by national banks where they are legal. The special procedures exempt the CBCT's from most of the procedures required for traditional branches. In addition, only one capital requirement is to be imposed on all terminals in the same city, and banks sharing the terminal may share the capitalization cost.

By late 1976, 26 states had adopted legislation permitting state banks to operate terminals either as nonbranches or as branches not subject to the same restrictions as full-service offices. But only four unit-banking states have passed statutes defining the CBCT's as not being bank branches. So, the CBCT's are still banned in almost all states that do not permit branch banking.

However, there is a possibility that Federal bank-branching regulations generally, and those appli-

cable to CBCT's in particular, will be revised.⁶ The National Commission on Electronic Fund Transfers has recommended that Congress should change the McFadden Act provisions so that limitations on the deployment of electronic banking terminals are substantially less restrictive than those applicable to conventional branches. The American Bankers Association (ABA) has also recommended Federal legislation that would allow financial institutions and others to develop EFT systems with fewer legal constraints. But under the ABA plan, individual states would retain the right to apply additional restrictions or override the Federal law.

Summary

Much of the controversy surrounding the development of EFT centers on the ownership of the systems, their regulation, and their impact on the competitive balance among financial institutions. For

ACH's, available data indicate that while most are apparently now operating in a natural monopoly situation, the structure of costs will become more conducive to competition as the demand for ACH services grows. And the pricing of ACH services where provided by the Federal Reserve will allow private alternatives to develop on the basis of cost. The Federal Reserve gives the thrifts direct access if they are members of an ACH association, but most are not members at present.

Because electronic terminals are not perfect substitutes for full-service offices, they are unlikely to have as great an impact on competition among banks as unrestricted branch banking. And since they require a large volume of transaction activity to be economically justifiable, it seems likely that these systems will be operated on a shared-access basis in metropolitan areas where it is possible to achieve such volume.

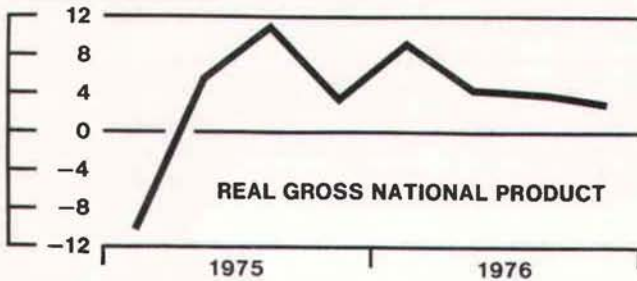
A major impact of the terminals is that they bring thrift institutions into more direct competition with banks in providing money-transfer services. Thrifts have had an advantage in developing terminal systems because of a clearer and more supportive regulatory environment. Banks have been restrained in developing terminal systems because of branching restrictions on their deployment. Resolution of the branching question is presently the responsibility of individual state legislatures, but more uniform treatment is being considered by the U.S. Congress.

6. Senator Thomas J. McIntyre, chairman of the Subcommittee on Financial Institutions of the Committee on Banking, Housing and Urban Affairs, contends that "the EFTS/branching issue is appropriate for Congress and Congress alone to decide" (*Compendium of Issues Relating to Branching by Financial Institutions*, 94th Congress, 2d session, October 1976, p. viii). In September 1975, he announced that his subcommittee would undertake a study of Federal policy governing branching by banks. Debate is scheduled for Congress this year on whether Federal branching laws should be changed.

REVIEW OF 1976

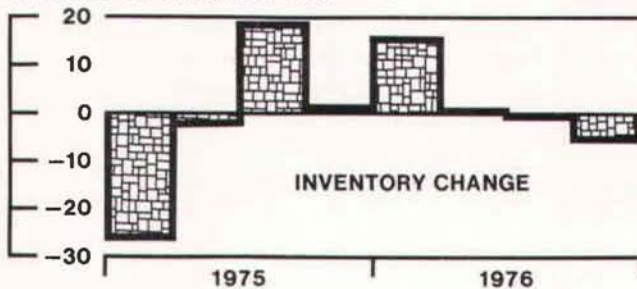
Among the most prominent developments in the national economy were a slowing in real economic growth, a setback in gains against unemployment, continued moderation of inflation, a delayed recovery in business loans at commercial banks, and further declines in interest rates.

PERCENT CHANGE



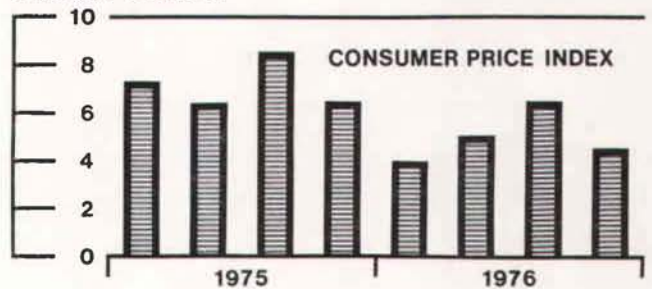
Even though growth in output slowed in 1976—as typically occurs in the second year of a recovery—it was slightly greater over the whole expansion than in the past four comparable periods. But in the last half of the year, growth fell below that in previous recoveries.

BILLIONS OF 1972 DOLLARS



Inventory accumulation accounted for more than half of the exceptionally rapid growth of real output in the first quarter of 1976 but then detracted from growth in the last six months. However, growth of real final sales (GNP less inventory accumulation) accelerated throughout the year, generally remaining above its long-term trend.

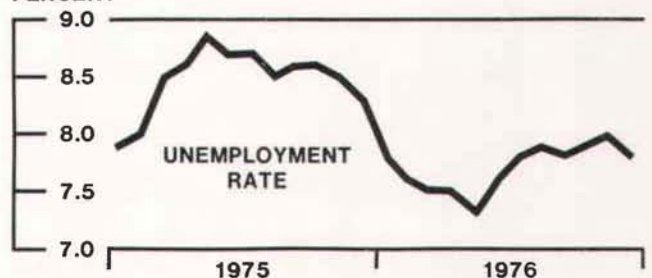
PERCENT CHANGE

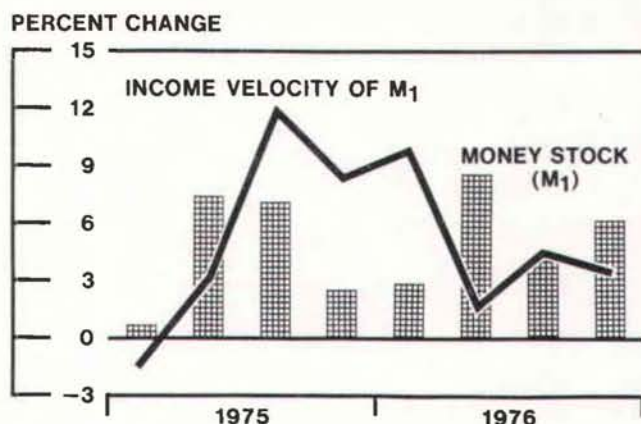


Price inflation continued to slow significantly—to 5.0 percent, compared with 7.3 percent in 1975 and 12.1 percent in 1974. Wage inflation moderated to a lesser degree, allowing the first substantive gains in real wages since 1972.

