R E V I E W

Vol. 70, No. 2 March/April 1988

THE FEDERAL RESERVE BANK of ST. LOUIS

Federal Reserve Bank of St. Louis
Review
March/April 1988

In This Issue . . .

In the first article in this *Review*, R. W. Hafer and Joseph H. Haslag examine the factors that influenced the setting of monetary policy by the Federal Open Market Committee (FOMC) during 1987. In "The FOMC in 1987: The Effects of a Falling Dollar and the Stock Market Collapse," the authors note that exchange rate developments played an important role in monetary policymaking decisions during the first 10 months of the year. This is because the decline in the value of the dollar in foreign exchange markets was expected to lead to a reduction in the U.S. trade deficit and encourage the foreign purchase of domestically produced goods. At the same time, however, the falling value of the dollar would increase prices paid by U.S. residents for imported goods, possibly affecting the price of domestically produced goods and raising the specter of higher rates of inflation.

The changing value of the dollar played a lesser role in policy decisions with the stock market crash of October 19. The unprecedented fall in the stock market caused the FOMC to focus its energies on the uncertainty that prevailed in domestic financial markets and the immediate liquidity needs of the economy. Against the backdrop of the effects of the dollar's falling value, the FOMC faced the increased possibility that the economy would slow dramatically following the tremendous wealth loss associated with the stock market plunge.

To understand the impact that these and other events had throughout 1987, Hafer and Haslag review both long-run and short-run policy discussions by the FOMC. These discussions are set in the changing economic environment in which policy decisions were made.

* * *

In this issue's second article, Thomas B. Mandelbaum focuses on economic developments in 1987 in the Eighth Federal Reserve District's business economy. Indicators of economic activity provide a mixed picture of District economic performance. The expansion of real income continued in 1987, for example, but at a slower rate than in previous years. In addition, there was little change in the level of construction activity.

More positively, regional employment grew moderately, allowing the District unemployment rate to fall throughout the year. District manufacturing firms, stimulated by rising exports, expanded their workforces in 1987, resulting in the first annual District gain since 1984. The District's vigorous employment growth in the year's final quarter was particularly encouraging, given the shock of the October stock market crash. As in most years of the current decade, the growth of District employment was similar in strength to the national expansion in 1987. This parallel growth stemmed from similar industrial structures combined with the uniform growth of individual sectors. The resemblance of the regional and national industrial growth underlines the influence that national economic conditions have on the District economy.

* * *

The U.S. agricultural sector experienced a prolonged downturn in the 1980s. Farmland values fell by more than one-half in some regions, while both farm exports and farm income declined steadily. In the third article in this *Review*, Kenneth C. Carraro examines the factors behind the farm recession and explains how the farm sector staged a significant recovery in 1987 in both the nation and the Eighth District.

According to Carraro, the recovery has been evident in most farm sector indicators. Real farm income has returned to levels that prevailed before the boom years of the 1970s. In addition, land values have stabilized and increased slightly and farm lenders have reported improved loan performance. The author cautions, however, that reliance on government aid has grown.

* * *

1987 was a year of extremes for the commercial banking industry. In the final article in this *Review*, Lynn M. Barry examines the health and recent performance of banks in the Eighth District. An assessment of District bank performance with their national counterparts provides some useful information on the financial condition, compliance with regulations and operating soundness of the banking industry.

Barry concludes that, in general, Eighth District banks outperformed their peers across the nation in 1987; however, bank performance varied greatly according to asset size. The financial performance of banks in the Eighth District, like that in the nation, was poor for the largest banks but improved for the smaller banks. Asset quality was once again the driving force behind earnings performance. Profits at the largest District banks were adversely affected by above-normal loan loss provisions related to Latin debt and problem loan levels that, while moderating, remained high by historical standards. Some positive gains were made in 1987 by the smaller District banks, who posted higher earnings as loan loss provisions and loan charge offs declined. Asset quality improved considerably at small, agricultural banks as nonperforming loans decreased, loan losses fell substantially and capital increased.

R. W. Hafer and Joseph H. Haslag

R. W. Hafer is a research officer at the Federal Reserve Bank of St. Louis. Joseph H. Haslag is an economist at the Federal Reserve Bank of Dallas. Dawn M. Peterson provided research assistance.

The FOMC in 1987: The Effects of a Falling Dollar and the Stock Market Collapse

AMONG the economic events that influenced the Federal Open Market Committee's (hereafter "Committee") determination of domestic monetary policy during 1987, the falling value of the dollar on foreign exchange markets and the collapse of stock prices on October 19 stand out.[1] During the year's first 10 months, the Committee looked on the declining dollar with guarded optimism. On one hand, the decline could be expected to lead to a reduction in the nation's burgeoning trade deficit, a reduction that many viewed as crucial in prolonging the economic expansion.[2] On the other hand, the dollar's depreciation would raise the price paid by U.S. residents for imported goods and could adversely impact the prices of competing goods produced domestically. That, together with a rebound in oil prices early in the year, could be detrimental to the success of the Committee's anti-inflationary policies.

While exchange rate developments played an important role in monetary policymaking during the first 10 months of 1987, the stock market crash of October 19 and the attendant uncertainty in domestic financial markets caused the Committee to focus its energies on the domestic economy's immediate liquidity needs. Indeed, the tremendous decrease in wealth following the market plunge raised the possibility that business and consumer spending would slow dramatically and lead to much weaker growth in economic activity.

This article examines the monetary policy decisions made by the Federal Open Market Committee in 1987. Because such decisions hinge on the policymakers' views with regard to the outlook for economic activity and prices, special emphasis will be placed on the changing economic environment in which the decisions were made.

NOTE: Citations referred to as "Record" are to the "Record of Policy Actions of the Federal Reserve Open Market Committee" found in various issues of the *Federal Reserve Bulletin*. Citations referred to as "Report" are to the "Monetary Policy Report to the Congress," also found in various issues of the *Bulletin*. Dates reported in parentheses refer to the *Bulletin*.

[1]For a description of the Committee's membership during 1987, see pages 6 and 7.

[2]A common reference found in the Record is "Improvement in the external sector was projected [by the staff] to provide substantial impetus for real growth as changes in the foreign exchange value of the dollar boosted U.S. exports and damped import growth." Record (January 1988), p. 42. Similarly, "the rise in net exports remained critical to sustaining growth [in real GNP]." Record (July 1987), p. 592.

Table 1

FOMC Long-Run Operating Ranges

Date of meeting	Target period	Ranges[1] M2	Ranges[1] M3
July 8–9, 1986	IV/1986-IV/1987	5.5 – 8.5%	5.5 – 8.5%
February 10–11, 1987	IV/1986-IV/1987	reaffirmed above ranges	
July 7, 1987	IV/1986-IV/1987	reaffirmed above ranges	
July 7, 1987[2]	IV/1987-IV/1988	5 – 8%	5 – 8%

[1]Ranges established at the July meetings for the following year are tentative.

[2]Ms. Seger dissented because she did not want to reduce at this time the tentative M2 and M3 ranges for 1988 below those established for this year. In her view the performance of key sectors of the domestic economy implied a relatively weak business expansion, and she did not anticipate enough offsetting support from gains in foreign trade. In the circumstances, inflationary pressures seemed likely to remain subdued, and she concluded that a policy consistent with monetary growth within this year's ranges would probably be needed to sustain the expansion in 1988. She recognized that the economic outlook was surrounded by a great deal of uncertainty, and she would be prepared to lower the M2 and M3 ranges early next year if intervening developments seemed to warrant such a reduction.

LONG-RUN POLICY OBJECTIVES

The Full Employment and Balanced Growth Act of 1978 (also known as the Humphrey-Hawkins Act) requires the Committee to report to Congress semiannually on the annual growth rate targets for the monetary and credit aggregates. The act also refers to broad objectives to be considered when forming policy, such as low unemployment, stable prices and output growth.

The Committee establishes the growth rate targets for the current year at its February meeting. In July, it reviews the progress in meeting growth rate objectives for the first half of the year and sets tentative growth rate targets for the following year. Annual targets are stated in terms of fourth quarter to fourth quarter growth rates.[3]

Annual Targets for M2 and M3

The Committee established 1987 growth ranges of 5.5 percent to 8.5 percent for both M2 and M3 at its February meeting, reaffirming the tentative ranges set at the July 1986 mid-year review (see table 1). It was decided that no range would be set for M1 (see shaded insert on opposite page). The 1987 target ranges reflect a one-half percentage-point reduction in the 1986 targets established at the February 1986 meeting and reaffirmed at the July meeting. Members argued that reducing the growth targets would be needed "if the economy is to achieve non-inflationary growth and external equilibrium."[4] The dramatic movements in interest rates in recent years were not anticipated for 1987. With more stable market rates, Committee members did not foresee any marked changes in the velocity of M2 or M3 during the year. Members therefore expected that growth rates for these two measures around the midpoints of their ranges would continue the progress toward the goal of non-inflationary growth.

