

# FEDERAL RESERVE BANK OF ST. LOUIS

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# REVIEW



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# A Guide to Capital Outlays in the Current Recovery

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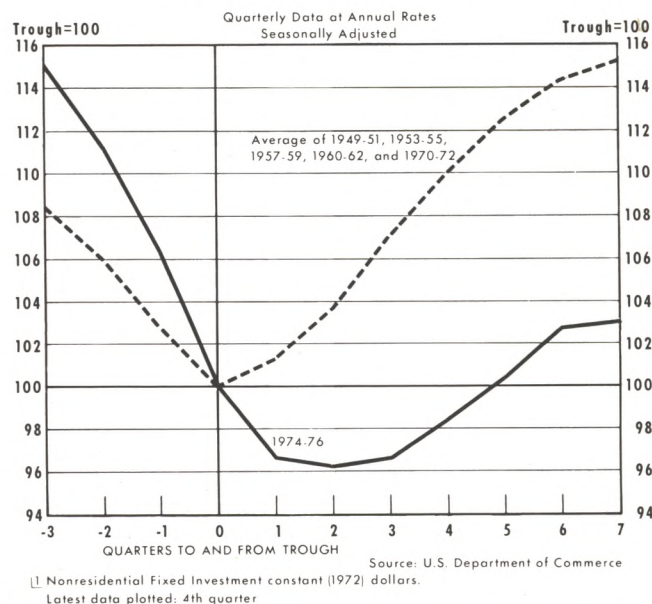
**M**UCH concern has been expressed of late about the atypically sluggish rebound in real fixed investment expenditures in the current recovery.<sup>1</sup> Such concern reflects the important role of fixed investment in a dynamic economy—it not only serves to augment the current pace of economic activity, but also influences the sustainability of the economy's upward momentum beyond "recovery."

To understand the sluggish rebound in capital outlays to date and to assess the likely course of such outlays, it is useful to examine the atypically severe decline in capital outlays that preceded the current recovery. A theory of the investment process provides a useful frame of reference in understanding the past evolution of fixed investment outlays and in assessing their prospective course.

The investment process is fundamentally a process of adjusting the firm's existing capital stock to some desired level. The desired capital stock is ultimately determined by expected net return, which is influenced by such factors as sales expectations, the acquisition cost of new capital, the expected cost of employing capital, and business tax considerations. Reflecting downward revisions in expectations of net return (as reflected in capital commitments data), capital outlays plummeted in the most recent recession.<sup>2</sup> Two factors most responsible for the decline in expected net return appear to be (1) a decline in sales expectations and (2) a rise in the acquisition cost of new capital goods. Both factors are influenced, in turn, by the sudden and unexpectedly sharp increase in the relative price of energy and the cumulative effects of increasingly exacting government regulations.

The anemic rebound in capital outlays in the current recovery can be attributed to the less than robust

Chart I  
Fixed Investment Expenditures <sup>1</sup>



upward revisions in the expected net return on investment, as reflected in investment commitments data. The severity of the preceding recession is partially responsible since it left the balance sheets of many firms in a vulnerable position, as witnessed by the dramatic increase in the incidence of business failures. An additional factor responsible for the sluggish rebound in actual capital outlays has been the systematic shortfalls in capital outlays relative to intended outlays. Such shortfalls appear to be the result of decisions to defer, rather than cancel, investment plans.

The process of rebuilding balance sheet positions appears to have been completed. The rate of increase in the acquisition cost of new capital goods relative to the price of output in general has slowed. In addition, there has been a sustained increase in the utilization rate of both human resources (as measured by the ratio of the number of individuals employed to the population of working age) and capital resources throughout the recovery to date. In view of both these

<sup>1</sup>See "The Business Situation," *Survey of Current Business* (October 1976), p. 8. Unless otherwise noted, all references to expenditures are in real terms.

<sup>2</sup>The capital commitments data analyzed in the paper are to be found in Series no. 20, "Contracts and Orders for plant and equipment billions of 1972 dollars," U.S. Department of Commerce, *Business Conditions Digest* (January 1977). This series is considered a leading indicator of both general economic activity and the actual flow of fixed investment expenditures.



developments and the likely "catch-up" of deferred outlays, a sustained but modest upward revision in the desired capital stock relative to the actual stock is expected. Such an upward revision will be reflected in increased investment commitments before it is translated into an increased flow of actual capital expenditures.

## THE INVESTMENT PROCESS

### *The Decision to Increase Capital Stock*

Capital formation, or investment, entails a sacrifice of present consumption opportunities in return for an expected increase in such opportunities in the future. Since the present is relatively certain whereas the future is not, capital formation involves *certain* sacrifice currently for *uncertain* returns in the future.<sup>3</sup> Therefore, investment decisions are influenced by attitudes toward risk, changes in perception of risks associated with the outcome of investment decisions and, most fundamentally, by expectations of net return.

The expected net return on investment is influenced, in turn, by a complex of such factors as (1) sales *expectations*, (2) the *expected* tax treatment of business income, depreciation, and equipment purchases, (3) the acquisition cost of new capital goods, and (4) the *expected* cost of conforming to environmental and safety regulations. These factors jointly influence the *expected* value of output relative to the cost of using capital to produce that output and, hence, the investment decision. Attempts to represent the unobserved *expected* variables by observed proxy variables are still at an exploratory stage. Some examples of proxy variables that have been tried are final sales and changes in them, corporate cash flows, capacity utilization rate, value of the firm, corporate bond rate, the ratio of profits to fixed assets, and the tax structure. The estimated link between these variables and investment expenditures continues to be the subject of much controversy. There are as many theories of investment as there are different judgments as to the best empirical proxies for the determinants of the expected net return on investment and, thereby, of the desired capital stock.<sup>4</sup>

<sup>3</sup>For a modern restatement and extension of this basic Fisherian view of investment, see Jack Hirshleifer, *Investment, Interest, and Capital* (Englewood Cliffs: Prentice-Hall, 1970). For the original treatise, see Irving Fisher, *The Theory of Interest* (New York: Kelley and Millman, Inc., 1954).

<sup>4</sup>For a survey of such theories, ranging all the way from the naive accelerator to a sophisticated neoclassical theory, see Dale W. Jorgenson, "Econometric Studies of Investment Behavior: A Survey," *Journal of Economic Literature* (December 1971), especially pp. 1128-29.

### *The Timing of Investment*

General agreement exists, however, that investment at the individual firm level is usefully viewed as an attempt to adjust the firm's existing capital stock to some desired level. Such adjustment takes place over time, both for technological and economic reasons, and therefore, the investment process at the firm level can be viewed as a multi-stage decision process.<sup>5</sup> First, a decision is made as to whether the actual capital stock differs from the desired capital stock. Next, through such processes as budgeting, appropriations, and actual placing of orders and contracts, the timing of investment expenditures to achieve the desired stock is determined. The actual flow of investment outlays is the final stage in the process and represents the realization of intended investment outlays.<sup>6</sup> The process is also ongoing in that a continuous reassessment of both the previously determined level of desired capital stock and the timing of investment outlays takes place.

The decision as to the size of the desired capital stock, which is made in the first stage of the process, is revealed by movements of the data on capital investment *commitments*.<sup>7</sup> Capital investment commitments have been found to be a useful indicator of future movements in investment outlays.<sup>8</sup>

The linkage between the commitments and the subsequent investment expenditures is not watertight, however, and three factors appear to account for the slippage: first, outright cancellations of orders and contracts; second, deferral of orders; and third, supply constraints in the capital goods sector which delay the delivery of orders and construction of plants on time.

<sup>5</sup>The paper by Jorgenson cited above also surveys various empirical attempts to represent the time structure of the investment process by various distributed lag functions (such as the geometric and rational). See Jorgenson, "Econometric Studies," pp. 1134-38.

<sup>6</sup>For a discussion of the various stages of the investment process, see Victor Zarnowitz, *Orders, Production, and Investment — A Cyclical and Structural Analysis* (New York: National Bureau of Economic Research, 1973), especially Chapter 9. For an analysis of realization of intended investment outlays, see Robert Eisner, "Realization of Investment Anticipations," *The Brookings Quarterly Model of the United States*, ed. James S. Duesenberry, Gary Fromm, Lawrence R. Klein and Edwin Kuh (Amsterdam: North-Holland, 1965), pp. 95-128.

<sup>7</sup>A variable such as capital investment commitments is known as a *symptomatic* variable for investment expenditure, as opposed to such *causal* variables as final sales, corporate profits after taxes, corporate cash flow, capacity utilization rate and the price of capital services (which often are used as proxies for the expected return).

<sup>8</sup>See Zarnowitz, *Orders, Production, and Investment*, pp. 465-75.