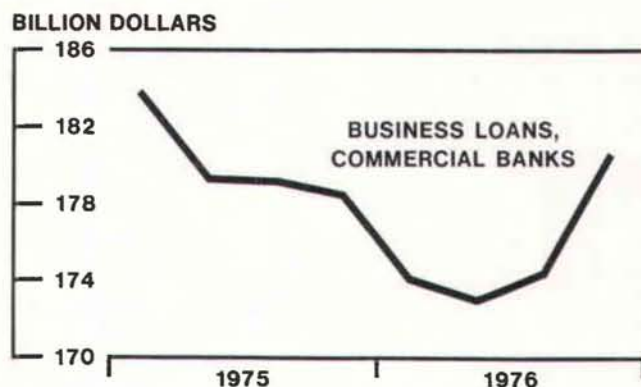
Improvement in the economy was reflected in a declining unemployment rate. However, gains were temporarily interrupted in the second half of 1976, when economic growth slowed and the labor force continued to grow at nearly twice the long-term rate.

PERCENT

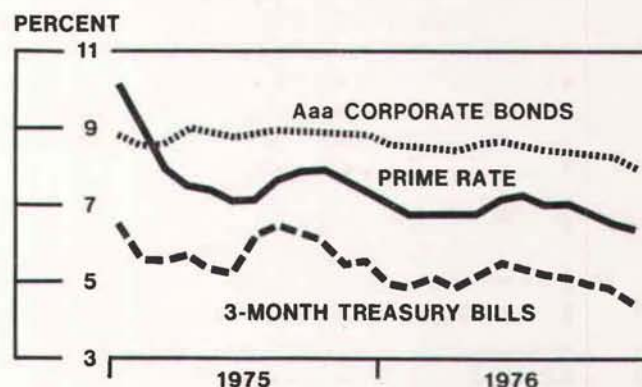




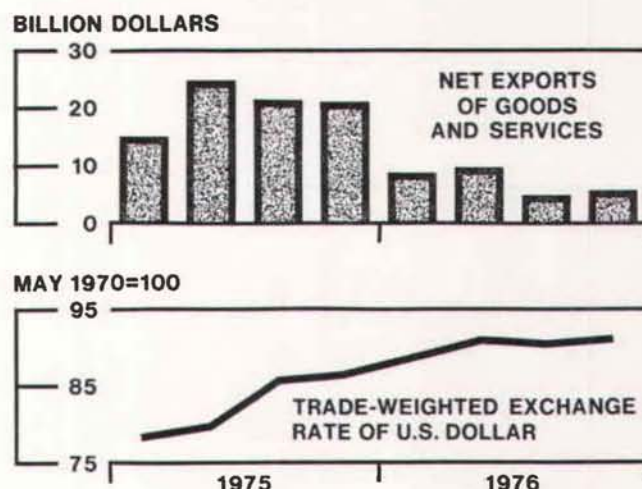
The expansion of money (M_1) in 1976 was generally within the targets announced by the Federal Reserve. And the income velocity of M_1 —the ratio of nominal GNP to M_1 —grew somewhat faster than in previous recoveries, partly because of regulatory changes reducing the public's use of demand deposits. However, the growth of velocity slowed in 1976, as usually occurs in the second year of a recovery.



Business loans bottomed out over nine months later than is normal in economic recoveries. The main factors helping to explain this development were the persistence of an inventory runoff well into the upturn, a relatively large increase in internally generated corporate funds, and a restructuring of corporate balance sheets to improve liquidity positions by reducing short-term debt.



Though interest rates typically tend to rise in periods of economic expansion, both short- and long-term rates declined in 1976 to well below the levels at the start of the expansion in 1975. A fall in expected inflation accompanying the continued moderation in actual inflation apparently reduced inflationary premiums in interest rates by enough to offset the usual cyclical pattern.



Net exports deteriorated in 1976, as fuel imports surged and economic recovery in other parts of the world began later and remained somewhat weaker than in the United States. But the value of the dollar in foreign exchange markets continued to strengthen because increasing net inflows of capital from abroad more than offset the weakness in net exports.

New member banks

Chamizal National Bank, El Paso, Texas, a newly organized institution located in the territory served by the El Paso Branch of the Federal Reserve Bank of Dallas, opened for business January 4, 1977, as a member of the Federal Reserve System. The new member bank opened with capital of \$400,000, surplus of \$400,000, and undivided profits of \$200,000. The officers are: Jack Young, President and Chairman of the Board; Humbert Erlich, Vice President; and George M. Elias, Cashier.

Central National Bank of Woodway-Hewitt, Waco, Texas, a newly organized institution located in the territory served by the Head Office of the Federal Reserve Bank of Dallas, opened for business January 8, 1977, as a member of the Federal Reserve System. The new member bank opened with capital of \$480,000, surplus of \$420,000, and undivided profits of \$300,000. The officers are: James M. Leath, President; Joe Hanevell, Executive Vice President; Alton E. Boyett, Vice President and Cashier; and Sue Swaner, Assistant Cashier.

Citizens National Bank, Denton, Texas, a newly organized institution located in the territory served by the Head Office of the Federal Reserve Bank of Dallas, opened for business January 26, 1977, as a member of the Federal Reserve System. The new member bank opened with capital of \$350,000, surplus of \$350,000, and undivided profits of \$350,000. The officers are: Robert W. Cochran, President, and Rheta Spurlock, Cashier.

Republic National Bank, 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 January 31, 1977, as a member of the Federal Reserve System. The new member bank opened with capital of \$420,000, surplus of \$420,000, and undivided profits of \$240,000. The officers are: James K. Presnal, Chairman of the Board; Gerald W. McCoy, President; and Gaylord V. Magnuson, Vice President and Cashier.

Alternatives for 1977 and Beyond

By Steven W. Dobson and Patrick J. Lawler

The performance of the economy has been sluggish in recent quarters. The unemployment rate has remained disappointingly high, and growth rates in physical output have been only slightly above the long-term trend rate. Furthermore, in the fall of 1976 the Commerce Department's index of leading indicators stopped rising and actually turned down for two months, while the department's survey of business intentions indicated only nominal growth of business investment in 1977. In addition to these signs of weakness, there has been some diminution in the continued rapid rates of price inflation. These considerations have led many to call for further governmental actions to stimulate the economy. A wide variety of monetary and fiscal actions are available, and many have found at least some support. Since the policies being discussed may differ considerably in the speed, size, and duration of their impacts, the choice among them should be based on a good understanding of these differences.

In the simulations reported here, monetary and fiscal policies differ importantly in their timing and impact on the allocation of resources in the economy.

One way to sort out the variety of possible effects is to simulate the future course of the economy under alternative policies with a large-scale econometric model. The model employed here is a version of the MIT-PENN-SSRC (MPS) macroeconomic model currently used by the staff of the Board of Governors of the Federal Reserve System. This model consists of a large number of equations representing economic relationships that have been estimated from historical data. The equations are solved simultaneously in order to take account of the sometimes subtle interactions between economic variables. Although past relationships may change over time and may even be affected by the policies themselves, an experiment of this sort may provide a good qualitative assessment of the differences in effects among a variety of policies.