By the time of the Committee's mid-year review, the growth rates of M2 and M3 were at or below the lower boundary of their ranges. M2 had increased at only a 4.4 percent rate during the first half of the year, while M3 had grown at a 5.5 percent rate. In the absence of further increases in market interest rates, both aggregates might increase at a faster pace during the remainder of the year. Moreover, several other factors mitigated any immediate response to restore the aggregates

[3]The use of fourth-quarter-to-fourth-quarter targets ostensibly reduces the problem of base drift, which occurs when the target range is established at each meeting, thus allowing the base to "drift" through the year. Use of fourth-quarter-to-fourth-quarter targets eliminates intra-year base drift but does not do away with inter-year drift.

[4]Report (April 1987), p. 241.

The Omission of an M1 Target

The Committee at its February meeting elected not to establish a specific target range for M1 growth in 1987. The reasons for omitting an M1 target were "uncertainties about its underlying relationship to the behavior of the economy and its sensitivity to a variety of economic and financial circumstances."[1]

The Committee viewed the uncertain relationship between M1 and economic activity to be attributable, in part, to the deregulation of deposit rates and attendant changes in M1's composition. Insufficient information was available to determine the "new" relationship.[2] Consequently, the usefulness of an M1 target range was suspect.

Although no specific ranges were set for M1 growth, the Committee's discussion reflects its acknowledgment of the narrow definition's potential usefulness in policy and economic analysis. As noted at the February meeting,

> while most members clearly wished to take account of changes in M1 in reaching policy judgments, they felt the meaning of fluctuations in M1 could only be appraised in the light of other economic developments.[3]

Some members argued for retaining an M1 target, stating that it would provide continuity in the event that the Committee should want to increase its policy emphasis on M1 growth in the future.[4] The use of the narrow M1 measure, some members argued, was useful in "underscoring the System's longer-run commitment to an anti-inflationary policy."[5] Moreover, some members "contemplated the possible desirability of reintroducing M1 explicitly during the year as a benchmark, along with the broader monetary aggregates, for making short-run operating decisions."[6]

By the time of the midyear review in July, the sharp slowing in M1 growth during the first half of the year indicated to the Committee that M1 behavior had become highly influenced by interest rate movements. Because of the uncertainty surrounding M1's future behavior, no specific growth ranges for M1 for the remainder of 1987 or for 1988 were established.

Also at the July meeting, the Committee discussed the recent behavior of M1A — M1 minus other checkable deposits — and the potential of this narrower measure in policy discussion. Although some evidence indicates that the relationship between M1A and the economy and prices may be more reliable than that of M1, the Committee saw no advantage in adopting M1A as an additional guide to policy.[7]

---

[1]Record (April 1987), p. 241.

[2]The omission of an M1 target because of its uncertain relationship with economic activity and prices is not new. M1 targets were de-emphasized in 1982, relegated to a "monitored" status and rebased from the previous fourth quarter during 1983, re-established as a primary target in 1984, subject to rebasing in 1985 and targeted in 1986. For a discussion of these episodes, see Thornton (1983), Hafer (1985, 1986) and Nuetzel (1987).

[3]Record (June 1987), p. 447.

[4]Ibid., p. 448.

[5]Ibid.

[6]Ibid.

[7]One recent study arguing for the use of M1A is that of Darby, Marlow and Mascaro (1987). For earlier work, see the references cited therein.

within their specified ranges. First, with business activity showing a moderate rate of growth and the velocity of these aggregates increasing — largely due to rising interest rates — some members felt that the shortfall in the M2 aggregate's growth was acceptable. Second, an analysis by the Federal Reserve Board's economic staff suggested that "special factors" stemming from recent tax legislation may have depressed M2 growth. The Board's staff argued that, in addition to these special factors, M3 growth did not meet expectations because of "some unusual patterns in funding

Organization of the Committee in 1987

The Federal Open Market Committee (FOMC) consists of 12 members: the seven members of the Federal Reserve Board of Governors and five of the 12 Federal Reserve Bank presidents. The Chairman of the Board of Governors, by tradition, is elected Chairman of the Committee. The president of the New York Federal Reserve Bank, also by tradition, is elected its vice chairman. All Federal Reserve Bank presidents attend Committee meetings and present their views, but only those who are current members of the Committee may vote. Four memberships rotate among Bank presidents and are held for one-year terms beginning on March 1 of each year. The president of the New York Federal Reserve Bank is a permanent voting member of the Committee.

Members of the Board of Governors at the beginning of 1987 included Chairman Paul A. Volcker, Vice Chairman Manuel H. Johnson, Martha R. Seger, Wayne D. Angell and H. Robert Heller. One of the two vacant seats on the Board was filled by Edward W. Kelley, Jr., on May 26. Chairman Volcker resigned from the Board effective August 11. Alan Greenspan joined the Board as Chairman on that date.

The following Bank presidents voted at the meeting on February 10–11, 1987: E. Gerald Corrigan (New York), Roger Guffey (Kansas City), Karen N. Horn (Cleveland), Thomas C. Melzer (St. Louis) and Frank E. Morris (Boston).[1] In March, the Committee membership changed and the presidents' voting positions were filled by E. Gerald Corrigan (New York), Edward G. Boehne (Philadelphia), Robert H. Boykin (Dallas), Silas Keehn (Chicago) and Gary H. Stern (Minneapolis).

The Committee met eight times at regularly scheduled meetings during 1987 to discuss economic trends and decide the future course of open market operations.[2] As in previous years, telephone consultations were held occasionally between scheduled meetings. During each scheduled meeting, a directive was issued to the Federal Reserve Bank of New York. Each directive contained a short review of economic developments, the general economic goals sought by the Committee, its long-run monetary growth objectives and instructions to the Manager for Domestic Operations at the New York Bank for the conduct of open market operations. These instructions were stated in terms of the degree of pressure on reserve positions to be sought or maintained. They were deemed consistent with specific short-term growth rates for M2 and M3 which, in turn, were considered consistent with desired longer-run growth rates for these monetary aggregates. The Committee also specified intermeeting ranges in the federal funds rate. These ranges provided a mechanism for initiating consultations between meetings whenever it appeared that the constraint of the federal funds rate was inconsistent with the objectives for the behavior of the monetary aggregates.

The account manager has the major responsibility for formulating plans regarding the timing, types and amount of daily buying and selling of securities in fulfilling the Committee's directive. Each morning the manager and his staff plan the open market operations for that day. This plan is developed on the basis of the Committee's directive and the latest developments affecting money and credit market conditions, the growth of the monetary aggregates and bank reserve conditions. The manager also consults with the Board's staff. Present market conditions and open market operations that the manager proposes to execute are discussed each morning in a telephone conference call involving the staff at the New York Bank, one voting president at another Reserve Bank and staff at the Board. Other members of the Committee may participate and are informed of the daily plan by internal memo or wire.

The directives issued by the Committee and a summary of the discussion and reasons for Committee actions are published in the "Record of Policy Actions of the Federal Open Market Committee." The "Record" for each meeting is released a few days after the next Committee meeting. Soon after its release, it appears in the *Federal Reserve Bulletin*. In addition, "Records"

---

[1]Mr. Keehn voted as an alternate for Mrs. Horn.

[2]No meetings were held in January, April, June or October.

for the entire year are published in the annual report of the Board of Governors. The record for each meeting in 1987 included:

(1) a staff summary of recent economic developments — such as changes in prices, employment, industrial production and components of the national income accounts — and projections of general price, output and employment developments for the year ahead;

(2) a summary of recent international financial developments and the U.S. foreign trade balance;

(3) a summary of open market operations, growth of the monetary aggregates and bank reserves and money market conditions since the previous meeting;

(4) a summary of the Committee's discussion of the current and prospective economic and financial conditions;

(5) a summary of the monetary policy discussion of the Committee;

(6) a policy directive issued by the Committee to the Federal Reserve Bank of New York;

(7) a list of the member's votes and any dissenting comments; and

(8) a description of any actions regarding the Committee's other authorizations and directives and reports on any actions that may have occurred between the regularly scheduled meetings.

Table 2

Actual and Expected Money Growth in 1987

Aggregate	Target range	Actual
M2	5.5 – 8.5%	4.1%
M3	5.5 – 8.5%	5.4

NOTE: The target period for M2 and M3 is IV/1986 to IV/1987.

asset expansion at depository institutions."[5] Third, and perhaps most important, it appeared that deposit interest rates failed to adjust as rapidly as rising market rates. Once these deposit rates began to catch up to market rates, the growth of M2 and M3 could be expected to strengthen over the remainder of the year.