The first factor, *cancellation*, reflects a reassessment of decisions reached at the first stage of the investment process—that is, an adjustment downward in the level of the desired stock of capital. Such a reassessment would be triggered by a deterioration in the perceived profitability of investment and would be reflected in a decrease in outstanding investment commitments. However, the second factor, *deferral*, reflects changes in the timing of investment rather than any substantial revisions in the desired stock of capital. Any firmly-held expectation of imminent changes in government policy, such as an increase in the investment tax credit, for example, will affect the deferral decision. The third factor, based on *supply constraints*, is qualitatively different from the first two in that the shortfall in actual investment outlays relative to commitments is likely to reflect an excess rather than a deficient aggregate investment demand.

## CAPITAL INVESTMENT DURING THE DOWNTURN

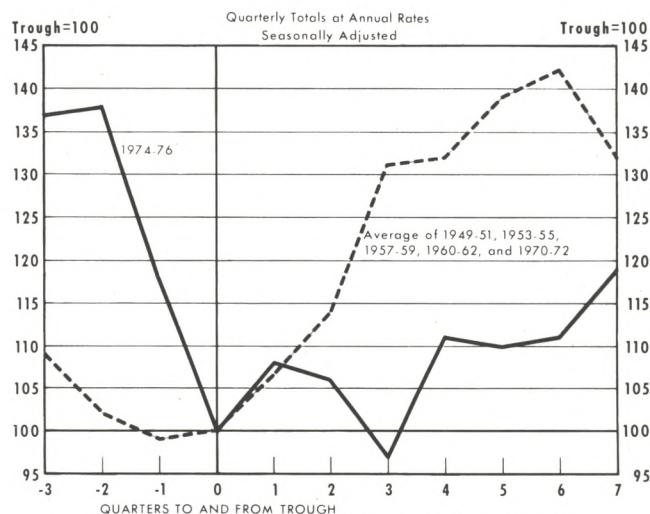
The decline in real plant and equipment investment in the most recent recession has been the severest of all the postwar cycles in terms of both magnitude and duration.<sup>9</sup> The steep decline in plant and equipment spending was signalled by a steep decline in capital investment commitments, as shown in Chart II. The commitments data indicate the extent of deterioration in business expectations about the profitability of investments during the most recent recession. The downturn in investment spending, measured at constant prices, in the 1973-75 recession was as severe, for example, as in the 1957-58 downturn. However, investment commitments fell much more sharply in the most recent downturn, indicating a sharp deterioration in the prospective return on investments that had not characterized prior periods of economic recession.

### The Impact of Exogenous Shocks

The sharp decline in the commitments data suggests that the discrepancy between the desired and the actual stock of capital fell sharply in the recent recession. This fall in the desired relative to the actual capital stock is traceable to adjustments made by both

<sup>9</sup>The nonresidential fixed investment (NRFI) component of GNP is composed of the producers' durable equipment and "construction other than residential nonfarm" components of the national income accounts. Business fixed investments (BFI) is arrived at by excluding from NRFI farm equipment and construction, construction by private nonprofit institutions, capital outlays charged to current expenses and capital outlays of independent professionals. The movements in the two series (NRFI & BFI) are statistically indistinguishable, however.

Chart II  
Capital Investment Commitments<sup>11</sup>



the producers and potential buyers of newly produced capital goods to external shocks, such as the quadrupling in oil prices and increasingly stringent regulatory mandates. Both factors have caused a drastic and largely unexpected increase in the cost of using many existing productive facilities and technology. Such an increase in cost reduces the observed utilization rate of the *existing* capital stock and, holding other factors constant, increases the demand for *new* capital goods that embody more energy-efficient and regulation-conforming technologies. The *observed* utilization rate of productive capacity would have a downward bias to the extent that it does not fully reflect the accelerated economic obsolescence of the existing capital stock.<sup>10</sup>

If the economy in general, and the buyers and producers of capital goods in particular, had made adjustments to these shocks instantaneously and without cost, there would not have been any decrease in the utilization of labor and capital resources.<sup>11</sup> There would simply have been a shrinkage in the size of capacity output. However, such costless and instantaneous adjustments are not possible in the world we

<sup>10</sup>For an analysis which presents significant indirect evidence corroborating the view that there is such a downward bias, see Denis S. Karnosky, "The Link Between Money and Prices—1971-1976," this *Review* (June 1976), pp. 17-23.

<sup>11</sup>The adjustment was complicated by the world-wide repercussions of the energy-price rise and other fortuitous factors. For a detailed analysis of the various causes of the most recent recession, see Norman N. Bowsher, "Two Stages to the Current Recession," this *Review* (June 1975), pp. 2-8.



live in, which is characterized by: (1) imperfect information regarding market and productive opportunities, (2) resistance to and constraints on downward adjustments in real wages which would have been necessary to conform to the reduction in the capital-labor ratio and the size of the total output, and (3) less than perfectly malleable capital.

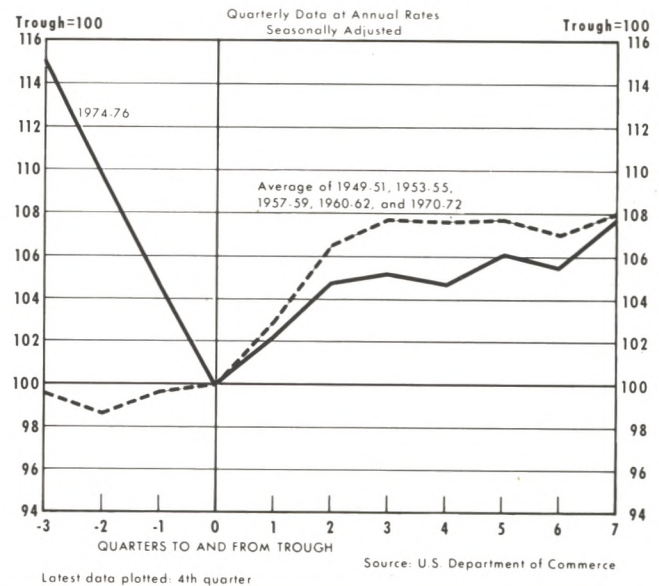
In such a world, a sudden and unexpected acceleration in the obsolescence of existing capital stock induces an increase in the unemployment of labor during the adjustment period.<sup>12</sup> The increase in unemployment tends to generate, in turn, a decline in income and employment prospects of both the employed and the newly unemployed workers. Precautionary belt-tightening ensues, as reflected in deterioration in the index of consumer sentiment and a decline in the volume of retail sales. This in turn causes business to become skeptical about sales prospects and tends, for a time at least, to dampen demand for new capital. The desire to replace obsolete capital tends to be dominated by overall pessimism about the profitability of even the *new* capital. A further adverse feedback effect on the capacity utilization rate and the desired stock of capital ensues.

The steep decline in the composite index of sensitive financial flows during the recent downturn is indicative of such a deterioration in near-term income and employment prospects. This induces nonbusiness economic units to tighten belts and attempt to strengthen their balance sheet positions to cope with the "foreseeable" contingencies (Chart III).<sup>13</sup> Such a retrenchment by nonbusiness economic units would adversely affect near-term business expectations of net return on investment.

### Impact of Capital Goods Prices

The behavior of the price and quantity of newly produced capital goods during the recent downswing suggests that the rise in the supply price of new capital goods also had a depressing effect on the

Chart III  
Composite Index of Money and Financial Flows



desired stock of capital. Two factors impinging on the producers of new capital goods — (1) the cost of adopting and embodying more energy-efficient technologies and (2) the cost of conforming to the myriad regulatory mandates — added substantially to the cost of producing capital goods, thereby reducing the supply of new capital goods.<sup>14</sup>

The price of new capital goods escalated at a substantially faster rate than that of goods in general throughout the whole period of recession (Chart IV). Such an occurrence is unprecedented in the postwar period and tends to dampen the quantity of additional capital demanded. The fundamental reason for this, of course, is that higher and rising prices of new capital goods, when not matched by optimistic expectations of higher and rising future net revenue streams from these goods, reduce the expected net return on investment.

An alternative way to characterize the "ultimate" determinant of the desired capital stock and the entailed investment spending is in terms of the discrepancy between the price of existing capital goods and the cost of reproducing them.<sup>15</sup> We do not as yet

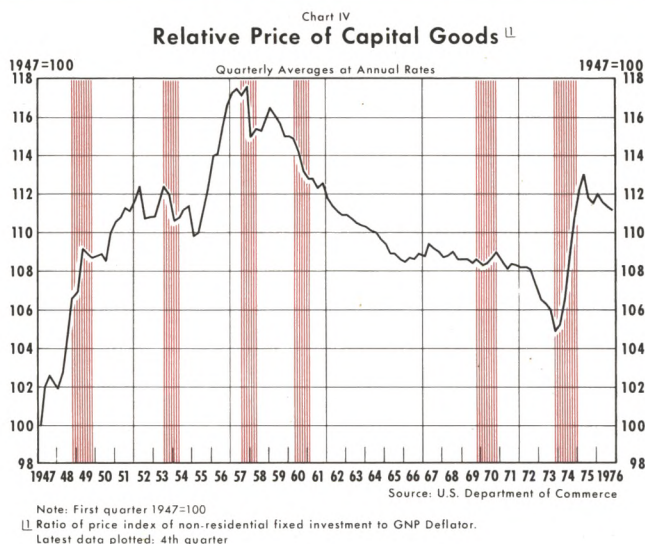
<sup>12</sup>Such an increase in unemployment is triggered by the decline in the demand for labor induced by a reduction in the effective capital stock consequent to the accelerated obsolescence of existing capital stock. If capital were perfectly malleable, capital could not become obsolete.