In the simulations reported here, monetary and fiscal policies differ importantly in their timing and

impact on the allocation of resources in the economy. In most cases the effects of fiscal policy are felt more rapidly than those of monetary policy and are likely to stimulate consumption more than investment expenditures. Among fiscal policies, a tax rebate produces the quickest results, while the effects of a personal tax cut and a public works program come later but are longer lasting.

Design and results of simulations

The effects of alternative policies were compared by using data for the third quarter of 1976 and simulating with the MPS model the response of the economy to a variety of policy alternatives. These simulations ran through the first quarter of 1979, and policy differences were generally introduced in the second quarter of 1977; so eight quarters of comparative results are available. Certainly the impact of policies initiated in the second quarter of 1977 may well extend beyond the first quarter of 1979. But for an analysis of the immediate countercyclical impact of economic policies, this time frame is adequate.

Several policy alternatives that are representative of the types of stimuli being discussed were selected for simulation. These include three changes in fiscal policy, one change in monetary policy, and a combination of fiscal and monetary changes. The effect of a policy change on a particular economic variable is measured by the difference between its value under the assumed change in policy and the value that would occur under an alternative that involves no further attempts to stimulate the economy. For this simulation the narrowly defined money stock (M_1) is assumed to grow at a constant 5.5-percent rate, which is the midpoint of the latest long-run target range of the Federal Open Market Committee. Federal spending is assumed to increase by 8.5 percent in 1977 relative to 1976 and an additional 7.8 percent in 1978. Tax rates are assumed to be unchanged.

In the MPS model, the impact of a given policy action depends importantly on the initial condition of the economy at the time of the action. The initial condition includes not only such variables as the current levels of utilization of labor and capital but also the historical paths of a large number of other

Figure 1

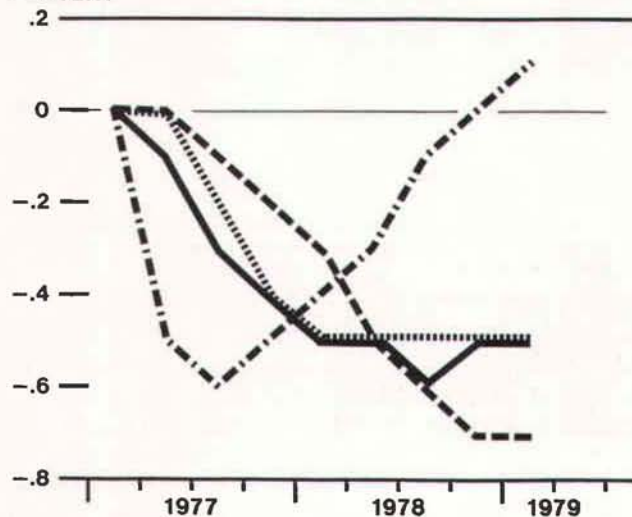
Effects of Alternative Stimulative Policies

(Variables expressed as differences from values likely to occur in absence of policy change)

— PERSONAL TAX CUT
 - - - PERSONAL TAX REBATE
 PUBLIC WORKS
 - - - MONETARY EXPANSION

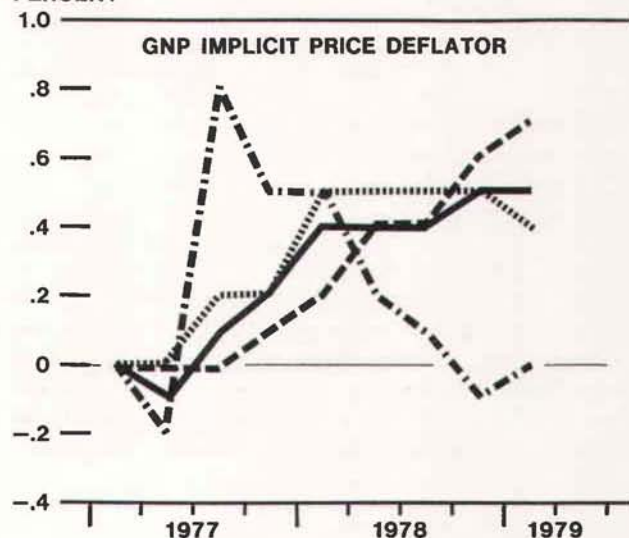
UNEMPLOYMENT RATE

PERCENT



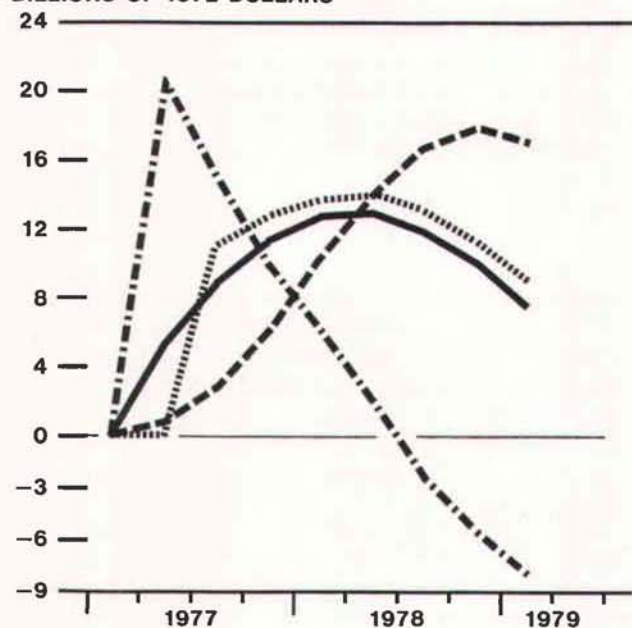
INFLATION RATE

PERCENT



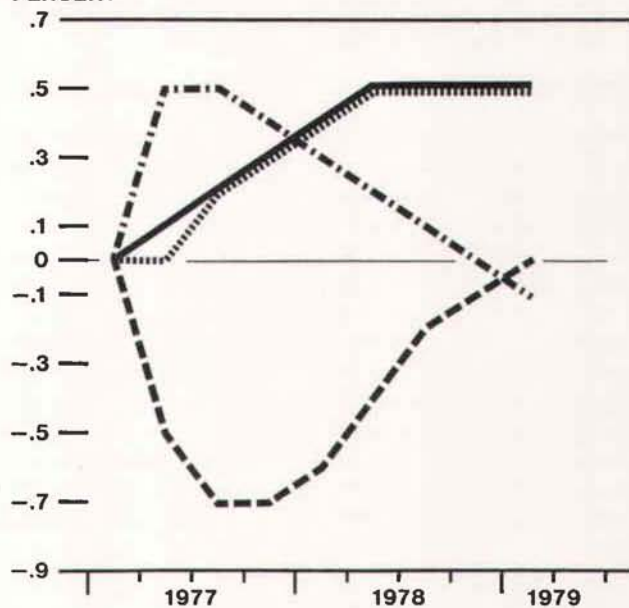
GROSS NATIONAL PRODUCT

BILLIONS OF 1972 DOLLARS



THREE-MONTH TREASURY BILL RATE

PERCENT



variables. It follows that the simulation results presented here depend on the past history of the economy and the state of the economy as of the third quarter of 1976. Only limited generalizations are possible. A simulation with an identical policy action but begun in a different time period would not yield an identical time profile, although at times it might be broadly similar. The simulated effects of the various policy changes are summarized in Figure 1, and Table 1 reports the numbers shown in the figure for selected quarters.¹

Fiscal policy. The three major types of fiscal policy considered here are a permanent personal tax cut, a one-time personal tax rebate, and the institution of a permanent public works program. Two other, more specialized fiscal policy packages are discussed in the accompanying box.