Under these circumstances, the Committee voted to retain the 1987 growth ranges for M2 and M3 (table 1). In discussing the events thus far and the expectations for the remainder of the year, the Committee viewed growth of the aggregates around the lower boundary of the ranges as acceptable. It also established tentative ranges for 1988 at this meeting. As shown in table 1, the members voted (with one dissent) to lower tentatively the M2 and M3 ranges by one-half percentage point for 1988. Although there was some discussion of lowering the range for M2 by a full percentage point and widening the band, the majority agreed on the tentative ranges reported in table 1.

Actual Growth of M2 and M3

Table 2 reports the Committee's target ranges and actual growth rates for M2 and M3 in 1987. The data indicate that M2 grew at only a 4.1 percent rate in 1987, below the Committee's lower bound. The growth rate of M3, 5.4 percent, was right at the lower bound.

The annual rates reported in table 2 mask the intra-year growth patterns. For example, quarterly data reveal a pattern of sharply slowing M2 growth during II/1987 and a steady increase throughout the remainder of year. The actual quarterly growth rates for M2, from first quarter through fourth quarter are: 6.6 percent, 2.3 percent, 3.1 percent and 4.4 percent. The pattern of M3 growth is relatively more stable. Increasing at a 6.6 percent rate in I/1987, M3 growth slowed to a 4.3 percent rate in II/1987. For the second half of the year, M3 increased at 4.9 percent and 5.8 percent rates during III/1987 and IV/1987.

SHORT-RUN POLICY OBJECTIVES

The Committee held eight regularly scheduled meetings during 1987 to review economic conditions and determine changes in the implementation of short-run policy actions. At each meeting, a policy directive was issued by the Committee to guide the day-to-day implementation of monetary

[5]Record (October 1987), p. 793.

1987 in Review

The charts on the following page are intended to provide an overview of the U.S. economy as it evolved during 1987. In the ensuing discussion, an analysis of major economic developments will be provided.

Perhaps the most positive economic news for 1987 was the surge in real GNP growth (chart 1) relative to the sluggish growth of the last three quarters of 1986. Despite being over four years old, the economic expansion continued with real GNP increasing at a 3.8 percent rate in 1987.

A surge in oil prices accounted for the high inflation rate early in 1987. Monthly figures for the annualized rate of inflation in consumer prices are shown in chart 2. These data show fairly consistent price gains in the 4 percent to 5 percent range for the first half of 1987. During the second half of 1987, however, inflation slowed somewhat, averaging 3.4 percent.

The exchange rate exhibits several major movements throughout 1987 (chart 3). During the first four months, the exchange value of the dollar generally fell against the 10 major industrial currencies on a trade-weighted basis. Beginning in May, it rose for three months. By year's end, however, the dollar had fallen about 12 percent against these major currencies.

The Committee believed early in the year that, for the current expansion to continue, a surge in the external sector was necessary. As chart 4 indicates, the merchandise trade deficit showed little downward progress for much of the year, despite the generally favorable exchange rate situation. The trade deficit for 1987 was $171 billion, about 10 percent greater than 1986.

Interest rate behavior (chart 5) was varied across the year. Short-term rates, like the three-month Treasury bill rate, were roughly constant until mid-summer when they increased sharply. The onset of the stock market crash reversed these gains as rates fell dramatically, a decline that was partially offset in the final few weeks of the year. Long-term rates generally were stable through the first quarter, then increased during April and May. Long-term rates also reached annual highs preceding the stock market crash. Their decline, however, did not erase the previous 10-month advance. During 1987, the discount rate was raised once, from 5.5 percent to 6.0 percent, on September 4.

The year's amazing increase in stock prices ended on October 19 (chart 6). Beginning the year at 1895.95, the Dow-Jones average increased to a historic peak of 2722.42 on August 25. Although equity prices already had retreated from this record high, the 508-point tumble on October 19 erased much of the year's gain. By the end of the year, the Dow average stood at 1938.83, a gain of about 2 percent for the year.

policy during the intermeeting period. The Manager for Domestic Operations of the System Open Market Account is responsible for carrying out the directive's orders.

The directives during 1987, as in 1986, were stated in terms of the "degree of pressure on reserve positions." The Committee also indicated the growth rates of the monetary aggregates that it believed consistent with the desired reserve pressure. The following is a chronological discussion of the Committee's decisions and the factors that influenced them.

February 10–11 Meeting

The economic data reviewed at this meeting and the analysis presented by the staff suggested that real economic activity would continue to grow moderately. During the fourth quarter of 1986, industrial production had increased at a 3.25 percent annual rate. Several Committee members commented that the favorable year-end statistics "undoubtedly reflected tax-related spending that had been moved up from 1987 into late 1986."[6] The Committee cautiously viewed the January increase

[6]Record (June 1987), p. 446.

Chart 1
U.S. Real GNP Growth Rate
(Compounded annual rate of change)

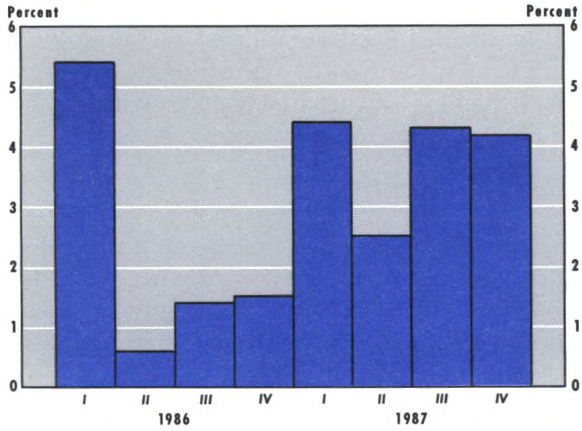


Chart 2
U.S. Inflation
(Compounded annual rate of change of the CPI)

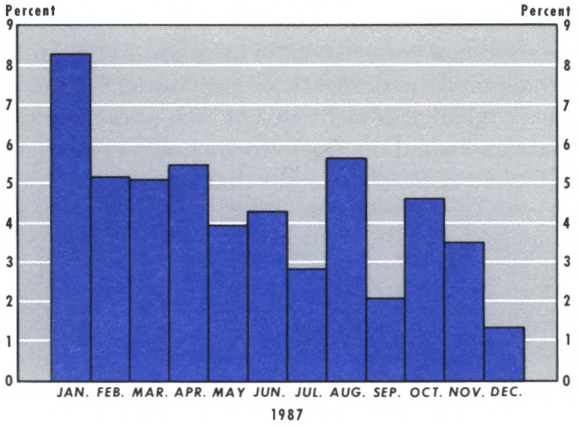


Chart 3
Trade-Weighted Exchange Rate

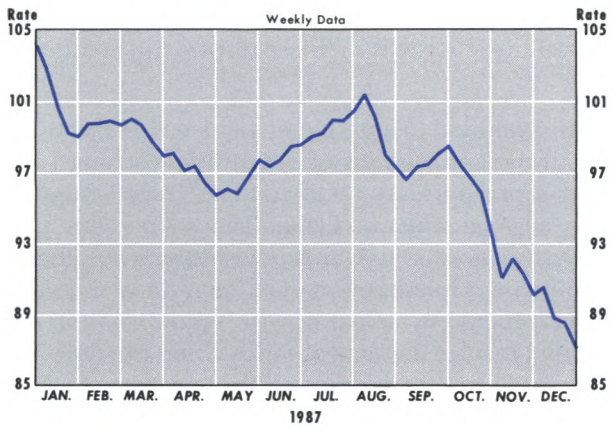
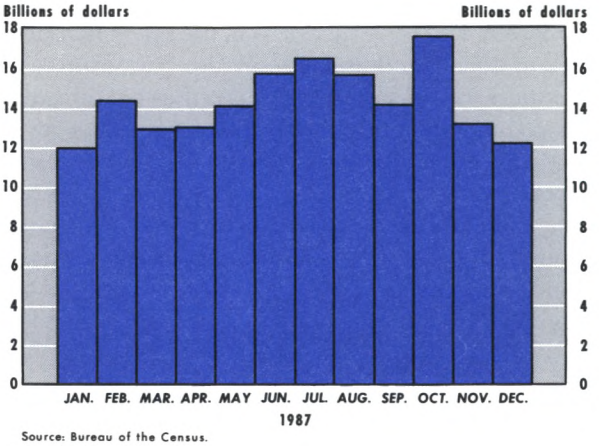


Chart 4
U.S. Trade Deficit



Source: Bureau of the Census.