<sup>13</sup>The Department of Commerce recently revised some of its data series published in the *Business Conditions Digest*. The Composite Index of Sensitive Financial Flows was renamed the Composite Index of Money and Financial Flows and its components changed. Previously composed of changes in consumer installment debt, business loans, mortgage debt and money supply (M1) in current dollars, it currently is made up of changes in total liquid assets (M7), M1 in 1972 dollars, and total private borrowings.

<sup>14</sup>For a documentation of the increase in the cost of conforming to regulatory constraints, see Murray L. Weidenbaum, *Government-Mandated Price Increases: A Neglected Aspect of Inflation* (Washington, D.C.: American Enterprise Institute for Public Policy Research, 1975), Domestic Affairs Study, No. 28.

<sup>15</sup>This analysis abstracts from the heterogeneity of capital goods.





have a reliable index of the price of existing capital goods. However, there is likely to be a significant positive relationship between the movement in the (unobserved) price of capital goods and (observed) equity prices. The reasons are: the price of existing capital goods represents the present value of the expected net earning stream derived from them, and at the same time the value of ownership claims on corporations derives in part from the present value of the expected net earning stream of capital goods owned by the corporation. In view of the sharp decline in equity prices during the 1973-75 downturn, it is reasonable to infer that a price index of existing capital goods would have fallen, or at least, not have risen. In contrast, the cost of producing new capital goods has risen sharply, thereby making the acquisition of such goods less attractive in general. In addition, should such a unique experience regarding the price of capital goods increase uncertainty as to its future course, it would effectively foreshorten the time horizon for investment decisions. This would tend to reduce the desired capital stock by narrowing the menu of profitable investment opportunities.

## INVESTMENT DURING RECOVERY

The improvement in business expectations (as reflected in the commitments data) regarding the net return on investments since the recession trough in March 1975 has been modest relative to the other recoveries (see Chart II). Six quarters into the recovery, commitments in real terms were more than 30 percent below the level attained at the previous reference peak. In the previous recoveries, however, the

commitment levels attained at previous reference peaks were topped within two or three quarters, except for the 1970 episode when the full rebound to the previous peak was made in the sixth quarter of recovery.

The most important factor adversely impinging on business investment commitments in the current recovery has been the widespread concern shared by many businessmen for solvency and the state of balance sheets. That such a concern was well founded was underscored by the widespread, lingering incidence of business failures well into the current recovery. Business failures, as measured by the aggregate monthly amount of the current liabilities of failed businesses, reached a climactic high of \$1,295 million in October 1975, two quarters into the recovery.<sup>16</sup> Such widespread business failures reflect a generally weakened balance sheet position of business firms, due variously to the recession-induced decline in profits and the inflation-induced increase in real tax liabilities.

For example, in an inflationary environment, the use of first-in first-out inventory accounting methods and the basing of depreciation charges on historical cost, overstate the extent of profits, thereby increasing the real tax liabilities. To compound the difficulties, many businesses were burdened with a debt-heavy capital structure, itself a legacy of favorable tax treatment of debt relative to equity capital.

The goal of solvency became a target of immediate concern in many business firms and the entailed strategy of repairing their balance sheet positions was adopted by many business firms. The debt structure was lengthened. Cash flows and the equity market were used to build up ownership claims and reduce indebtedness. In the process, the expansion strategy based on increased net investment outlays was temporarily deferred and the rebound in investment outlays lagged.<sup>17</sup> Business cash flows were used to augment balance sheet positions rather than to increase spending on capital goods.<sup>18</sup> The sustained improvement in the profitability index since 1975 has not yet

<sup>16</sup>For perspective, the highest postwar figure prior to the most recent recession was \$253 million in August 1972.

<sup>17</sup>For an analysis of different types of grand business strategies, see William F. Glueck, *Business Policy Strategy Formation and Management Action*, 2nd ed. (New York: McGraw-Hill, 1976), pp. 120-47.

<sup>18</sup>For a recent account of balance sheet rebuilding, see "Firms Spend Carefully, Pay Off Much Debt and Build Liquidity," *The Wall Street Journal* (January 13, 1977), pp.1 and 8.



been mirrored either in the commitments data or in real investment outlays.<sup>19</sup>

## Outlook

Recovery in the investment commitments data has been sluggish and so has the recovery in investment outlays in the current recovery to date. The slow recovery in the commitments data reflects the lag in revising upward the desired capital stock relative to the actual. But what of the outlook? Any upward revision in the desired capital stock probably would be reflected in the commitments data prior to the actual increase in the flow of investment outlays. Available data on business balance sheets, profitability, money and financial flows, and the behavior of the relative price of capital goods indicate that a sustained but modest improvement in investment commitments and outlays is in store.

An additional factor which bears on this likely course of investment outlays is the observed relationship between actual investment outlays and the particular kind of investment anticipations data called "first anticipations" of capital outlays published by the Commerce Department.<sup>20</sup> The "first anticipations" series refers to the capital outlays business firms are planning to expend in the quarter immediately following the quarter in which the survey is taken. As such, it is even more closely correlated with the actual investment outlays than the commitments data. The reason is that the data reflect forecasts concerning how the outlays (which have been determined in the previous stages in the investment process concerning appropriations and placing of orders and contracts) would be allocated between the next quarter and beyond. The discrepancy between the actual and anticipated outlays reflects the same set of forces as that responsible for the aforementioned discrepancy between the investment commitments and the actual investment expenditures.

<sup>19</sup>The index is composed of adjusted corporate profits in 1972 dollars, the ratio of price to unit labor cost in manufacturing, and the stock price index. See *Business Conditions Digest* (November 1976), pp. 8 and 59. For a more detailed description of the behavior of aggregate business (corporate) balance sheet since 1960, see Timothy Q. Cook, "Net Corporate Saving in the 1970's," *Economic Review*, Federal Reserve Bank of Richmond (May/June 1976), pp. 3-13.

<sup>20</sup>For a discussion of the anticipations data and its relation to the commitments data, see Zarnowitz, *Orders, Production, and Investment*, pp. 433-42; also Arthur M. Okun, "The Value of Anticipations Data in Forecasting National Product," *The Quality and Economic Significance of Anticipations Data: A Conference of the Universities — National Bureau Committee for Economic Research*, National Bureau of Economic Research (Princeton: Princeton University Press, 1960), especially pp. 433-42.

Chart V  
First Anticipations of Business Investment  
as a Percent of Actual Expenditures

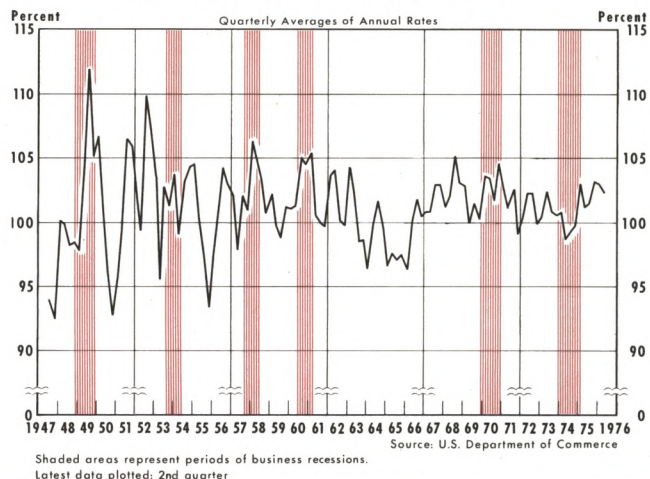


Chart V plots anticipated expenditures as a percent of actual expenditures. One-hundred percent indicates a perfect coincidence between the anticipated and the actual. Anything above 100 percent indicates a shortfall in actual relative to planned expenditures and vice versa. The chart shows that, in the current recovery, actual expenditures are yet to exceed the planned levels six quarters into the recovery.

Such a development is also unique in the postwar episodes. It appears to reflect the changes in the timing decisions (the deferral) of planned outlays rather than any substantial reassessment of prior decisions regarding the desired stock of capital. Such an interpretation appears reasonable, in view of 1) the behavior of the commitments data, 2) the fact that first anticipations data have steadily increased since the second quarter after the trough, and 3) the more than usual dose of uncertainty regarding the thrust of national economic policy. As the uncertainty regarding the economic policy environment (which was associated first with the presidential election and then with the thrust of the policy of the new Administration) recedes, the expected "catch-up" with this source of deferred outlays is likely to add strength to the recovery in investment outlays.