1. Not all of the differing effects of the policies can be captured in the model simulations; this is especially true for their effects on expectations. For example, the announcement of any of these policies, by raising expectations of future income, may start to have a stimulative impact even before they commence. This will affect comparisons only to the extent that the expectations effects differ among alternative policies. Such differences may be quite significant. Consider the difference between a tax cut that is announced to be permanent and one that is announced as temporary. The former may well have a far greater effect than the latter since it affects expected future income as well as current income.

Specifically, the permanent tax cut is assumed to be a \$15 billion annual reduction in personal income taxes starting in the second quarter of 1977, which would be possible if Congress were to act quickly. In each quarter, \$3.75 billion was subtracted from the model's internally determined level of personal income taxes. The MPS model indicates that this policy would increase GNP measured in constant dollars and at an annual rate by \$12.7 billion in the fourth quarter after its commencement but by only \$7.6 billion a year after that. The tax cut would lower the unemployment rate by approximately one-half of a percentage point during its second year, and the inflation rate would be only slightly increased.

A one-time \$15 billion tax rebate was simulated by reducing personal income taxes by that amount in the second quarter of 1977, so that the effect on the Federal budget for the first year would be the same as for a permanent tax cut. While the model indicates that the immediate impact would be much stronger in this case, four quarters after the rebate it would increase real GNP by only \$6.3 billion. In the first quarter of 1979, GNP would actually be \$7.8 billion less. The improvement in unemployment would be short-lived, with the unemployment rate actually rising to slightly above the level that could have been expected without the policy change by the end of the simulation period. Consistent with this, the model shows that a rebate could be expected to

Table 1

EFFECTS OF ALTERNATIVE STIMULATIVE POLICIES

(Variables expressed as differences from values likely to occur in absence of policy change)

Economic variable	Policy alternatives			
	Personal tax cut	Personal tax rebate	Public works	Monetary expansion
Unemployment rate (Percent)				
1978—first quarter	-0.5	-0.4	-0.5	-0.3
1979—first quarter	-.5	.1	-.5	-.7
Inflation rate (Percent change in GNP implicit price deflator)				
1978—first quarter	.4	.5	.5	.2
1979—first quarter	.5	.0	.4	.7
GNP (Billions of 1972 dollars)				
1978—first quarter	12.7	6.3	13.7	10.1
1979—first quarter	7.6	-7.8	9.1	17.1
Three-month Treasury bill rate (Percent)				
1978—first quarter	.4	.3	.4	-.6
1979—first quarter	.5	-.1	.5	.0

Additional fiscal alternatives

Two additional alternatives for fiscal stimulus are a cut in the social security tax (jointly paid by employers and employees) and a general business tax package. If the joint social security tax rate is reduced 1.76 percentage points, a \$15 billion annual reduction in Treasury receipts would occur. The effects of this tax cut would be broadly similar to those of a comparable personal income tax cut, except for the rate of inflation. Simulation results indicate that prices would actually fall in the first three quarters after the tax cut takes effect, so that the average rate of inflation over the simulation period would be markedly lower with this option than with the other policies. In fact, seven quarters after the policy is initiated, the GNP implicit price deflator could be expected to be no higher than it would have been without the stimulus. Reductions in these taxes lower costs to employers and, further, temper demands for wage increases. Both factors would hold down price increases.

Crowding out would probably also be less in the case of a social security tax cut. Because the money supply, growing at a

5.5-percent rate, is the same here as in the simulations with fiscal stimuli considered in the text, any reduction in the rate of inflation implies a smaller increase in the demand for money and, therefore, less up-

EFFECTS OF ALTERNATIVE TAX POLICIES

(Variables expressed as differences from values likely to occur in absence of policy change)

Economic variable	Policy alternatives	
	Payroll tax cut	General business package
Unemployment rate (Percent)		
1978—first quarter	-0.5	-0.3
1979—first quarter	-.6	-.7
Inflation rate (Percent change in GNP implicit price deflator)		
1978—first quarter1	.6
1979—first quarter4	1.0
GNP (Billions of 1972 dollars)		
1978—first quarter	12.1	10.6
1979—first quarter	10.9	16.0
Three-month Treasury bill rate (Percent)		
1978—first quarter2	.4
1979—first quarter3	.9

increase inflation over what it would otherwise have been for only a few quarters.

A \$15 billion increase in public spending, or "public works program," was simulated by increasing Federal Government purchases starting in the third quarter of 1977. It is probably unrealistic to expect that any program could be passed by Congress and spending begun before July next year. This policy would increase real GNP at a \$13.7 billion annual rate in the first quarter of 1978 but at only a \$9.1 billion rate in the first quarter of 1979. Effects on unemployment and prices were virtually the same as in the tax cut simulation.

Under all three policies the stimulus after eight quarters is less than the stimulus after four quarters. This decline is a general characteristic of the model and is not confined to the simulation period. It results from the increase in nominal GNP caused by the stimulus, which in turn increases the demand for money. Since the money supply is held to the 5.5-percent growth rate that is assumed if there is no change in policy, the higher demands for money

caused by the stimulus imply higher interest rates. These higher interest rates affect all types of private spending demands, with the result that the stimulus to GNP is moderated.

Short-term interest rates are determined by supply and demand forces in the money market. Long rates are linked to short rates through a term structure equation that includes current and past values of the short rate. An increase in short rates has a small initial impact on long rates, but the impact rises with time. The response of investment to long-term rates rises with time also. Therefore, the moderating effect of higher interest rates on real GNP and inflation rises with time.²

The decline in fiscal stimulus is most pronounced under the tax rebate, partly because the rebate

2. For a detailed account of the extent to which private expenditures are "crowded out" by a fiscal stimulus in the MPS model, see Brian P. Sullivan, "Fiscal Policy—Crowding Out Estimated from Large Econometric Model," *Business Review*, Federal Reserve Bank of Dallas, June 1976.

ward pressure on interest rates. Lower interest rates in turn delay the crowding-out effects, so that after eight quarters GNP would remain higher than with a personal tax cut. Comparison of a personal tax cut and a social security tax cut shows that at an identical cost to the Treasury, the latter might be expected to provide more stimu-

CONSUMPTION AND INVESTMENT FOR GENERAL BUSINESS PACKAGE

(Variables expressed as differences from values likely to occur in absence of policy change. Billions of 1972 dollars)

Period	Policy alternatives	
	Personal consumption expenditures	Gross private domestic investment
1977		
Second quarter ...	0.4	0.2
Third quarter	1.2	2.2
Fourth quarter	2.2	4.8
1978		
First quarter	3.2	7.5
Second quarter ...	4.0	9.8
Third quarter	4.3	11.8
Fourth quarter ...	4.0	13.3
1979		
First quarter	3.2	14.6

provides no further stimulus in the second year of simulation, but also because it tends to reduce future purchases of consumer durables. In the model a large but temporary increase in income is not allocated primarily to the purchase of nondurable consumer goods and services, but rather is used to improve financial positions and accumulate durable goods. Because the increase in income caused by the tax rebate is concentrated in one quarter, most of the resulting increase in spending is for consumer durables. Since durable goods provide a flow of services over several time periods, an increase in current purchases of such goods reduces the need for purchases later.