Chart 5
Selected Interest Rates

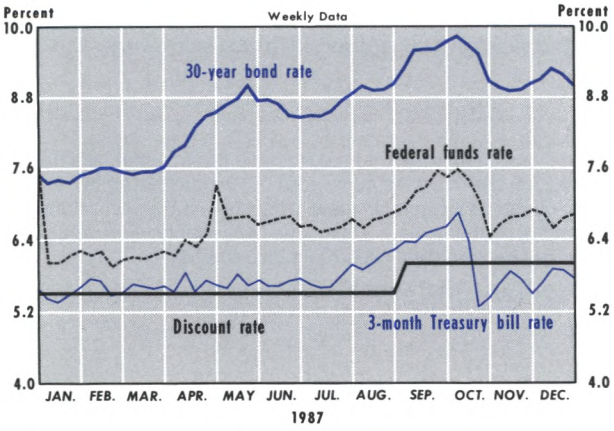
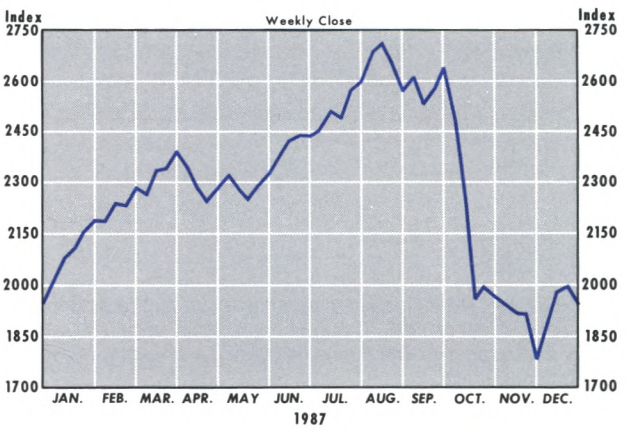


Chart 6
Dow Jones Industrial Average



in total nonfarm payroll employment of almost 500,000 workers as evidence of a stronger economy.

Committee members questioned the sustainability and breadth of the current expansion, however. One source of concern came from the so-called twin deficits: the domestic federal budget deficit and the balance of trade deficit. The persistence of these deficits led members to acknowledge "that there were appreciable risks that economic activity and prices might deviate significantly from current expectations."[7]

More so than in recent years, developments in international markets played an important role in shaping monetary policy. The extent of the importance stemmed from two opposing effects. One was the impact of a decline in the dollar's foreign exchange value on the demand for real net exports of goods and services. As noted at the February meeting, "a key element shaping the forecast [for real GNP] continued to be the prospects for an improvement in real net exports of goods and services."[8] The other factor was the effect of a declining dollar on domestic inflation. Committee members expressed the concern that a continuing fall in the dollar, along with recent increases in crude oil prices, ". . . would have a relatively large effect on consumer prices. The latter, because of their high visibility, could exacerbate inflationary expectations" and translate into increasing nominal interest rates.[9]

The Committee thus faced the problem of setting policy amid uncertainty about the dollar's behavior and its effect on the economy. It is clear from the Record that the inflationary effect of a lower dollar was of considerable concern. In keeping with its traditional role, the Committee sought to ward off potential inflation: "One indicator of the possibility of potential pressures on prices might be a further tendency for the dollar to weaken."[10]

In its directive, the Committee called for maintaining the existing degree of reserve pressure as shown in table 3. It believed that this action was consistent with growth rates of 6 percent to 7 percent for M2 and M3 for the January-to-March period. By establishing these ranges, the Committee hoped to slow the growth of the monetary aggregates, which in late 1986 had been growing at rates near the upper end of their target ranges.[11]

March 31 Meeting

Information reviewed at this meeting suggested that real economic activity was growing at a faster pace in I/1987 than in IV/1986.[12] Consumer prices had risen in January and February at annual rates of 8.3 percent and 5.2 percent, respectively, both considerably larger than the previous year's price increase of 1.3 percent (chart 2). Interest rates had remained fairly stable during the early part of 1987 (chart 5): the three-month Treasury bill rate fluctuated around 5.6 percent, the federal funds rate, after reaching its peak in late 1986, hovered around 6 percent; and the 30-year Treasury bond rate showed a slight increase during the first quarter of the year.

An extended discussion ensued at this meeting about the implications of a continuing strong downward pressure on the dollar. Since the first of the year, the dollar had fallen about 5 percent against major foreign currencies.[13] Some members commented that open market operations should be conducted in such a way to "minimize unintended market impacts at times when the dollar was under particular downward pressure."[14] Others noted that, if intervention into the foreign exchange market was ineffective in halting the slide of the dollar, monetary policy actions during the intermeeting period "might need to be adjusted to reduce reserve availability somewhat."[15]

The notion of reducing reserve availability to help stabilize the dollar's foreign exchange value

---

[7]Ibid., p. 445.

[8]Ibid.

[9]Ibid., p. 446.

[10]Ibid., p. 449.

[11]For example, M2 increased at about a 10 percent rate during the second half of 1986. Though not an official target, M1 also had shown rapid growth during this period, increasing at about a 20 percent rate.

[12]Later data would indicate that real GNP grew at a 4.4 percent rate in I/1987, compared with a 1.5 percent rate in IV/1986 (chart 1).

[13]The index used is the Federal Reserve Board's trade-weighted measure, based on the currencies of 10 industrial countries. The countries included in the G-10 index are Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland and the United Kingdom (chart 3).

[14]Record (July 1987), p. 594.

[15]Ibid.

Table 3
FOMC Short-Run Operating Ranges

Date of meeting	Target period	Expected growth rates		Degree of reserve pressure	Intermeeting federal funds range
		M2	M3		
February 10–11, 1987[1]	January-March	about 6 – 7%	about 6 – 7%	unchanged	4 – 8%
March 31, 1987	March-June	around 6% or less	around 6% or less	unchanged	4 – 8
May 19, 1987[2]	March–June	around 6% or less	around 6% or less	increased somewhat	4 – 8
July 7, 1987	June-September	around 5%	around 7.5%	unchanged	4 – 8
August 18, 1987	June-September	around 5%	around 5%	unchanged	4 – 8
September 22, 1987	August-December	around 4%	around 6%	maintained recent pressure	5 – 9
November 3, 1987	September-December	about 6 – 7%	about 6 – 7%	maintained recent pressure	4 – 8
December 15–16, 1987[3]	November-March	about 5%	about 6%	unchanged	4 – 8

Dissents:

[1]Mr. Melzer favored some tightening of reserve conditions. He noted the strong growth in bank loans in the November through January period and the firm federal funds rate that had prevailed despite the extraordinary pace of reserve growth. In addition, he cited the recent declines in the foreign exchange value of the dollar. Finally, looking ahead, he pointed out the potential for a further rise in inflationary expectations and, accordingly, he believed that prompt action toward restraint might avert the need for more substantial tightening later.

[2]Ms. Seger dissented because she did not want to lean on the side of any tightening of reserve conditions beyond the firming that had occurred since the March meeting. She was concerned that the degree of reserve pressure prevailing recently, which was somewhat greater than intended, represented a risk to an already weak economic expansion. She noted that the negative effects of recent increases in interest rates had not yet been felt in the economy. She also referred to recent indications of moderating growth in the monetary aggregates, and she did not expect inflationary pressures to persist in the context of excess production capacity and commodity surpluses worldwide.

[3]Mr. Johnson dissented because he believed that policy implementation should continue to focus on maintaining generally stable conditions in the money market, at least through the year-end, pending the emergence of more settled conditions in financial markets and a more predictable relationship between reserve objectives and money market conditions. He also preferred a directive that gave greater weight to the possibility for some easing, given potential developments during the intermeeting period.

Ms. Seger dissented because she favored some slight easing of reserve conditions in light of her concern about the downside risks in the economy, especially in the context of sluggish growth in reserves and the monetary aggregates over an extended period. She also wanted to continue to focus on money market conditions in System open market operations and in particular to counter upward pressures on short-term interest rates.

was viewed differently by different members. Some members viewed this policy as limiting the future increases in interest rates and inflation. For example, ". . . that approach would minimize the rise in domestic inflation and interest rates over time . . ." and "failure to arrest a considerable further decline in the dollar might result in substantial upward pressures on longer-term domestic interest rates."[16]

Given the economic environment and the concern voiced by some members over "the uncertainties surrounding the relationship between U.S. interest rates and the behavior of the dollar and also the negative impact that a firmer policy could have on a possibly fragile economic expansion," the Committee voted to maintain the existing degree of pressure on reserve positions.[17] This policy was believed consistent with growth in the M2 and M3 aggregates during the March-to-June period of around 6 percent or less.

May 19 Meeting

As shown in table 4, M2 and M3 increased at rates far below the Committee's expected ranges in the January-to-March period. Incoming data,

[16]Ibid.

[17]Ibid.

Table 4

Actual and Expected Money Growth

Period	M2		M3	
	Expected	Actual	Expected	Actual
January-March 1987	about 6 – 7%	0.6%	about 6 – 7%	1.4%
March-June 1987	around 6% or less	2.2	around 6% or less	5.8
June-September 1987	around 5%	4.9	around 5%	5.0
August-December 1987	around 4%	3.5	around 6%	4.9
September-December 1987	about 6 – 7%	2.8	about 6 – 7%	4.7

however, indicated a surge in the monetary aggregates during April: M1 increased at a 19 percent rate and M2 and M3 increased at a 5.8 percent rate. This faster money growth was not surprising as individuals increased their transaction balances to make tax payments. The outlook for real economic activity continued to suggest expansion at a moderate pace. Weakness in industrial production, however, renewed concern that the expansion was becoming sluggish, even though evidence from the labor market continued to indicate a brisk demand for labor.