In sum, the near-term outlook for a gradual and modest rebound in business capital spending is favorable. However, it does not appear that capital spending will top the previous peak within the next two or three quarters, unless there is an unexpected shift in business expectations of net return on investment. Such a shift, should it occur, would be signaled first by a substantial rise in commitments — as yet, commitments have not emitted such signals.



# Operations of the Federal Reserve Bank of St. Louis - 1976

**A**S the central bank of the United States, the Federal Reserve performs three basic functions: the implementation of monetary policy, the supervision and regulation of member banks, and the provision of various services to the public, the U. S. Treasury, and commercial banks. These operations are conducted through the 12 regional Federal Reserve Banks located in Boston, New York, Philadelphia, Cleveland, Richmond, Atlanta, Chicago, St. Louis, Minneapolis, Kansas City, Dallas, and San Francisco. In addition, 25 branches of the 12 regional banks perform similar functions in territories served by such branches. The Eighth Federal Reserve District is served by the head office in St. Louis and branches in Little Rock, Louisville, and Memphis, and covers a region which includes the state of Arkansas and parts of Illinois, Indiana, Kentucky, Mississippi, Missouri, and Tennessee.

Since the formulation and implementation of monetary policy is discussed in other *Review* articles, this article reviews the volume of service functions performed by the Federal Reserve Bank of St. Louis and its branches during 1976. These services include supervising and regulating banks, collecting checks, transferring funds, supplying coin and currency, lending funds, and conducting fiscal agency operations for the Federal Government.

## **Bank Supervision and Regulation**

The Federal Reserve Bank of St. Louis, together with the state banking authorities, has responsibility for the supervision of the 82 state chartered banks in the Eighth Federal Reserve District which have elected to become members of the Federal Reserve System. An annual examination is made of state member banks in order to evaluate their assets, liabilities, capital accounts, liquidity, operations, and management. Attention is also focused on compliance with applicable laws and regulations. Information gathered from such examinations is utilized by banking authorities to direct attention to potential problems or unsatisfactory conditions. Supervision seeks to foster an

effective banking system in which the public interest is safeguarded.

Although they have authority to examine all member banks, Federal Reserve Banks generally do not examine national banks, which are required to be members of the Federal Reserve System. Primary responsibility for examination and supervision of national banks, which number 348 in the Eighth District, lies with the office of the Comptroller of the Currency. The Federal Deposit Insurance Corporation (FDIC), along with respective state banking authorities, examines state nonmember banks that are insured by the FDIC. Noninsured banks are examined only by state authorities.

Federal Reserve Banks also supervise bank holding companies. At the end of 1976, the Federal Reserve Bank of St. Louis had jurisdiction over 19 multibank and 77 one-bank holding companies. Prior approval must be obtained from the Federal Reserve System for bank holding company formations and for acquisitions of additional banks and permissible nonbank subsidiaries. Applications for holding company formations and for acquisitions of additional subsidiaries are analyzed by the Bank Supervision and Regulation Department along with the Legal and Research Departments. These departments consider the history, financial condition, and prospects of the institutions, and evaluate the quality of management. They also assess the legal aspects of the proposal and its likely effects on banking and nonbanking competition. During 1976, the Federal Reserve Bank of St. Louis received 17 applications to form one-bank or multibank holding companies and 25 applications by holding companies to acquire additional subsidiaries, engage *de novo* in nonbank activities, or establish new locations. Of this total, 33 applications were approved, 1 was disapproved, 1 was withdrawn, and 7 are currently being processed.

Upon formation, bank holding companies are required to register and thereafter to file annual reports with Federal Reserve Banks. These annual reports are



Table I

VOLUME OF OPERATIONS<sup>1</sup>

	Number (thousands)		Percent Change	Dollar Amount (millions)		Percent Change
	1976	1975		1976	1975	
Checks handled <sup>2</sup> . . . . .	667,678	628,079	+6.3%	\$254,357.5	\$225,061.2	+13.0%
Transfers of funds . . . . .	974	816	+19.4	870,732.2	748,395.6	+16.3
Coin received and counted . . . . .	1,139,960	1,160,485	-1.8	119.2	122.5	-2.7
Currency received and counted . . . . .	280,948	309,610	-9.3	2,806.9	2,648.1	+6.0
U.S. Savings Bonds and Savings Notes <sup>3</sup> . . . . .	12,745	11,659	+9.3	743.2	674.2	+10.2
Other Government Securities <sup>3</sup> . . . . .	481	576	-16.5	68,307.0	40,337.7	+69.3
U.S. Government coupons paid . . . . .	592	681	-13.1	266.4	267.7	-.5
Food Stamps received and counted . . . . .	133,019	163,733	-18.8	555.7	567.4	-2.1

<sup>1</sup>Total for the St. Louis, Little Rock, Louisville, and Memphis offices.

<sup>2</sup>Excludes U.S. Government checks and postal money orders.

<sup>3</sup>Issued, serviced, or redeemed.

analyzed by the staff of the Bank Supervision and Regulation Department to verify accuracy and completeness, to ascertain the current financial condition of the holding company and its subsidiaries, and to determine compliance with applicable laws and regulations. Examination reports submitted to the primary Federal supervisory agency of the respective bank subsidiaries are also analyzed by the Federal Reserve Bank to determine the overall condition of such subsidiaries. In addition, discretionary on-site inspections of bank holding companies and their nonbank subsidiaries are conducted by Supervision and Regulation personnel. The purpose of these inspections is similar to that of examinations of member banks.

### Check Collection

A major activity of the Federal Reserve System is the collection and clearing of checks drawn on commercial banks. Payment for checks drawn on a member bank is effected by a charge to the reserve account of that bank or the reserve account of a designated member correspondent bank. Checks drawn on a nonmember bank also are collected by a charge to the reserve account of a designated member correspondent bank.

As the economy expanded during 1976, check volume also increased. The Federal Reserve Bank of St. Louis and its Branches cleared 668 million checks totaling \$254 billion during the past year (Table I). This represented a 6.3 percent increase in the volume of checks and a 13 percent increase in the dollar value over 1975 levels.

In order to meet the System's goal of increasing the speed of the check payment process, the Federal

Reserve instituted a network of Regional Check Processing Centers (RCPC's). Through this network checks are collected overnight, thereby achieving prompt credit and payment for checks. Each of the four offices of the Eighth Federal Reserve District is a Regional Check Processing Center. The zones served by the Little Rock, Louisville, and Memphis Branches have been completely converted to RCPC collection methods. In addition, in order to provide improved check service, 47 banks in Indiana were transferred from the St. Louis Office to the Louisville Branch RCPC, effective February 1, 1976. This transfer of banks affected check operations only.

### Electronic Transfer of Funds

Wire transfers have been used for many years and are provided for the purpose of facilitating transfers of bank balances between banks. In this connection, the Federal Reserve and its member banks utilize a computer network for transferring funds nationwide. Through the use of this system, many member banks may render more efficient service to their customers and effect payment for the purchase and sale of Fed funds. Nonmember banks benefit from this service indirectly through correspondent member banks.

Settlement for such transfers are made by debits and credits to reserve accounts. Generally, transfers through this network are for large amounts with no charge levied for transfers of \$1,000 or more. Member banks also utilize these facilities to transfer marketable government securities. All four Federal Reserve offices in the Eighth District and 19 commercial banks with a significant volume of transfers are currently on-line. Present plans include the installation of on-



As of February 1, 1977

## DIRECTORS

### St. Louis

#### *Chairman of the Board and Federal Reserve Agent*

EDWARD J. SCHNUCK, Chairman of the Board,  
Schnuck Markets, Inc., Bridgeton, Missouri

VIRGINIA M. BAILEY, Owner, Eldo Properties, Little Rock,  
Arkansas

RALPH C. BAIN, Vice President, Wabash Plastics, Inc.,  
Evansville, Indiana

DONALD N. BRANDIN, Chairman of the Board and Pres-  
ident, The Boatmen's National Bank of St. Louis,  
St. Louis, Missouri

RAYMOND C. BURROUGHS, President and Chief Executive  
Officer, The City National Bank of Murphysboro,  
Murphysboro, Illinois

TOM K. SMITH, JR., Group Vice President, Monsanto  
Company, St. Louis, Missouri

ARMAND C. STALNAKER, Chairman and President, Gen-  
eral American Life Insurance Company, St. Louis,  
Missouri

WILLIAM B. WALTON, Vice Chairman of the Board, Hol-  
iday Inns, Inc., Memphis, Tennessee

WM. E. WEIGEL, Executive Vice President and Chief Exec-  
utive Officer, First National Bank and Trust Company,  
Centralia, Illinois