The results of the simulations suggest a number of conclusions regarding different fiscal policies. One is that the relative desirability of a tax rebate is crucially dependent on the desired timing of the stimulus. Powerful initial effects are followed by a rapid weakening and eventual mild reversal relative to control. Both the tax cut and public works program have a delayed but longer-lasting impact than the

tax rebate. However, the public works program has a slightly greater impact on GNP over the entire simulation period. This occurs, in the model, for two reasons. First, the spending multiplier is greater than the tax multiplier, since each dollar of spending is added directly to aggregate demand whereas part of a reduction in taxes is saved by consumers. Second, because the spending program begins a quarter later, the moderating effects of higher interest rates are slightly delayed.

A more important distinction between the public works program and the tax cut is the allocation of GNP between the public and private sectors of the economy. The increase in national product resulting from the tax cut is entirely in the private economy. In contrast, the model simulation indicates that the public works program would actually reduce real private spending. In the seventh quarter of the program, private spending in constant dollars is actually \$6 billion less than it would have been without any stimulative policy.

Monetary policy. The monetary policy alternative considered here is a 6.75-percent average rate of growth of M_1 for four quarters beginning in the second quarter of 1977, followed by a 5.5-percent growth rate in the succeeding four quarters. To achieve early monetary stimulus, the first-year growth rate is front-loaded, declining smoothly from 7.5 percent initially down to 5.5 percent. This represents a plausible monetary policy that provides a stimulus roughly comparable to the fiscal policies considered.

Under the monetary policy considered, prices are no higher at the end of the simulation than with any of the fiscal policies, but interest rates are lower because the expanded money supply makes credit more available.

The model indicates that this policy increases real GNP by \$10.1 billion in the first quarter of 1978 and by \$17.1 billion four quarters later. The unemployment rate is decreased three-tenths of a percentage point after one year and seven-tenths of a percentage point after two. Prices are no higher at the end of the simulation than with any of the fiscal policies, but interest rates are lower because the expanded money supply makes credit more available. These lower interest rates are the means by which monetary policy affects economic activity in the model.³

Monetary versus fiscal policy. The results of the model simulations show that the stimulative effects of the monetary policy examined here would be longer in coming but somewhat more powerful than those of any of the fiscal policies. Relatively long lags are inherent in monetary policy. In addition, the model indicates that monetary policy would leave a different legacy for the economy. Since the fiscal policies would all involve higher interest rates than those involved with monetary policy and, therefore, have a comparatively smaller stimulative effect on private investment expenditures, the economy's private productive capacity would be less in the future with the fiscal policies.

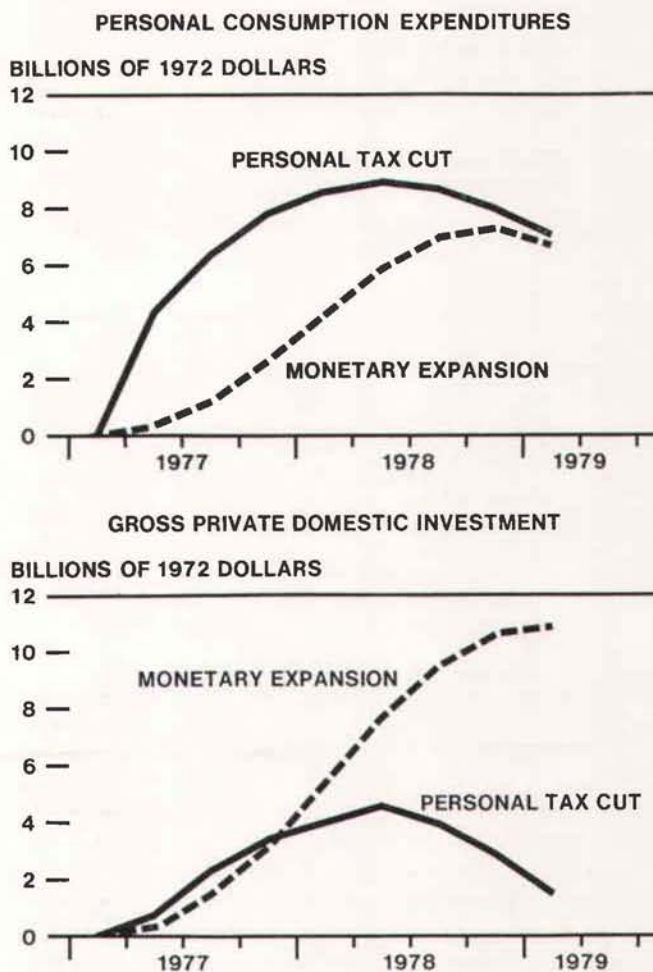
The effects of higher interest rates are especially important in residential construction. After six

3. In fact, we could have described the monetary policy alternative in terms of the interest rates, as shown in Figure 1, rather than money growth rates.

Figure 2

Consumption and Investment Paths For Alternative Policies

(Variables expressed as differences from values likely to occur in absence of policy change)



quarters of reduced personal taxes, real residential construction is unchanged by the policy, whereas it is increased by \$3.5 billion in the simulation of a roughly equivalent change in monetary policy.⁴ The choice between monetary and consumer-oriented fiscal policies, therefore, appears to involve basic differences in society's allocation of output between

4. These expenditures actually declined \$1.4 billion in an alternative simulation of a tax cut in which the marginal tax rate was reduced rather than the level of taxes directly. Large tax incentives to homeownership are diminished by a reduction in the tax rate. This increases the effective cost of residential capital in the MPS model.

current consumption and additions to its capital stock.

The differential impacts of monetary and fiscal policies on consumption *vis-a-vis* investment are illustrated in Figure 2, which shows the consumption and investment paths in the simulations of a personal tax cut and an increase in the rate of growth of money.⁵ Because the tax cut puts extra spending power directly in the hands of consumers, its effects are quickest and most concentrated on consumption. As a result, the model shows that consumption would be higher with the tax cut than with monetary policy throughout the simulation period, although the gap narrows considerably by the end. The outlook for the future is reflected in the paths of investment spending. The lower interest rates produced by the monetary policy would be expected to stimulate greater investment, and the resulting increased productive capacity would allow higher consumption or investment beyond the simulation period.

5. Investment is defined as gross private domestic investment, which includes business fixed investment, residential construction, and the change in business inventories.