The foreign exchange value of the dollar declined throughout much of the intermeeting period. On a trade-weighted basis, for example, the dollar fell about 1 percent against the G-10 currencies. Against the Japanese yen and the British pound, however, the dollar lost roughly 4 percent and 3.5 percent of its value, respectively (chart 3).

The dollar's continuing decline was being reflected in increased inflationary expectations and, hence, rising interest rates (chart 5). While the three-month Treasury bill rate remained relatively stable, other rates showed marked increases during the March-May intermeeting period. For instance, the 30-day commercial paper rate had increased about 55 basis points, the five-year Treasury securities rate had risen about 170 basis points and the corporate Aaa bond rate had jumped almost 90 basis points.

The discussion at this meeting turned to the darker side of the dollar's effects on the domestic economy. While the evidence suggested a continued, moderate economic expansion, there were signals that inflationary expectations were worsening, in part because of the dollar's continued slide. It was noted that:

> The prospective behavior of the dollar in foreign exchange markets was a key uncertainty bearing on the outlook for inflation and on that for overall business activity. [F]urther dollar depreciation, if it occurred, would add to further inflation pressures.[18]

This specter of higher future inflation caused most members to increase their attention toward reducing inflationary expectations. As the Committee's discussion reveals, it became a matter of weighing the relative risks of higher inflation or lower output growth:

> Most members saw a lesser and relatively limited risk to the expansion under current economic conditions and one that needed to be accepted given the pressures on the dollar and the potential for inflation.[19]

The Committee's directive called for an increase in the degree of reserve pressure (table 3). The directive stated that an increase in the degree of reserve pressure would be acceptable depending upon indications of inflationary pressures and developments in foreign exchange markets. As always, such actions were conditional on the state of the business expansion and the behavior of the monetary aggregates. Although the call for firmer reserve positions was actually a continuance of recent policy actions, including the Committee's recent response to tax-related conditions, the policy's thrust was to give greater emphasis to counteracting a potential increase in future inflation. Moreover, the Committee made it clear that an intermeeting adjustment of policy, if

[18]Record (September 1987), p. 713.

[19]Ibid., p. 714.

needed, would occur primarily in the event of a change in inflationary expectations — exhibited by rising interest rates — or a further decline in the dollar.[20]

July 7 Meeting

At the time of its midyear review meeting, the problems that plagued the Committee at the previous meeting had lessened. Economic data indicated that the expansion had continued to move forward with the most recent figure (May) on industrial production again registering positive growth (a 7.8 percent annual rate). More importantly, both producer and consumer price increases had slowed. For example, after increasing at about a 5 percent rate during the first four months of the year, producer prices increased at only a 2.5 percent rate in May. Similarly, consumer prices rose at a 4 percent rate in May, down appreciably from the 6 percent average rate of increase during the previous four months (chart 2).

The foreign exchange markets also provided some welcome news: The foreign exchange value of the dollar had strengthened since the May meeting, gaining 3.75 percent against the G-10 currencies (chart 3). More importantly, the dollar gained 7.75 percent against the Japanese yen and 3.75 percent against the deutsche mark. It thus appeared that the fears expressed at the May meeting had been alleviated.

One troublesome piece of news was the fact that M2 growth would be well below the Committee's March-June target. As shown in table 4, the Committee expected M2 to increase at a rate around 6 percent, but the actual figure turned out to be only 2.2 percent. In contrast, M3 growth for the period was 5.8 percent, basically the rate expected. The growth of M1, though not targeted, increased at a 3.9 percent rate during this period, up from the 1.5 percent rate of growth for the January-March period.

Under these more favorable economic conditions, the Committee adopted a directive that maintained the existing degree of pressure on reserve positions. As shown in table 3, this policy stance was expected to be associated with M2 growth around 5 percent and M3 growth around 7.5 percent for the June-to-September period.

Indications of easing inflationary pressures, a rising dollar and continuing growth in real economic activity prompted the Committee to choose a more eclectic view of intermeeting policy adjustments. At the May meeting, the Committee indicated that possible intermeeting adjustments in reserve pressure should depend especially on indications of inflationary pressure and stability of the dollar's foreign exchange value. The Committee stated at the July meeting, however, that any intermeeting change in the degree of reserve pressure would depend on "developments in the aggregates and the strength of the business expansion," as well as on inflationary pressure.[21]

August 18 Meeting

The cautious optimism evident at the July meeting resurfaced at the August meeting. Earlier concern of inflation due to a falling dollar had given way to the possible inflationary risks associated with increased economic activity. Indeed, the data seemed to support such a re-orientation: price increases continued to moderate from earlier months (chart 2), interest rates had shown no tendency to rise from current levels (chart 5), the unemployment rate continued its descent, reaching 6.0 percent in July, and the dollar's value in foreign exchange markets was, on net, basically unchanged during the intermeeting period (chart 3). Also, the preliminary data on real GNP showed the economy to be growing at a 2.6 percent rate in the second quarter (chart 1). With the weight of recent data behind them, several members noted that "the chances of any deviation from such expectations [about real growth] were on the side of faster economic growth with attendant risks of intensifying inflationary pressures."[22]

The economic data from the previous few months did not budge the Committee from its anti-inflation stance; the data did alter the Committee's focus on potential sources of inflationary pressures, however. The importance placed on changes in the dollar's foreign exchange value that might trigger an intermeeting policy adjustment

---

[20]Specifically, ". . . the members generally agreed that both inflationary developments and the dollar should receive special emphasis. In particular, should inflation or inflationary expectations seem to be intensifying or the dollar come under renewed downward pressure, the Committee would be ready to see some prompt further firming of reserve conditions." Ibid.

[21]Record (October 1987), p. 796.

[22]Record (November 1987), p. 864.

was lower in this meeting than earlier. While the Committee "remained sensitive" to developments in the dollar, such developments "would need to be interpreted with particular care" and

> in this view a judgment would need to be made as to whether any weakness in the dollar related more to uncertainties about oil market developments than to fundamental concerns about underlying inflationary pressures on the economy.[23]

In light of this changing economic environment, the Committee voted for a directive that called for no change in reserve pressure. As table 3 shows, maintaining the present course was expected to produce M2 growth around 5 percent from June to September. For the same period, M3 growth also was expected to be around 5 percent, down from the 7.5 percent rate expected at the July meeting.

September 22 Meeting

Several pieces of economic news and actions by the Committee during the intermeeting period laid the foundation for the discussion at this meeting. In terms of positive news, the economy appeared to be expanding at a reasonable pace in the third quarter, with the industrial sector posting solid gains. Indeed, the actual growth rate of real GNP would turn out to be more than 4 percent (chart 1). Price increases continued to ease with consumer prices increasing at about a 4 percent rate during the previous few months, down from about a 6 percent rate earlier in the year (chart 2).

On the negative side, the trade-weighted value of the dollar resumed its decline, falling about 2.5 percent against the G-10 currencies immediately following the August meeting (chart 3). Preliminary data indicated that the reduction in the dollar's exchange value did not appreciably alter the trade deficit: although the July merchandise trade deficit was essentially unchanged from its June level, it was larger than its second-quarter average (chart 4). Also, interest rates across the maturity spectrum were beginning to show signs of upward movement following the last meeting (chart 5).

In light of these developments, the decision was made early in September to reduce marginally reserve availability. This action was taken because of "the potential for greater inflation, associated in part with weakness in the dollar."[24] On September 4, the Federal Reserve Board also announced a 50 basis-point increase in the discount rate to 6 percent.

Considerable uncertainty about the inflation outlook pervaded the discussion in the September 22 meeting. While some members noted that increased inflationary expectations had been evidenced in recent financial market developments, the available data showed no appreciable upturn in inflation. The uncertainty expressed by some members stemmed from the fact that the economy had reached a level of production and labor utilization associated with upward pressure on wages and prices. This belief, along with the recent fall of the dollar and the increase in M2 growth, led to a directive that called for maintaining the degree of reserve pressure sought in recent weeks. Moreover, for the first time since the July 8-9, 1986, meeting, the intermeeting federal funds rate range was changed, increasing from 4 percent to 8 percent to 5 percent to 9 percent (table 3). This action was viewed as a "technical adjustment," taken to center the intermeeting range more nearly around the existing federal funds rate.

The Committee expected these actions to be associated with slightly slower M2 growth during the last few months of the year. As shown in table 3, M2 growth for the August-to-December period was expected to be around 4 percent with M3 growth around 6 percent. The data in table 4 show that Committee expectations about M2 and M3 for the June-September period came quite close to the actual growth rates.