### Little Rock Branch

#### *Chairman of the Board*

RONALD W. BAILEY, Executive Vice President and General Manager,  
Producers Rice Mill, Inc., Stuttgart, Arkansas

THOMAS E. HAYS, JR., President and Chief Executive  
Officer, The First National Bank of Hope, Hope,  
Arkansas

G. LARRY KELLEY, President, Pickens-Bond Construction  
Co., Little Rock, Arkansas

B. FINLEY VINSON, Chairman of the Board, The First  
National Bank in Little Rock, Little Rock, Arkansas

T. G. VINSON, President, The Citizens Bank, Batesville,  
Arkansas

FIELD WASSON, President, First National Bank, Siloam  
Springs, Arkansas

(Vacancy)

### Louisville Branch

#### *Chairman of the Board*

JAMES C. HENDERSHOT, President  
Reliance Universal, Inc., Louisville, Kentucky

HOWARD BRENNER, Vice Chairman of the Board, Tell  
City National Bank, Tell City, Indiana

JAMES H. DAVIS, Chairman and Chief Executive Officer,  
Porter Paint Co., Louisville, Kentucky

J. DAVID GRISSOM, Chairman and Chief Executive Offi-  
cer, Citizens Fidelity Bank and Trust Company,  
Louisville, Kentucky

FRED B. ONEY, President, The First National Bank of  
Carrollton, Carrollton, Kentucky

JAMES F. THOMPSON, Professor of Economics, Murray  
State University, Murray, Kentucky

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Seymour, Indiana

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Cook Industries, Inc., Memphis, Tennessee

W. M. CAMPBELL, Chairman of the Board and Chief  
Executive Officer, First National Bank of Eastern  
Arkansas, Forrest City, Arkansas

ROBERT E. HEALY, Partner-In-Charge, Price Waterhouse  
& Co., Memphis, Tennessee

JEANNE L. HOLLEY, Associate Professor of Business  
Education and Office Administration, University of  
Mississippi, University, Mississippi

STALLINGS LIPFORD, President, First-Citizens National  
Bank of Dyersburg, Dyersburg, Tennessee

WILLIAM WOOTEN MITCHELL, Chairman, First Tennessee  
Bank N.A., Memphis, Tennessee

CHARLES S. YOUNGBLOOD, President and Chief Executive  
Officer, First Columbus National Bank, Columbus,  
Mississippi

## Member, Federal Advisory Council

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A. C. CREMERIUS, JR., *Assistant Vice President*

CHARLIE L. EPPERSON, JR., *Assistant Vice President*



line terminals in one bank in Evansville, Indiana, and in another bank in St. Louis, Missouri, increasing the total of on-line banks in this District to 21. Several other banks are considering the installation of terminals. Over 300 member banks nationwide have installed on-line terminals connected to their Federal Reserve District computers. Member banks not having on-line terminals may telephone their transfers to their local Federal Reserve office where the transfers are entered into the system over Federal Reserve Bank terminals.

Terminal installations at the banks are connected to the computer at the St. Louis Federal Reserve office which is the switching center for the Eighth District. Operators of the terminals in the commercial banks can initiate transfers directly from their banks, at which time the transfers are switched automatically through the computer at the St. Louis office through a central switching computer at Culpeper, Virginia to another Federal Reserve District for the account of the receiving commercial bank. Transfers of funds may also be made between member banks in the same District. If the receiving bank is on-line, transfers are switched automatically to that bank's terminal through its Federal Reserve District computer.

By transferring funds electronically, all necessary information for completing the transfer is obtained. Third-party information may be entered to identify the originator and/or the recipient of the funds. Member bank reserve accounts are debited and credited automatically, and banks with on-line terminals receive an immediate record at the conclusion of each transaction. The use of electronic equipment for transfers of funds has reduced the time required for completion of a typical transaction from almost an hour to a matter of only a few minutes.

With the installation of on-line terminals at the 19 District commercial banks, an average of 3,116 transactions per day were sent and received by electronic means, and thus did not require manual processing by Eighth District personnel. This represented 81 percent of total transfers processed.

Volume and dollar amounts of transfers processed by the Eighth District continues to increase. During 1976, 974,000 transfers amounting to \$871 billion were completed by the Federal Reserve Bank of St. Louis and its branches. This is a 19.4 percent increase in number and a 16.3 percent increase in value over the previous year.

### *Federal Recurring Payments*

The Air Force payroll has been processed by electronic means since August 1975, and has a current volume of 25,000 payments per month. In 1976, a number of other Federal recurring payments applications were implemented for settlement through the electronic funds transfer system (EFTS). In August, Social Security payments were initiated and a current volume of 216,000 monthly payments is being processed by the Federal Reserve Bank of St. Louis. In October, Air Force Retired payments were implemented for one pilot bank in this District with a monthly volume of 557 payments. Payments for the remaining financial institutions in this District are scheduled to begin in March 1977. Also in October, Revenue Sharing payments were implemented with a current volume of 2,000 payments per quarter. Civil Service Annuity payments and Railroad Retirement payments were both begun in December with monthly payment volume of 4,400 and 3,200, respectively.

### *Automated Clearing Houses*

The Kentuckiana Automated Clearing House (KACHA) operated by the branch office in Louisville, Kentucky, commenced operations in April 1976, and currently is processing a total of about 13,000 commercial debit and credit items monthly. The Mid-America Payments Exchange (MAPEX) operated by the Federal Reserve Bank of St. Louis has been operational since July 1976, but has processed only a few commercial items since that time. The Mid-South Automated Clearing House (MSACHA), which will be operated by the Memphis Branch, is scheduled to begin operations in February 1977.

### *Coin and Currency*

Coin and currency, comprising approximately 25.6 percent of the money stock, are more widely used than demand deposits in consummating small transactions, primarily because of the convenience. Personal checks generally are used for transactions of larger amounts. The Federal Reserve Banks supply virtually all of the coin and currency in circulation to member and nonmember banks. When orders are received for currency and coin from a member bank, its reserve account is charged for the amount of the shipment. Similarly, deposits of currency and coin with the Federal Reserve Banks are credited to the member bank's reserve account. Nonmember banks generally receive or deposit coin and currency through their correspondent member banks. Demand for coin



and currency fluctuates greatly, with seasonal changes in retail transactions, vacation and holiday travel, and agricultural production having a substantial impact.

Approximately 281 million pieces of currency valued at \$2.8 billion dollars were received and verified at the four offices in the Eighth District during 1976. This was a decline of 9.3 percent in number of pieces, but a 6 percent increase in dollar volume from 1975. The number and value of coins received and verified showed a decline from 1975 levels. Pieces of coin received and counted totaled 1.1 billion amounting to \$119.2 million. This represented decreases of 1.8 and 2.7 percent, respectively, from last year's levels. Combined sorting, counting and wrapping of coin and currency at the four offices averaged almost 6.1 million pieces per working day in 1976, down slightly from 1975.

In sorting currency at the Reserve Banks, that which is no longer usable is removed from circulation and destroyed. During 1976, the Federal Reserve Bank of St. Louis and its branches verified and destroyed currency totalling \$726 million.

### *Lending*

Three types of credit are made available to member banks in the Eighth Federal Reserve District: short-term adjustment, seasonal, and emergency credit. Member banks may make temporary adjustments in their reserve positions due to deposit losses, unexpected or unusual requests for loans, or other changes encountered by member banks. Member banks which have highly seasonal loan demands may apply to this Bank for seasonal credit. Such loan demands are due primarily to a recurring pattern of change in deposits and loans. Arrangements for this type of credit must be made in advance. Credit for longer periods is also available to member banks to meet emergency conditions which may result from unusual local, regional, or national financial situations, or adverse circumstances where member banks are involved.

During 1976, the Board of Governors of the Federal Reserve System amended Regulation A "Extensions of Credit by Federal Reserve Banks." The amendment provided more flexible and liberal conditions under which member banks, with well-defined seasonal requirements for funds, are permitted to borrow from the Federal Reserve System. The major change in the revised regulation permits member banks to be eligible for seasonal credit from the Federal Reserve even though they maintain a portion of their liquid assets in the form of Federal funds

(loans of excess reserves to other banks), so long as such holdings conform to the bank's normal operating experience.

The discount rate is the rate of interest charged by the Federal Reserve Bank on loans to member banks. The level of the discount rate, in relation to other short-term market rates, has an influence on the volume of credit extended by the Federal Reserve Bank. When the discount rate is higher than other market interest rates, member banks usually choose to obtain funds from other sources to make temporary reserve adjustments. When the discount rate is low in relation to other market rates, member banks tend to rely more heavily on the Federal Reserve for funds.