Combinations of policies. It is sometimes argued that monetary and fiscal policies interact so as to provide greater stimulation than would be provided by monetary policy acting alone plus fiscal policy acting alone. If there is such a synergistic effect, it would be inappropriate to judge fiscal policy in the absence of such accommodation. Accordingly, the permanent personal tax cut was simulated with a monetary policy that kept the three-month Treasury bill rate from rising above what it would have been without the fiscal stimulus. A simulation with this identical path for the money stock but without the tax cut was also performed, as was one with the tax cut but no accommodative monetary policy. These

There appears to be no synergistic effect that would provide support for some combination of monetary policy and fiscal policy as opposed to either by itself. Considerations of equity and attitudes toward growth may, nevertheless, argue for combinations of policies.

Table 2

**TOTAL AND PARTIAL EFFECTS
OF MONETARY AND FISCAL POLICIES**

(Variables expressed as differences from values likely to occur in absence of policy change)

Economic variable	Policy alternatives		
	Personal tax cut plus accommodative monetary policy ¹	Personal tax cut only	Accommodative monetary policy only ¹
Unemployment rate (Percent)			
1978—first quarter	-0.6	-0.5	-0.1
1979—first quarter	-1.1	-.5	-.6
Inflation rate (Percent change in GNP implicit price deflator)			
1978—first quarter	.5	.4	.1
1979—first quarter	1.0	.5	.5
GNP (Billions of 1972 dollars)			
1978—first quarter	16.4	12.7	3.7
1979—first quarter	24.2	7.6	16.7
Three-month Treasury bill rate (Percent)			
1978—first quarter	.0	.5	-.4
1979—first quarter	.0	.5	-.5

1. The quarterly annualized M_1 percentage growth rates, beginning with the second quarter of 1977, were 5.9, 6.1, 6.3, 6.3, 6.3, 6.3, 6.2, and 6.2.

simulations give some indication whether the whole is greater than the sum of its parts.

The three policies and their impacts on the economy are summarized in Table 2. For the key variables presented there, the effects of the accommodative policy as indicated by the model are approximately the sum of the effects of the monetary and fiscal policies considered in isolation. Thus, there appears to be no synergistic effect that would provide support for some combination of monetary policy and fiscal policy as opposed to either by itself.

Considerations of equity and attitudes toward growth may, nevertheless, argue for combinations of policies. Each of the policies considered affects some industries more than others. For example, monetary policy has its strongest impact on housing. The tax rebate has its strongest impact on the consumer durables industry. Other tax measures, such as an

investment tax credit, have widely varying effects from industry to industry. A combination of policies might limit the distortions that would likely stem from excessive reliance on a single policy tool.

Conclusion

The expansionary policies considered appear to differ with regard to both the focus and timing of their effects. Of the policies considered, the tax rebate brought the quickest results and the monetary policy the most delayed. Results of the simulations suggest that each of the policies could be expected to have a differential impact across industries. In general, monetary policy with its lower interest rates is investment-focused, and tax policies increasing disposable personal income are consumption-focused. Furthermore, the combination of monetary and fiscal policies considered does not appear to entail any interactive effects beyond component effects.

New par bank

McMullen County State Bank, Tilden, 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 January 5, 1977, remitting at par. The officers are: W. L. Miller, President, and James Dusek, Cashier.



Federal Reserve Bank of Dallas

February 1977

Eleventh District Business Highlights

LOAN DEMAND STRENGTHENS

Loan demand at large weekly reporting banks in the Eleventh District picked up significantly in late 1976, and further growth is in prospect. But the moderate growth in loans was not sufficient to absorb the sizable increase in time and savings deposits. Most of the additional funds were used to acquire short- to intermediate-term U.S. Government securities. Thus, large commercial banks in the District began 1977 in a very favorable position to accommodate a strong increase in loan demand this year.

The volume of total loans outstanding rose substantially in December to a level 11 percent higher than a year earlier. While much of the growth in December reflected seasonal factors, several business sectors—notably wholesale trade, construction, and service industries and producers of some durable goods—increased their borrowing more than usual.

Strengthening in the rate of economic recovery and more optimism about the outlook for inflation were reported to be major factors in the pickup in business loan demand. Short-term interest rates fell sharply in the last two months of 1976, and a number of businesses acted to draw on their bank credit lines in anticipation of some tightening in credit as the economy gathers momentum.

The outlook for continued growth in overall business loan demand appears good. Increased consumption expenditures should result in a sizable pickup in credit demands at commercial banks as businesses borrow to finance inventory rebuilding and the accompanying production costs.

Recent interest rate increases in the capital market have resulted in

some postponement of proposed corporate offerings. Businesses that delay long-term financing may use their bank credit lines more extensively as an interim source of funds until market conditions become more favorable.

The major negative factor in the outlook for business loan demand at this time appears to be the energy problem. While the fuel shortage is not expected to affect the District economy as heavily as elsewhere in the nation, curtailed production in other areas could lead to shortages of materials and unfinished goods used by some southwestern businesses and, hence, less need for credit.

Despite continuing high, albeit softening, mortgage interest rates and sharply higher land and construction costs, construction activity in the District—particularly residential building—picked up significantly in the last half of 1976. The increase in real estate loans fol-

lowed 21 months of flat or declining demand for such loans. Demand for these loans was particularly strong in the July-October period, rising to a level 12.5 percent higher than a year earlier. Most recently, the rate of increase in real estate loans slowed considerably in November and December, as it had in comparable periods of other recent years.

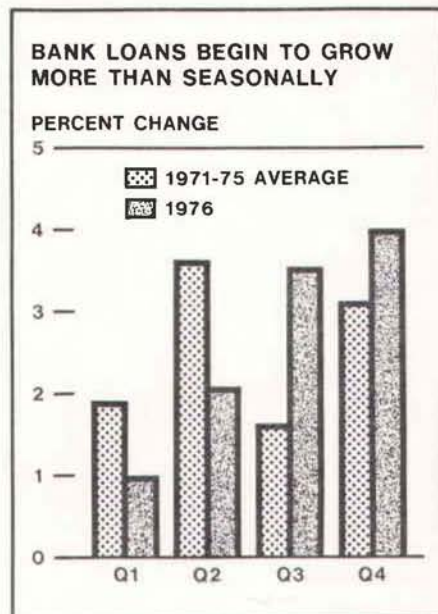
Nevertheless, the outlook for construction in the District is very bright—especially for residential building, where demand remains high and the supply of mortgage funds at slightly lower rates appears ample. The demand for nonresidential building also has begun to pick up in large metropolitan areas.

Consumer loans rose 1.3 percent in December—the largest gain for that month since 1972. For all of 1976, consumer loans rose 9 percent. Consumers began the year by repaying their bank debt, and outstanding consumer loans at banks fell 1.3 percent through April. Since then, however, consumer loan demand has risen sharply—especially demand for loans to finance new automobiles and credit-card purchases.

Although new automobile sales weakened late last year, the slowdown was not due to lack of credit but, rather, low inventories of larger cars. The tight inventory situation has apparently been reversed, and new cars are selling well.

The latest national survey of consumer attitudes revealed that consumers became more optimistic about future inflation in late 1976. This optimism helped make retail sales stronger than anticipated in December, and industry spokesmen generally expect the strength to continue this year.