November 3 Meeting

To understand the discussion and decisions at this meeting, it is best to briefly identify the historic events of the intermeeting period. This is done by examining the period from September 22 to the stock market crash on October 19, then the period from October 19 to the date of the meeting.

September 22 to October 19 — Following the September 22 meeting, interest rates continued their upward climb (chart 5). Rising interest rates were accompanied by a continuing fall in the dollar's value in exchange markets (chart 3). Although the dollar edged down in early October, its decline quickened following the October 14 release of U.S. trade data, which indicated that the U.S. merchan-

[23]Ibid., p. 866.

[24]Record (January 1988), p. 41.

dise trade deficit for July-August was slightly greater than in the second quarter. Even though exports had risen sharply, a surge in oil imports had helped imports to increase relative to exports.[25]

Stock prices, measured by broad market indexes, had declined appreciably during the first half of October (chart 6). For instance, the Dow Jones average of 30 industrial stocks began the month of October at a level of 2639.20. The index declined from this point on, reaching 2246.74 on Friday, October 16. This decline and the increase in interest rates suggests changes in market perceptions about the possible tightening of monetary policy "in an environment of firmer policy abroad, concerns about the dollar, and pessimism about the prospects for domestic inflation."[26]

October 19 to November 3 — The Dow Jones industrial stock price index fell a record 508 points on Monday, October 19. This decline, a 22.6 percent plunge, took place amid frenzied trading that pushed the one-day trading volume to 604 million shares.[27] More importantly, it raised the fear of a recession.

The immediate impact of the market crash was to heighten uncertainty over the future course of interest rates, the value of the dollar and the economic expansion. Monetary policymakers responded by ensuring adequate liquidity to the financial market. The Committee conferred by telephone to review developments in domestic and foreign markets every business day from October 19 to 30. Members agreed "on the need to meet promptly any unusual liquidity requirements of the economic and financial system in this period," an approach whereby "reserves were provided generously on a daily basis, often at an atypically early hour."[28] Open market operations following the crash therefore were directed toward lessening the reserve pressure sought at the September 22 meeting.[29]

In response to the market crash and the easing of reserve availability, interest rates plummeted in the second half of October (chart 5). The three-month Treasury bill rate fell 184 basis points during the last two weeks of October. During this period, the rates on five-year and 30-year Treasury securities fell 135 and 108 basis points, respectively. These interest rate declines, the Committee thought, would partially offset some of the adverse effect on consumers and businesses of the sharply lower equity prices. Similarly, the continued fall in the dollar after some initial stability would buoy the economy. The possible inflationary consequences of lower interest rates and a lower dollar now took a back seat to the more immediate concern about the effect on economic activity from the stock market crash and related developments in financial markets. Indeed, projections made by the Committee's staff and professional forecasters generally indicated that the reduction in equity values would lead to much lower economic growth in 1988, with the major brunt of the effect appearing in the first half of the year.

The Actual Meeting — The discussion at the November 3 meeting focused on the economic implications of the stock market crash. The financial markets' turbulence increased the uncertainty about the effect of recent policies and the extent to which such policies should be continued. At this meeting, ensuring the viability of the financial system and offsetting the negative economic effects of the recent events remained paramount. The Committee agreed that policy would follow economic and financial developments on a relatively more timely basis, "giving more weight than usual to money market conditions in order to facilitate the return to a more normal functioning of financial markets."[30] A number of Committee members viewed the possible risks inherent in such policy — namely, the increased risk of a further decline in the dollar and its impact on the economy — as manageable.

The policy directive was approved unanimously and called for a maintenance of the reserve pressure sought in recent days. This policy was deemed consistent with September-to-December

---

[25]It has been noted that these monthly trade statistics are subject to significant measurement problems, thus lessening the importance that one should place on their month-to-month changes. See, for example, Ott (1987).

[26]Record (February 1988), p. 113.

[27]For purposes of comparison, the average daily volume in September was 177 million shares.

[28]Record (February 1988), p. 114.

[29]Not only was reserve pressure lessened, but "the Federal Reserve assisted the Treasury market by relaxing some of the constraints on its collateralized lending of Treasury securities to primary dealers. Committee members agreed on a temporary suspension of the size limits imposed on loans of securities to individual dealers and the requirement that such loans not be related to short sales." Ibid. This temporary liberalization ended November 19, 1987.

[30]Ibid., p. 116.

growth rates of M2 and M3 of about 6 percent to 7 percent (table 3). Moreover, in light of recent developments and the recent thrust of policy, the intermeeting federal funds rate range was lowered from 5 percent to 9 percent to 4 percent to 8 percent. Thus, while cognizant that policy had become much easier relative to previous directives, most members of the Committee believed that

> in light of the uncertainties that continued to dominate financial markets and the risks that the recent developments could depress business activity . . . policy implementation should remain especially alert to developments that might call for somewhat easier reserve conditions.[31]

December 16 Meeting

At the final meeting of 1987, the Committee faced a reappearance of the major factors that had plagued policymakers throughout the year. Employment and industrial production posted strong gains over the October-November period. The Committee interpreted incoming data as suggesting that fourth-quarter growth would fall slightly below the third-quarter pace. More importantly, the data supported the notion that a recession, brought on by the recent stock market collapse, was not imminent. Meanwhile, financial markets continued to exhibit relatively large daily fluctuations, and the trade-weighted dollar fell considerably against the major industrial currencies following an unanticipated large merchandise trade deficit report for October (chart 4). Finally, consumer price information showed inflation running at about the same rate as early 1987, slightly above recent price level changes (chart 2).

Data on the monetary aggregates indicated that growth was re-established at rates comparable to those observed just before the financial market crisis. The surge in money growth following the stock market decline, thus, was a temporary response to the unusual financial market conditions and did not represent a shift toward prolonged easier money growth. This transitory increase is reflected in monthly M2 growth: 5.6 percent in September, 7.1 percent in October and −0.6 percent in November. More dramatic, the respective growth rates for M1 are 0.3 percent, 16.5 percent and −6.3 percent.

The Committee elected (with two dissents) to maintain the existing degree of pressure on reserve positions at the December meeting. With regard to the uncertainty in financial markets, the directive stated "the Committee recognizes that still sensitive conditions in financial markets and uncertainties in the economic outlook may continue to call for a special degree of flexibility in open market operations."[32] Although the directive explicitly declared maintaining reserve pressure as the policy objective, it also indicated a willingness to respond flexibly to new developments.

CONCLUSION

The falling value of the dollar played an increasingly important role in influencing monetary policy decisions during most of 1987. The dollar's fall was a mixed blessing: while its declining value abroad could have induced a turnaround in the trade deficit, it also could have raised prices on imports and increased inflation. The balancing of the risks of slowing the expansion or reigniting inflation was foremost in the Committee's discussion.

That focus changed with the historic events on Wall Street. The stock market collapse on October 19 shifted the Committee's concern away from foreign exchange to the liquidity demands of the domestic financial market. The Committee at the last meetings of the year sought to remain flexible in its policy stance, attune to the uncertainties that prevailed in financial markets and the risks of a downturn in economic activity.

REFERENCES

Darby, Michael R., Angelo R. Mascaro, and Michael L. Marlow. "The Empirical Reliability of Monetary Aggregates as Indicators: 1983–87," United States Department of the Treasury, Research Paper No. 8701 (August 1987).

Hafer, R. W. "The FOMC in 1985: Reacting to Declining M1 Velocity," this *Review* (February 1986), pp. 5–21.

_____. "The FOMC in 1983–84: Setting Policy in an Uncertain World," this *Review* (April 1985), pp. 15–37.

Nuetzel, Philip A. "The FOMC in 1986: Flexible Policy for Uncertain Times," this *Review* (February 1987), pp. 15–29.

Ott, Mack. "Is Trade Deficit as Big as It Seems?" *Wall Street Journal*, December 23, 1987.

Thornton, Daniel L. "The FOMC in 1982: De-emphasizing M1," this *Review* (June/July 1983), pp. 26–35.

[31] Ibid., p. 117.

[32] Record (April 1988), p. 241.

Thomas B. Mandelbaum

Thomas B. Mandelbaum is an economist at the Federal Reserve Bank of St. Louis. Thomas A. Pollmann provided research assistance.

The District Business Economy in 1987: The Expansion Continues

THE 1980s have been a decade of economic contrasts. In the first two years of the decade, both the Eighth Federal Reserve District and the nation struggled through the deepest recession in the postwar period. Since then, they have enjoyed steady growth. The District economy expanded moderately in 1987, the fifth successive year of regional as well as national growth, making the current recovery the longest peacetime expansion of the century.[1]

Nationally, economic growth in 1987 was similar to that in 1986; real GNP increased 2.9 percent in both years, in year-over-year comparisons. Last year, the sources of growth shifted to the export sector and inventory accumulation from consumer spending, which was inhibited by slow real income growth. These shifts could be seen in the District economy as manufacturing employment increased in 1987 and real income slowed. In both the District and the nation, general employment growth in 1987 was moderate, as it was in 1986, allowing unemployment rates to decline to their lowest levels of the decade.