At the start of 1976, the discount rate was 6 percent. The rate was reduced twice during the year, and at year end it was 5.25 percent. Throughout most of 1976, the discount rate was above the short-term interest rates. As a result of this difference in rates, member bank borrowings were low. The daily average of loans outstanding amounted to \$2.2 million in 1976, less than half the \$5.3 million for 1975. There were 231 loans amounting to \$428.9 million to 32 Eighth District member banks by the Federal Reserve Bank of St. Louis during 1976. This is a decline from 1975 when 280 loans totaling \$1.1 billion were made to 44 member banks.

### *Fiscal Agency*

As a fiscal agent of the Federal Government, the Federal Reserve Bank performs many services. The United States Treasury's account, through which the Treasury makes payments for various types of Government spending, is maintained in the System. Funds received by the Treasury are deposited into its account at the Federal Reserve Banks or into tax and loan accounts at designated commercial banks. These funds represent mainly receipts from payment of taxes and payment from the sale of Government securities to the public. Balances in the tax and loan accounts are transferred upon call to the account of the Treasury of the United States at Federal Reserve Banks in order for the Treasury Department to have use of the funds.

The Federal Reserve Banks also act on behalf of the Government in marketing Treasury securities. When the Treasury offers new securities, the Reserve Banks prepare and distribute applications and official offering circulars, receive subscriptions from those who wish to buy, allot the securities among the subscribers according to the terms of the offering, collect



payment, and make delivery to the purchasers. With funds from the Treasury's account, Federal Reserve Banks pay interest on securities and redeem them at maturity. Reserve Banks also pay interest on and redeem securities of most Government-sponsored corporations.

The Federal Reserve Banks will, as fiscal agent, hold in safekeeping securities pledged to secure Government deposits in tax and loan accounts. Federal Reserve Banks will also hold securities of member banks in safekeeping. United States Treasury and most Government Agency securities are held in book-entry form by the Reserve Banks.

United States Savings Bonds are issued, serviced, and redeemed by the Federal Reserve Banks. In 1976, 12.7 million savings bonds totaling \$743 million were handled by Eighth District offices. In addition, marketable Treasury and Government Agency securities in definitive and book-entry form are issued, revised, and redeemed by Federal Reserve Banks. Last year, 409,000 pieces of definitive securities amounting to \$15.3 billion and 72,500 book-entry transactions amounting to \$53 billion were handled by the Federal Reserve Bank of St. Louis and its branches. Coupons of U. S. Treasury and Agency Securities totaling 592,000 pieces amounting to \$266 million were paid by Eighth District offices.

U. S. Government food stamps are also redeemed by Federal Reserve Banks. A total of 133 million food stamps amounting to \$555.7 million were received and counted by the Federal Reserve Bank of St. Louis and branch offices during 1976.

## Research

The Federal Reserve System, while working closely with other policymaking agencies in the Government, has the primary role in the utilization of instruments of monetary policy. Through representation on the Federal Open Market Committee, Federal Reserve Banks play an important role in formulating System policy.<sup>1</sup> Also, the 12 Federal Reserve Banks contribute to System awareness of local and regional business conditions through the collection of business, monetary, and financial data. Information gathered is used by the President of this Bank in discussions during meetings of the Federal Open Market Committee.

<sup>1</sup>The Federal Open Market Committee (FOMC) consists of the seven members of the Federal Reserve's Board of Governors and five of the twelve Reserve Bank Presidents. The FOMC directs the purchase and sale of Treasury and Government agency securities on the open market.

The regional, national, and international economic data collected and processed by this department are made available to the public through its various releases. Analysis of the data serves as the basis of articles appearing in this *Review*. The *Review*, which is published monthly, has a circulation of 43,000 copies and is distributed both nationally and internationally.

The Research Department assists in the bank regulatory function by reviewing the impact of bank mergers and holding company acquisitions on the community to be served.

## Bank Relations and Public Information

The Bank Relations and Public Information Department endeavors to establish and maintain personal contact with all banks located in the Eighth Federal Reserve District through a structured visitation program and attendance at various banking functions. An effort is also made to increase public understanding of the functions, responsibilities, and policies of the Federal Reserve System by distributing films and publications, conducting in-house tours, delivering speeches, and conducting seminars. Emphasis is placed on maintaining contact with schools and colleges in this District.

Member banks are kept informed of changes in Federal Reserve regulations and procedures through the visitation program. The Functional Cost Analysis Program offered to member banks is administered by this department. This program provides participating member banks costs by function and permits comparison with banks of similar size. Technical assistance is furnished during the first year to banks desiring to participate in the program. Last year, 52 Eighth District member banks participated in the program.

In maintaining contact with the banking industry and the general public during 1976, the officers and staff members of the Federal Reserve Bank of St. Louis and its branches delivered 255 addresses before bankers, business groups, and educators. The bank was represented at 375 banker, 532 professional, and 195 miscellaneous meetings. Under the bank visitation program, 944 banks were visited. During 1976, 241 groups requested films, and 5,115 visitors toured the four Federal Reserve offices in the Eighth District.

## Financial Statements

Assets of the Federal Reserve Bank of St. Louis and its branches amounted to \$5.3 billion. This rep-



Table II

## COMPARATIVE STATEMENT OF CONDITION

(Dollar Amounts in Thousands)

ASSETS		
	December 31, 1976	December 31, 1975
U.S. Government Securities:		
Bills . . . . .	\$1,572,649	\$1,417,460
Certificates . . . . .	—	—
Notes . . . . .	1,955,859	1,675,830
Bonds . . . . .	274,192	210,358
<b>TOTAL U.S. GOVERNMENT     SECURITIES . . . . .</b>	<b>\$3,802,700</b>	<b>\$3,303,648</b>
Loans . . . . .	300	650
Acceptances . . . . .	—	—
Federal Agency Obligations . . . . .	276,987	231,329
<b>TOTAL LOANS AND SECURITIES . . . . .</b>	<b>\$4,079,987</b>	<b>\$3,535,627</b>
Gold Certificate Account . . . . .	466,364	449,371
Special Drawing Rights Certificate Account . . . . .	50,000	20,000
Federal Reserve Notes of Other Banks . . . . .	56,631	59,242
Other Cash . . . . .	26,661	25,419
Cash Items in Process of Collection . . . . .	321,441	473,744
Bank Premises (Net) . . . . .	12,668	13,151
Interdistrict Settlement Account . . . . .	270,478	403,896
Other Assets . . . . .	63,456	51,301
<b>TOTAL ASSETS . . . . .</b>	<b>\$5,347,686</b>	<b>\$5,031,751</b>
LIABILITIES AND CAPITAL ACCOUNTS		
LIABILITIES		
Deposits:		
Member Bank — Reserve Accounts . . . . .	\$ 765,374	\$ 740,663
U.S. Treasurer — General Account . . . . .	573,537	521,866
Foreign . . . . .	7,778	8,928
Other Deposits . . . . .	58,153	9,420
<b>TOTAL DEPOSITS . . . . .</b>	<b>\$1,404,842</b>	<b>\$1,280,877</b>
Federal Reserve Notes (Net) . . . . .	\$3,592,623	\$3,321,416
Deferred Availability Cash Items . . . . .	249,108	328,733
Other Liabilities and Accrued Dividends . . . . .	36,009	38,251
<b>TOTAL LIABILITIES . . . . .</b>	<b>\$5,282,582</b>	<b>\$4,969,277</b>
CAPITAL ACCOUNTS		
Capital Paid In . . . . .	\$ 32,552	\$ 31,237
Surplus . . . . .	32,552	31,237
Other Capital Accounts . . . . .	—	—
<b>TOTAL CAPITAL ACCOUNTS . . . . .</b>	<b>\$ 65,104</b>	<b>\$ 62,474</b>
<b>TOTAL LIABILITIES AND     CAPITAL ACCOUNTS . . . . .</b>	<b>\$5,347,686</b>	<b>\$5,031,751</b>

resented an increase of 6.3 percent over the previous year (Table II). Increases in U. S. Government

Table III

## COMPARATIVE PROFIT AND LOSS STATEMENT

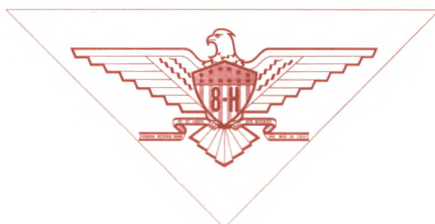
(Dollar Amounts in Thousands)

	1976	1975	Percent Change
Total earnings . . . . .	\$256,795	\$231,796	10.8%
Net expenses . . . . .	36,444	34,083	6.9
Current net earnings . . . . .	\$220,351	\$197,713	11.4%
Net additions (+) or deductions (—) . . . . .	+460	—6,714	—
Net earnings before pay- ments to U.S. Treasury . . . . .	\$220,811	\$190,999	15.6%
Distribution of Net Earnings:			
Dividends . . . . .	\$ 1,915	\$ 1,845	3.8%
Interest on Federal Reserve Notes . . . . .	217,582	187,948	15.8
Transferred to Surplus . . . . .	1,314	1,206	9.0
<b>TOTAL . . . . .</b>	<b>\$220,811</b>	<b>\$190,999</b>	<b>15.6%</b>

securities were largely responsible for this change. About 71 percent, or \$3.8 billion, of the Bank's total assets were held in U. S. Government securities. The gold certificate account, cash items in process of collection, Federal Reserve notes of other banks, and interdistrict settlement account amounted to \$1.5 billion which represented the remaining assets.