(Continued on back page)



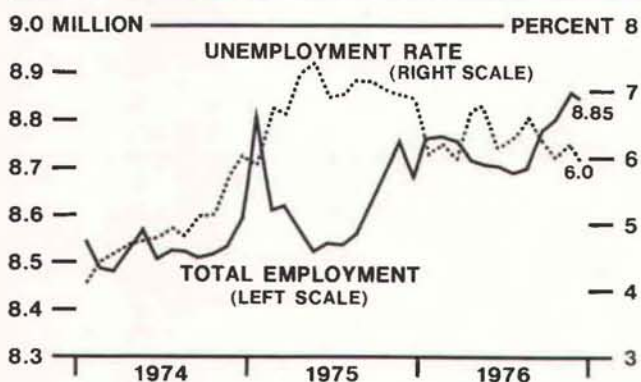
INDUSTRIAL PRODUCTION (SEASONALLY ADJUSTED)



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

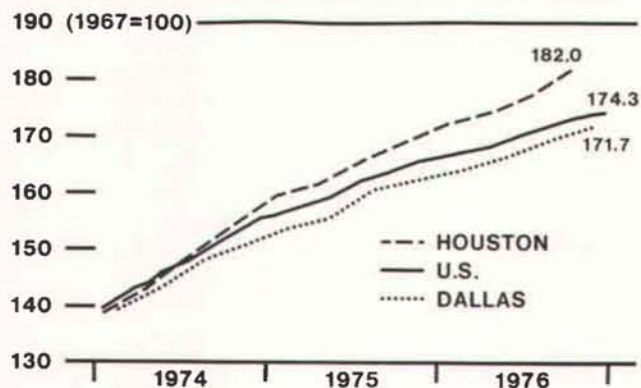
EMPLOYMENT AND UNEMPLOYMENT

FIVE SOUTHWESTERN STATES¹
(SEASONALLY ADJUSTED, BY FRB)



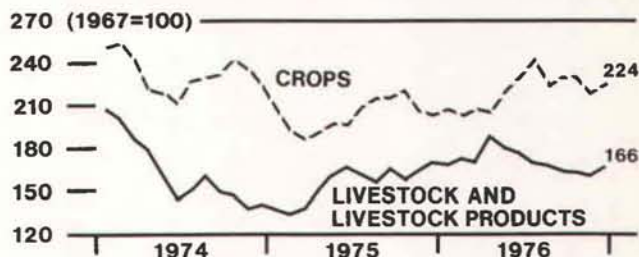
1. Arizona, Louisiana, New Mexico, Oklahoma, and Texas.
SOURCE: State employment agencies.

CONSUMER PRICES



SOURCE: U.S. Bureau of Labor Statistics.

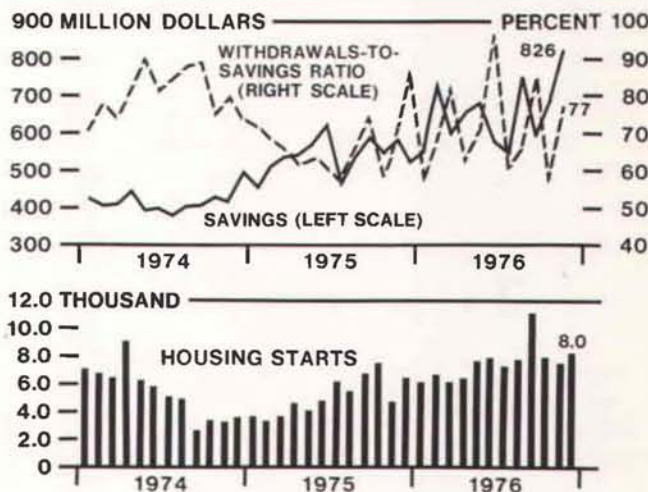
PRICES RECEIVED BY TEXAS FARMERS



SOURCE: U.S. Department of Agriculture.

SAVINGS AND LOAN ASSOCIATION ACTIVITY AND HOME BUILDING IN TEXAS

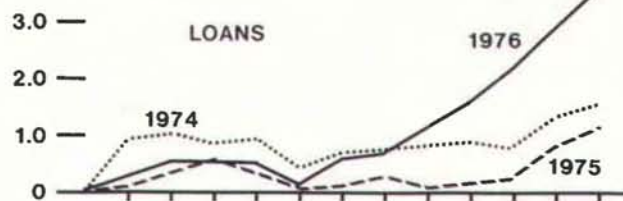
(SEASONALLY ADJUSTED, BY FRB)



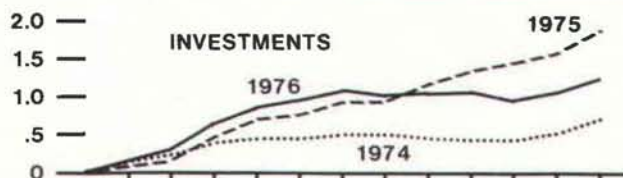
SOURCES: Bureau of Business Research, University of Texas.
Federal Home Loan Bank of Little Rock.

CONDITION STATISTICS OF ALL MEMBER BANKS
ELEVENTH FEDERAL RESERVE DISTRICT
(CUMULATIVE CHANGES)

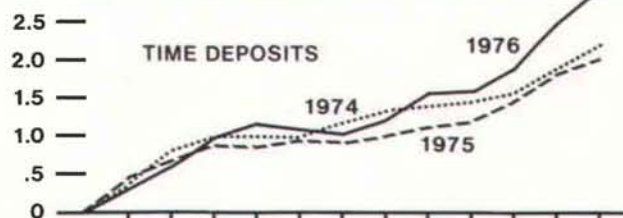
4.0 BILLION-DOLLAR CHANGE



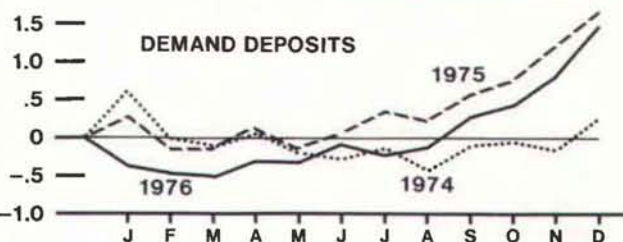
2.5 BILLION-DOLLAR CHANGE



3.0 BILLION-DOLLAR CHANGE

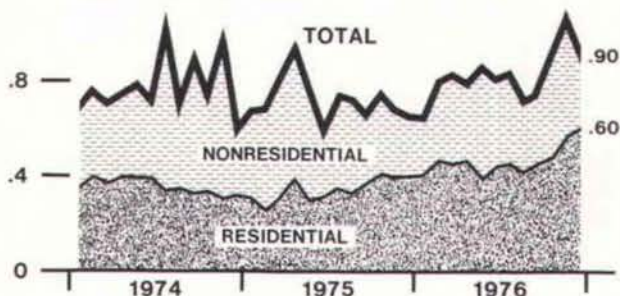


2.0 BILLION-DOLLAR CHANGE



BUILDING CONTRACTS
FIVE SOUTHWESTERN STATES¹
(SEASONALLY ADJUSTED, BY FRB)