This article focuses on developments of the Eighth District's business economy in 1987. For a broader perspective on last year's growth, it will be assessed in the context of District and U.S. growth in the 1980s.

RECENT ECONOMIC PERFORMANCE IN THE EIGHTH DISTRICT

The broadest available measures of regional economic activity — personal income and employment — show moderately slow growth in 1987. As table 1 shows, both income and nonagricultural employment advanced at near the national rate.

Real personal income grew 1.8 percent in the District during 1987, its lowest growth rate since

[1]The Eighth Federal Reserve District includes Arkansas and parts of Illinois, Indiana, Kentucky, Mississippi, Missouri and Tennessee. This article uses data for the entire states of Arkansas, Kentucky, Missouri and Tennessee to represent the District.

Table 1

Growth Rates of Income and Employment During the 1980s

	1986–87[1]		1979–87[2]	
	Eighth District	United States	Eighth District	United States
Real personal income	1.8%	1.9%	1.4%	2.0%
Nonagricultural employment	2.5	2.5	1.1	1.6
Goods-producing sectors				
Mining	−4.1	−5.3	−4.1	−3.2
Manufacturing	0.8	0.6	−1.0	−1.2
Construction	5.5	2.7	0.2	1.5
Service-producing sectors				
Transportation and public utilities	2.7	2.5	0.7	0.6
Wholesale and retail trade	2.3	2.0	1.7	2.2
Finance	3.3	4.6	2.7	3.6
Services	4.6	4.5	3.9	4.4
Government	1.9	2.1	0.4	0.8

[1]Percent change
[2]Compounded annual rate of change

the recession of 1982.[2] Last year's gain only slightly exceeded real income's 1.4 percent average annual growth rate over the 1980s, which began with three successive years of declining real income.

All three major components of District real personal income slowed in 1987 relative to 1986. Transfer payments rose 1.4 percent in 1987, one-third of the previous year's growth. Dividends, interest and rent fell 0.6 percent in 1987 after rising 3.3 percent in 1986. Real earnings, about two-thirds of income, grew 2.5 percent in 1987 after rising 3.9 percent during the previous year. The earnings slowdown stems from sluggish wage gains during the year. In the nation's businesses, real hourly compensation fell 0.7 percent in 1987 after a 2 percent gain in 1986.

District retail sales expanded 2.7 percent in 1987, after adjusting for price changes, somewhat faster than income growth. This represents a considerable acceleration over the 1 percent gain in retail sales in 1986. Many District retailers, fearing that last October's stock market crash would dampen Christmas sales, discounted prices heavily in December. Despite these markdowns, District retailers generally reported only slight gains in real sales from a year earlier. Many retailers of general merchandise, however, reported that year-end inventories were not substantially above desired levels.

For the third successive year, District nonagricultural employment grew moderately. The number of nonfarm workers on District payrolls rose to 6.3 million in 1987, a 2.5 percent gain. The District unemployment rate in 1987 fell to 7.2 percent from 7.8 percent a year earlier. Although total civilian employment rose only 1.8 percent during the year, the unemployment rate fell as the labor force grew even more slowly, rising by 1.2 percent.

DISTRICT GROWTH MATCHES THE NATION'S

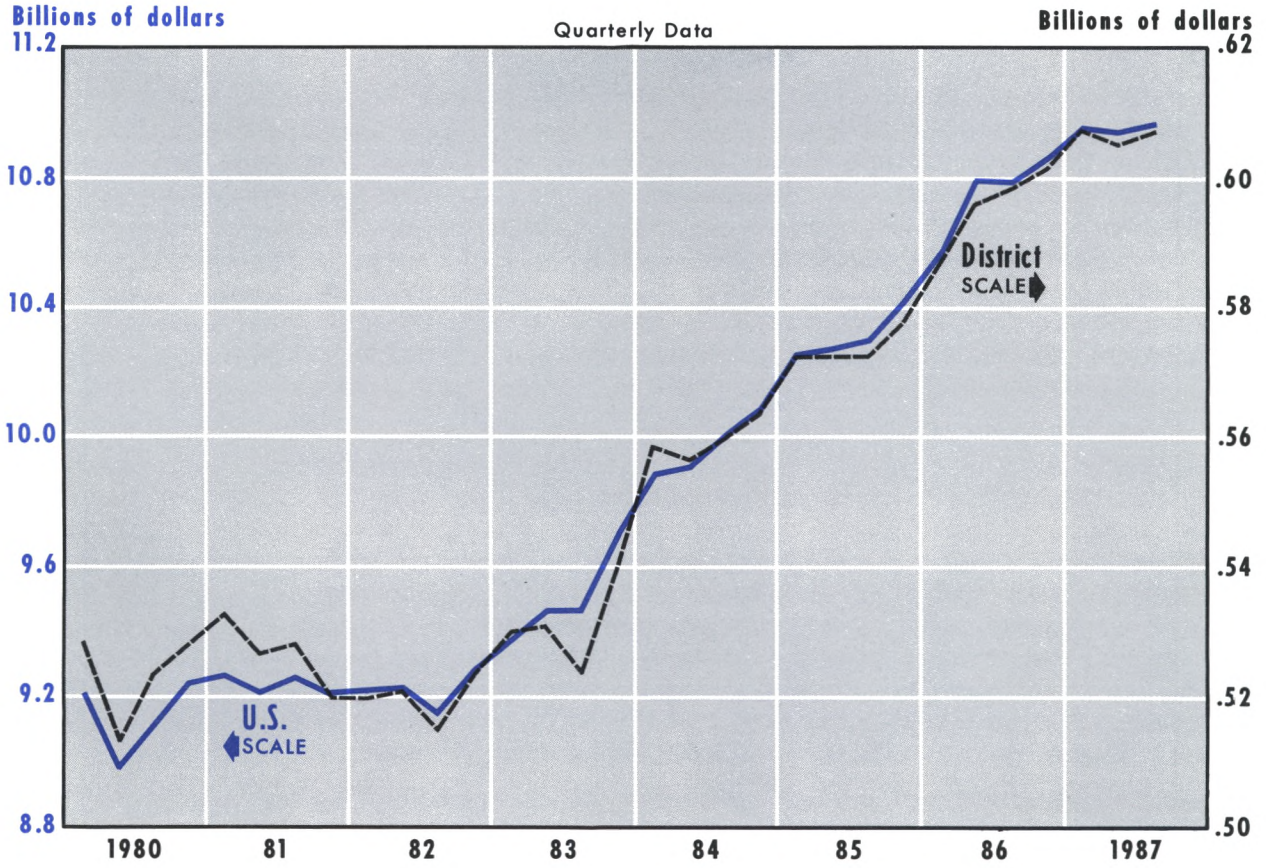
The similarity between income and nonagricultural employment growth in the District and the nation in 1987 is not unique. Rather, it is a continuation of parallel growth that has existed throughout the 1980s.[3] As charts 1 and 2 show, District income and employment declined slightly more

[2]Income growth compares the average of the first three quarters of 1987 with previous years' averages. Growth rates of other indicators compare the 1987 average to the average of previous years.

[3]This close correspondence existed in the 1970s as well. Santoni (1983) found no statistically significant difference between Eighth District and U.S. growth rates of employment, income and several other economic indicators in the I/1970–I/1983 period.

Chart 1

Real Personal Income



rapidly than the national average from the beginning of the decade through the trough of the recession in IV/1982; the subsequent correspondence between regional and national income and employment, however, has been striking. The similarity shown in the charts is more precisely expressed in the third and fourth columns of table 1. The compounded annual growth rates of District income and employment during the 1980s, 1.4 percent and 1.1 percent, were only slightly below the national figures. This similarity can be understood by considering two factors: the relative compositions of the regional and national economies and the growth of individual sectors.

The more similar its economic structure is to the nation's, the more likely a region's growth will parallel the nation's. The Eighth District and the nation have shared very similar employment structures throughout the 1980s. Table 2 shows the 1987 distribution of employment among the eight major divisions of employment. Although manufacturing has accounted for a slightly larger, and services a slightly smaller share of the District economy than of the national economy, the resemblance is quite close. Although not shown in the table, this structural similarity in employment has existed throughout the decade.