Total liabilities of the Federal Reserve Bank of St. Louis and its branches amounted to \$5.3 billion last year, 6.3 percent higher than the previous year. A principal reason for this change was the increase of \$271 million of Federal Reserve notes outstanding. There was an increase in total deposits of 9.7 percent in 1976 to \$1.4 billion. Federal Reserve notes, the principal type of currency in circulation amounted to \$3.6 billion, representing 68 percent of the Bank's liabilities.

Earnings of the Federal Reserve Bank of St. Louis and its branches increased 10.8 percent in 1976, to \$257 million (Table III). After statutory dividends amounting to \$1.9 million were paid to member banks and operating expenses of \$36 million were covered, \$1.3 million was transferred to surplus and \$218 million, or 84.7 percent of total earnings, was paid to the Treasury as interest on Federal Reserve notes.





# Outlook for Farm Income in 1977

CLIFTON B. LUTTRELL

**N**ET income of U.S. farmers in 1977 is expected to total about \$24 billion, approximately the same as in 1976 and 1975 according to information presented at the National Agricultural Outlook Conference in November.<sup>1</sup> While realized gross farm income is expected to total more than the \$104 billion estimated for last year, production expenses are also trending upward and will probably match the increase in gross income.

Supplies of most crops are larger this year than a year ago, and barring unexpected weather developments, large crops will likely be harvested this fall. Record crops of corn and wheat in 1976 will result in some increase in carryover stocks of grains at the close of the current marketing year as compared to the relatively low levels of last year. However, a sharp reduction in the soybean crop, down 18 percent from 1975, and somewhat smaller crops of rice and tobacco will partially offset these gains.

The volume of livestock products this year is expected to equal or exceed that of last year. Meat animal slaughter this year is expected to at least equal that of last year, being somewhat larger in the first half of the year and somewhat less in the last half. The proportions of beef and pork in the total slaughter, however, will be different, with the quantity of beef declining two or three percent and offsetting increases in pork. Poultry output is also expected to equal the rate of a year ago. Similar to the pattern of meat animal production poultry output is expected to be sharply higher in the first half of the year than a year ago, but to drop back near mid-year.

Demand for farm products is expected to continue to increase in 1977, but with the larger supplies in prospect, little change in average prices from 1976 levels is likely for either livestock or crops. Domestic demand for farm products will continue upward with

the rising domestic incomes and population growth. Export demand has increased sharply in recent years reflecting a high rate of real income growth in many countries and the attractive relative cost of U.S. farm products. With the larger crops in some major importing nations, export demand is expected to level off.

The average price for all farm products declined in the last half of 1976 as a result of the large crops and rising livestock production. Average prices are expected to remain near their late 1976 levels until spring or early summer when the production of livestock products may decline somewhat, causing an increase in prices.

Retail prices of food in grocery stores have been quite stable for more than a year and are expected to rise only moderately through 1977. These prices averaged about 3 percent higher in 1976 than a year earlier and another rise of about 3 percent is in prospect for this year. With food prices relatively stable and disposable personal income up sharply, the percent of disposable personal income spent on food in 1976 was estimated to be less than the 17.1 percent in 1975. A further decline in the percent of disposable personal income spent on food can be expected this year.

## OUTLOOK FOR MAJOR EIGHTH DISTRICT FARM PRODUCTS

### *Feed Grains*

Feed grain supplies for the marketing year 1976-77 total about 231 million short tons or 4 percent more than a year ago.<sup>2</sup> The harvest last fall was estimated at 212 million tons, 3 percent above the previous record in 1971 and 4 percent above the 1975 level. Carryover stocks last fall totaled only 19 million tons, little different from the low carryover of a year earlier.

<sup>2</sup>Begins October 1 for corn and sorghum, which account for 81 and 10 percent of total feed grain production, respectively, and June 1 for oats and barley, which account for 5 and 4 percent, respectively.

<sup>1</sup>National Agricultural Outlook Conference, Washington, D.C., November 1976.



Table 1

## FEED GRAINS: SUPPLY, DISAPPEARANCE, AND PRICES, 1971-76

Marketing Year <sup>1</sup>	Supply		Disappearance			Price (1967=100)
	Production	Total <sup>2</sup>	Feed	Exports	Total <sup>3</sup>	
1971/72	207.7	242.8	149.6	27.1	192.8	96
1972/73	199.9	250.4	156.4	43.1	216.5	142
1973/74	205.0	239.1	153.3	44.5	215.4	225
1974/75	165.3	189.5	115.6	39.4	172.7	251
1975/76 <sup>4</sup>	203.3	219.7	127.8	54.7	200.6	221
1976/77 <sup>5</sup>	212.4	231.0	132.6	51.6	203.0	221

<sup>1</sup>Beginning October 1 for corn and sorghum, and June 1 for oats and barley.

<sup>2</sup>Includes beginning stocks and a small quantity of imports.

<sup>3</sup>Includes grain used for food, seed and industrial purposes.

<sup>4</sup>Preliminary.

<sup>5</sup>Estimated.

With the quantity of feed grain basically fixed for almost a year once the harvest is completed, changes in demand primarily determine prices until the new crop becomes a factor. The changes in demand for feed are primarily determined by the expected profits from feeding and changes in export demand. Given prospective demand conditions, near term profit margins from feeding appear to be relatively low. The number of livestock and poultry on feed is greater than a year ago, but with the recent unfavorable returns from feeding, the number on feed is expected to decline from current levels. Also, the larger than normal quantity of wheat fed to livestock will tend to reduce the demand for feed grain. Nevertheless, the quantity of feed grain consumed in the year is expected to rise to 133 million tons, up somewhat from the relatively low levels of the last two years, but well below the 153 million ton average for the three years 1971/72 — 1973/74.

Despite the increased crop production abroad, feed grain exports are expected to approach the record level of last year when more than one-fourth of the U.S. crop was exported. Production in the U.S.S.R. recovered sharply from the drought-stricken 1975 harvest, and their imports will be less than last year, but this decrease will be offset by increases elsewhere. The drought in Western Europe will probably result in some increased exports to these nations. Both the expansion of hog and poultry numbers throughout the European Community and Japan and the continuation of the world economic recovery tend to enhance demand for U.S. feed grain.

Feed grain prices in 1976/77 are expected to average about the same as in 1975/76, down about 12 per-

cent from the record high of 1974/75, but still relatively high compared with other recent years.

### Wheat

The 1976/77 wheat crop, estimated at 2,147 million bushels, is slightly above the record crop of a year earlier. Since beginning stocks totaled about 664 million bushels, approximately 2.8 billion bushels will be available for the year. This year domestic consumption of wheat is expected to rise to 795 million bushels from 729 million bushels last year, and exports are expected to decline to about 1,050 million bushels from about 1,175 million in 1975/76. Consumption plus exports will thus total about 1,845 million bushels, and carryover stocks at the end of June may rise to nearly one billion bushels, the largest wheat carryover since the mid-1960s.

The average price received by farmers for wheat in 1975/76 was \$3.52 per bushel. With the large domestic supplies and reduced exports, however, wheat prices declined sharply in late 1976 and by last November were little above the price of feed grains.

At these relatively low prices greater wheat feeding is anticipated in the current marketing year than in most recent years. Wheat is usually considered to have about 10 percent more feeding value per bushel than corn, and thus, if corn prices rise seasonally, as anticipated, there will be greater incentive for wheat feeding, especially in feed-grain-deficit areas of the wheat belt, such as the Mountain and Pacific states.

Wheat prices are expected to rise seasonally during the winter months with a floor being determined largely by the price of feed grains. In the spring wheat prices are expected to become increasingly sensitive to crop conditions. Beyond next summer prices will depend heavily on Government farm pricing policies, particularly the price support loan rate and grain reserve policies.

### Rice

The 1976 rice crop of 112 million hundredweight (cwt.) was 9 percent less than the year earlier record crop, but stocks of 37 million cwt. at the start of the harvest season resulted in relatively abundant supplies at prevailing market prices. The quantity of rice available for the year is at a record 149 million cwt.,



about 11 percent more than a year earlier. Carryover stocks estimated to total 45 million cwt. on August 1, 1977, will be up again.

Total domestic rice consumption and exports are expected to rise this year to about 104 million cwt. Domestic usage will be up about 3 million cwt. and exports about 5 million cwt.