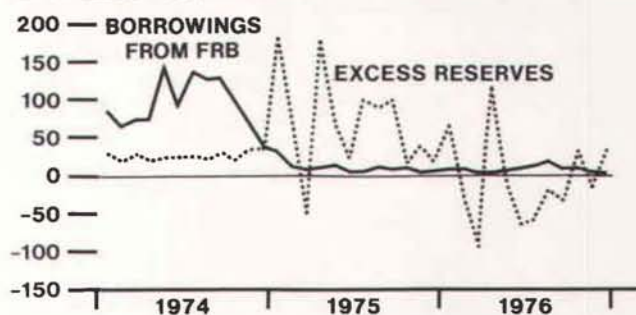
1.2 BILLION DOLLARS



1. Arizona, Louisiana, New Mexico, Oklahoma, and Texas.
SOURCE: F. W. Dodge, McGraw-Hill, Inc.

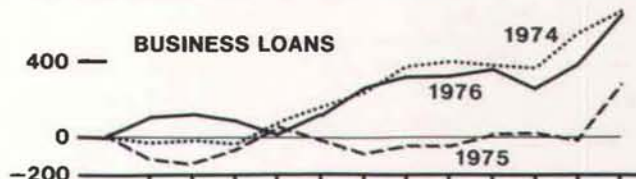
RESERVE POSITION OF MEMBER BANKS
ELEVENTH FEDERAL RESERVE DISTRICT
(MONTHLY AVERAGES OF WEEKLY DATA)

250 MILLION DOLLARS

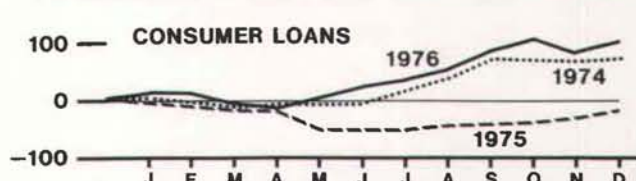


LOANS AT WEEKLY REPORTING BANKS
ELEVENTH FEDERAL RESERVE DISTRICT
(CUMULATIVE CHANGES)

800 MILLION-DOLLAR CHANGE



200 MILLION-DOLLAR CHANGE



FOREIGN TRADE
HOUSTON CUSTOMS REGION
(SEASONALLY ADJUSTED, BY FRB)

1.4 BILLION DOLLARS



SOURCE: U.S. Department of Commerce.

TERRITORY TRANSFERRED

The Board of Governors of the Federal Reserve System approved the transfer of Arizona's five southwestern counties from the Eleventh to the Twelfth Federal Reserve District, effective January 1, 1977. That reduces the boundary of the Eleventh District to include only the previously served portions of Louisiana, Oklahoma, and New Mexico and all of Texas. Therefore, state data reported by this Bank, primarily on building contracts and employment, will be aggregated and published for the four-state area in future publications.

OUTPUT OF MAJOR INDUSTRIES IN TEXAS LAGS RECOVERY

The Texas industrial production index, seasonally adjusted, rose 1.6 percent in December from a month earlier to an estimated 133.1 percent of the 1967 base. That sharp rise put the index only 2.1 percent above a year earlier.

A slowdown in the rate of industrial production to the long-run trend of growth is expected following a burst of output in the initial stage of an economic recovery. But the sluggish performance of the Texas industrial production index last year was aggravated by four straight months of decline in output from February to June.

A major drag on total output last year was the poor performance by the mining sector. Production of crude oil and natural gas trended down for the third year in a row. And drilling activity, which began the year by declining five months in a row, did not recover sufficiently to offset the drop in oil and gas production.

Total production of durable and nondurable manufactures increased sharply in December and ended the year 4.8 percent above December 1975. But some of the state's major industries did not fare this well.

Production of apparel and transportation equipment—the third- and fourth-ranking manufacturing industries on the basis of employment—actually fell last year. And if output had not surged in December in nonelectrical machinery and food and kindred products—the first- and second-ranking industries—production in these two industries would

have been little changed from a year earlier. Output of stone, clay, and glass products also rose rapidly at year-end to put that industry's production above a year earlier.

Apparel was the most depressed of the major industries in Texas at year-end, as output was down 12 percent from a year earlier. The decline fell heavily on El Paso. It was estimated that 3,000 apparel workers, or 2 percent of the labor force, were laid off in that city alone last year.

Production of transportation equipment trended down most of last year and ended 1976 about 3.7 percent below the level of December 1975. Much of the decline reflected a slowdown in U.S. Government contract commitments for aircraft and helicopters. Despite the falloff in domestic sales, foreign orders provided moderate to strong demand throughout most of last year.

Because two-fifths of the non-electrical machinery manufactured in Texas is oil field equipment, production in that industry follows the level of drilling activity. Output of equipment fell in the first half of the year and rose in the second. But the inflow of new orders for oil field equipment slowed in the fall, despite an increase in the number of active drilling rigs to their highest level in 17 years. Although production of nonelectrical machinery ended the year 5.4 percent above a year earlier, most of that gain occurred in December.

Output of food and kindred products remained virtually unchanged through most of 1976 but rose sharply in December. The weakest segments in food output last year were grain products and fruit and vegetable processing.

Output of stone, clay, and glass in Texas trended down steadily through the first 11 months of last year. In December, however, production surged to 2.9 percent above a year earlier. The slump in output of these materials reflected the slowdown in nonresidential construction. Highway construction, in particular, was hard hit as a drop in both Federal and state funding reduced the number of contracts let, resulting in decreased demand for aggregates and cement.

OTHER HIGHLIGHTS:

- The unemployment rate for the five southwestern states fell in December to 6.0 percent of the total civilian labor force from 6.2 percent a month earlier. Despite a sharp drop in unemployment, total employment declined slightly, after increasing four straight months.

Total nonagricultural employment advanced for the sixth consecutive month. The strongest gains were in contract construction and durable goods manufacturing. Trade employment declined slightly.

- The value of total construction contracts in the five southwestern states climbed sharply in December from a month earlier. The gain was centered largely in nonbuilding construction, where three large contracts for natural gas systems in Texas boosted the total by \$261 million.

The total value of contracts for structures in December declined sharply from the month before. Nonresidential building contracts dropped 39.2 percent, while residential building contracts rose 5.8 percent.

Housing starts in Texas climbed to 8,006 units, seasonally adjusted, in December. Except for the surge in starts last September, that was the highest level since April 1974.

- Average prices received by Texas farmers and ranchers for farm commodities increased slightly in the month ended December 15. Gains in both crop and livestock prices contributed to the increase.

Higher soybean prices and a slight improvement in grain prices helped push the index of crop prices up 3 percent. Cotton prices, however, declined moderately as buyers took a wait-and-see position after a December 1 report of the U.S. Department of Agriculture increased the estimated cotton crop by a surprising 400,000 bales.

Livestock prices also averaged 3 percent higher in the latest reporting period to end a seven-month decline in the index of livestock prices. A slight decrease in prices for broilers was more than offset by increases in prices for other livestock, eggs, and milk.