Farm prices for rice averaged \$6.79 per cwt. in the first three months of the season, somewhat above the \$6.19 per cwt. loan rate, but well below the \$8.25 per cwt. Government target price. Thus, growers will be paid deficiency payments on their allotment production. The year 1977 is the final year of the two-year Rice Production Act of 1975 which provides for a national allotment of 1.8 million acres, the same as in 1976, and a national average loan rate that is somewhat higher than \$6.19 per hundredweight. It also authorized a target price moderately above this year's \$8.25 per hundredweight with deficiency payments only on production from allotment acres. The January 1977 U.S. Department of Agriculture Survey of planting intentions indicates that farmers will plant 2.3 million acres of rice this year, 8.5 percent less than in 1976 and 18 percent less than in 1975.

### *Oilseeds*

The outlook for oilseeds (largely soybeans and cottonseed) this year is characterized by sharply reduced supplies, rising demand, relatively high prices, and low carryover stocks next September 1.

The soybean harvest last fall of 1.26 billion bushels was only four-fifths as large as that of a year earlier. Carryover stocks totaled 244 million bushels providing a total supply of 1.5 billion bushels, about 200 million bushels less than last year.

Demand for soybeans is expected to remain relatively strong and soybean prices should average sharply higher than the \$5 per bushel received during 1975/76. Total usage this year is projected at 1.4 billion bushels, 5 percent below last year, but about 100 million bushels in excess of last fall's harvest. Domestic crushings are expected to decline to 810 million bushels from 865 million a year earlier, and exports are expected to decline to 540 million from the 555 million record of 1975/76.

Larger supplies of cottonseed will offset about 10 percent of the reduction in soybeans. The 1976 cottonseed crop, estimated at 4.0 million short tons, was about 28 percent greater than a year earlier.

### *Cotton*

Relatively strong demand and small supplies highlight the 1976/77 cotton prospects. The 1976 crop was estimated at 10.6 million bales, up 28 percent from the abnormally small 8.3 million bale 1975 crop, but well below that of recent years. Beginning stocks of 3.7 million bales last fall were 2 million less than a year earlier. But, the season's supply of 14.3 million bales is slightly above the small supply of 14.1 million bales a year ago.

A sharp increase in cotton exports is expected to more than offset a moderate decline in domestic usage. Total usage, projected at 10.9 million bales, is greater than last year's crop. Hence, reduced carryover stocks of cotton are in prospect for next fall. Domestic mill consumption is projected at 6.6 million bales, down from 7.25 million in 1975/76. A strong increase in export demand, however, is underway and exports are expected to total 4.3 million bales, up from 3.3 million last year.

Cotton prices are well above the loan and Government target price levels. During the August-January months prices were up 15 cents or more per pound from a year earlier. Returns for the 1976 crop were estimated at \$3.5 billion, nearly equal to the 1973 record.

### *Tobacco*

Tobacco supplies are up this year in both the United States and overseas. World production last year was down somewhat from the 11.7 billion pounds produced in 1975, largely as a result of a 3 percent reduction in the United States crop. The production of flue-cured tobacco in the United States was down 7 percent, but burley tobacco production rose 4 percent. Despite the smaller U.S. crop, the domestic supply of all tobacco is up about 2.4 percent from a year ago. The supply of flue-cured is up 4 percent and the supply of burley is up 2.5 percent.

While domestic use of tobacco has remained relatively stable in recent years, holding at about 1.3 billion pounds per year since 1965, unmanufactured tobacco exports have increased at a moderate rate. Exports of flue-cured tobacco declined from an average of 549 million pounds per year in the three years 1966-68 to 500 million pounds in 1976. Exports of burley tobacco, however, rose from 55 million pounds to 100 million pounds during the period. Total tobacco exports are expected to be about the same this year.



## **Meat Animals**

Operators of cattle and hog feeding enterprises are faced with an outlook for larger red meat supplies, rising demand, and somewhat lower average prices, especially in the first half of calendar 1977, than in the same period a year ago. The participants at the Outlook Conference thought that by midyear marketings of red meat would be declining, largely as a result of a decline in beef feeding. Now, however, it appears that red meat supplies will be relatively large throughout the year. As a result, prices of meat animals may not average much higher in the second half of the year than in the first half.

Analysts at the Outlook Conference predicted that cattle and calf slaughter this year would total about 44.7 million head, down 8 percent from 1976. Fed cattle slaughter was expected to decline slightly to about 24.7 million head, and nonfed steer and heifer slaughter to decline from the unusually high level of last year. However, in the October-December quarter placements of cattle and calves on feed were up 5 percent from a year ago, indicating a larger slaughter in the second half of the year than was originally expected. Per capita beef consumption in the United States totaled about 128 pounds in 1976, and with the larger than anticipated placements of cattle on feed, prospects are that beef production this year will approach the 1976 level. Consequently, per capita consumption may not be down much.

Despite the outlook for relatively large red meat supplies this winter and spring, the price of choice grade slaughter steers are expected to average somewhat higher for the entire year than last year. Such prices at Omaha have averaged less than the projected \$41-\$43 per hundredweight this winter, but a moderate increase in the spring months may occur as nonfed supplies decline. Hence, with the generally lower grain prices, cattle feeders should be able to recover feed costs and operate at a modest profit after the first quarter of the year, in contrast to sizable losses incurred by most feeders last year.

The cyclical pattern of cattle numbers points to generally rising prices for cattle in late 1977 and beyond. An inventory peak of 131.8 million head was reached in January 1975. The number was projected at 121.0 million at the beginning of 1977, and a further decline of 2 to 3 percent is projected for this year.

In contrast to the outlook for declining cattle numbers, hog producers face an expansion phase of a hog cycle. Pork production last fall was up sharply from the year ago level. Slaughter in the first half of this

year is forecast at 41 million head, up 25 percent from a year earlier, and slaughter in the second half of the year is forecast at 41.5 million head, up about 5 percent from the second half of last year.

At the indicated relatively high level of slaughter, especially in the early part of the year, hog prices are likely to average about \$35 per hundredweight in the first half of the year. This would mean reduced profits and some reduction in late 1977 farrowings, but the 1977 indicated slaughter of 80-82 million head points to pork production of over 13 billion pounds, or about 12 percent more than in 1976. Hence, 1977 hog prices should average well below the \$43 per cwt. average for 1976.

## **Poultry**

Most poultry producers are currently operating at a loss, and the prospects for profitable operations are not good until the second half of the year after prices of red meat rise. First quarter output of broilers is expected to exceed the year earlier level by about 7 percent. By mid-year, however, production will probably drop back to about the year earlier level, and output in the second half of the year will depend on expected profits.

Broiler prices through the winter and spring months may show some small seasonal increase, but are likely to average about 3 cents per pound below the 42 cent average for the first half of 1976.

## **Eggs**

Egg producers experienced a profitable year in 1976 and the prospects for 1977 continue to be favorable. Egg production was up last year but fewer eggs were available to consumers because of reduced stocks at the beginning of the year and increased hatching usage.

Egg production is expected to increase 1 to 2 percent in the first half of this year from a year ago. Some further increase is foreseen in the second half of the year relative to year earlier levels if the currently favorable profit margins continue until mid-year.

The demand for eggs is expected to continue relatively strong in 1977, and in the first quarter prices may average 5 cents or more a dozen above year earlier levels. By the second quarter, however, prices may average only one or two cents above those of second quarter 1976, and in the second half of the year prices could decline below year earlier levels depending on the expansion of laying flocks during the year.



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## ***Dairy Products***

The dairy outlook is for larger milk supplies and lower average milk prices in 1977. Milk production in late 1976 was about 5.5 percent above that of the same period a year earlier and the higher than year earlier production level is expected to continue in early 1977. While production later in the year will depend largely on profit margins, milk production for the entire year is likely to exceed the 1976 level by one or two percent.

Milk prices in early 1977 will likely average well below those of a year earlier. Prices later in the year will depend on production movements, but the average price for all of 1977 may be below that of 1976, the first annual decline in the farm price of milk since the 1950s.

## **SUMMARY**

Realized net farm income in the nation in 1977 is expected to be well below the peak of \$30 billion in

1973, but about equal the \$24 billion of 1975 and 1976. Prices received by farmers will probably average about the same as last year. Output of farm products will very likely continue upward and gross farm income is expected to rise proportionately. Higher production expenses are in prospect and are expected to offset the increase in gross income.

The outlook for farmers in the Eighth Federal Reserve District is not greatly different from the national outlook. Because of existing supplies, livestock feeders are faced with little or no profit from feeding for a few more months. By mid-year, livestock slaughter may decline somewhat, and profit margins may be improving. Crop supplies, with the exception of soybeans, are generally above year ago levels, but with rising demand for most crops average prices received by farmers at the beginning of this year were little different from a year earlier. Food grain prices were down sharply, and prices of feed grains were down slightly. Soybean prices were about 50 percent higher than a year ago, and tobacco and cotton prices were somewhat higher.