The compositional similarity helps explain the parallel movements of District and U.S. employment, but does not guarantee similar total employment expansions. If the growth of employment in individual sectors at the regional and national levels is sufficiently different, dissimilar growth of overall employment would be likely as well. During the current decade, however, most of the District's major sectors grew at near the national

Chart 2

Nonagricultural Employment

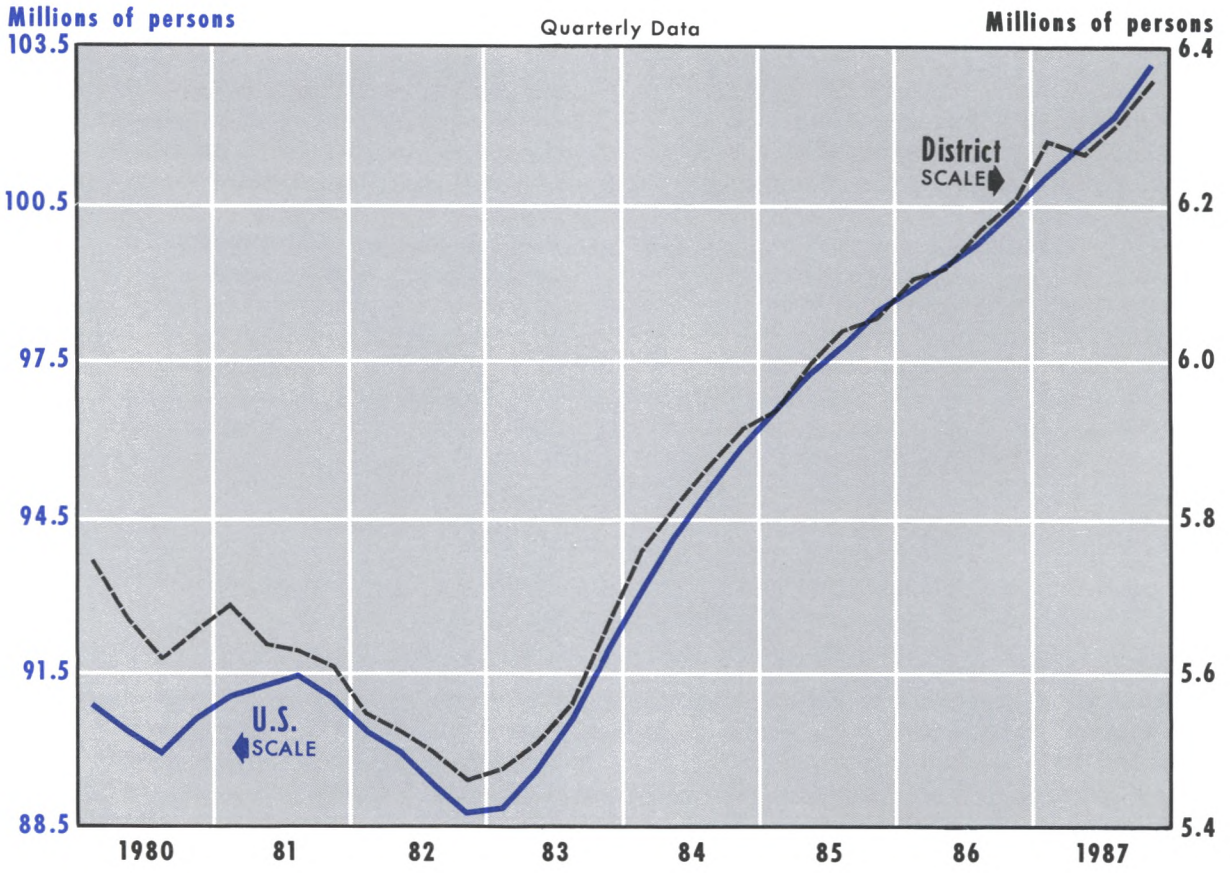


Table 2

A Comparison of Eighth District and U.S. Employment Composition in 1987 (percent of nonagricultural employment)

	Eighth District	United States
Mining	0.9%	0.7%
Manufacturing	22.0	18.7
Construction	4.7	4.9
Transportation and public utilities	5.7	5.3
Wholesale and retail trade	23.5	23.6
Finance	5.2	6.5
Services	21.2	23.6
Government	16.7	16.7

rates, as table 1 shows. Most important, the four largest sectors (manufacturing, wholesale and retail trade, services and government), which account for more than four-fifths of total District nonagricultural employment, each grew at near the national pace.

EIGHTH DISTRICT GROWTH BY SECTOR

In addition to pointing out the similarities between District and U.S. employment growth, table 1 shows the sharp variations in job growth last year among the various sectors of the District economy; these divergences range from mining's substantial employment decline to construction's sharp employment growth. This section highlights recent developments of the District's major industrial sectors.

Goods-Producing Sectors: Mixed Performance

The performance of goods-producing sectors was mixed: mining employment continued to decline, but construction employment expanded and manufacturing employment finally grew after falling for two years.

Mining. The fortunes of the nation's energy sector have been linked to energy prices in the 1980s. Since peaking in 1981, the price of energy fell steadily through 1985, then plummeted in 1986. As energy prices increased slightly in 1987, the mining industry continued to reduce its workforce but at a slower rate than in 1986.[4] In 1987, employment in mining (including crude oil, natural gas and coal extraction) dropped by 4.1 percent and 5.3 percent in the District and the United States, respectively, less than half their declines in 1986.

Manufacturing. The long-awaited effect of the declining exchange value of the dollar helped stimulate manufacturing activity in 1987. The growth of the nation's manufacturing sector during 1987 was spurred by the swift growth of exports, which rose 12.8 percent in 1987 (1982 dollars). Although no recent data on District exports are available, manufactured exports produced in the District between 1971 and 1984 grew at or near the national pace. This parallel growth allowed the District to produce approximately 6 percent of the nation's manufactured exports throughout the period.[5] To the extent that these historical relationships have persisted, District exports also accelerated in 1987, contributing to the growth of the District manufacturing sector.

District manufacturing employment grew 0.8 percent in 1987, compared with a 0.6 percent increase nationally. These increases represent the first growth since 1984. Despite last year's gain, manufacturing employment has yet to return to its 1979 peak in either the District or the nation. Unlike manufacturing employment, however, manufacturing output has continued to grow since the current recovery began. By 1984, both District and U.S. manufacturers were producing a greater volume of goods than in 1979.[6] Productivity gains allowed fewer workers to produce a greater volume of output.

Last year's advances in regional manufacturing employment were not widespread among industries. Of the District's major industrial sectors, only employment in the food and kindred products and textile and apparel industries grew last year. Following several years of stagnation, employment in the region's food processing firms grew approximately 4 percent in 1986 and 1987. Much of the District growth was due to a rapid increase in Arkansas, where poultry processors and canneries have expanded their operations.

The textile and apparel industry raised its workforce by 2.7 percent last year. This import-sensitive industry enjoyed a strong demand for its products in 1987 as the falling value of the dollar in foreign exchange markets raised import prices and made its products more competitive overseas. In addition, the industry has invested heavily throughout the decade to make their operations more competitive. By the end of 1987, the nation's textile mill industry was using 94.1 percent of its capacity, its highest utilization rate of the decade.

The District's transportation equipment industry experienced the steepest employment decline of the major manufacturing industries, dropping 5.5 percent in 1987. Employment levels in District plants making aircraft and aircraft parts were stable, but auto assembly jobs dropped sharply throughout the District. One aging truck assembly plant in St. Louis was closed in August, eliminating more than 2,000 jobs. Moreover, slower-than-expected auto sales forced frequent layoffs of auto-assembly workers throughout the year.

The number of autos assembled in District plants in model year 1987 fell to just over 919,000, 14.1 percent fewer than in the previous year. District plants assembled 12.5 percent of the nation's 1987 model cars, down slightly from 13.6 percent a year earlier. Auto assembly should continue as a major contributor to the District's economy, however. In recent years, only Michigan has assembled more cars than Missouri. Auto makers are currently building new plants in central Kentucky and central Tennessee, and plan a major expan-

---

[4]The producer price index for fuels, related products and electric power fell at a 2.3 percent rate between 1981 and 1985, dropped 23.7 percent in 1986, then rose 0.7 percent last year.

[5]See Mandelbaum (1987/88).

[6]For a comparison of employment and output trends of Eighth District manufacturing, see Mandelbaum (1987).

sion of light truck production in the Louisville area. What's more, despite last year's decline, the District's share of the nation's car assembly has risen in the decade, from 8.8 percent in 1980 to last year's 12.5 percent. The number of trucks assembled in District states has also risen in the decade.

Construction. After a strong recovery in 1983, construction growth has slowed in both the region and the nation. In 1987, the real value of construction contracts was virtually flat in both the District and the nation. Although District construction employment grew 5.5 percent last year, this growth was concentrated in Tennessee, where construction contracts grew moderately, and Kentucky, where additional workers were needed to complete projects contracted in 1986.

A decline in the residential building sector contributed to the stagnation of District construction contracts in 1987. Residential contracts and nonbuilding contracts (for such projects as roads, bridges and utilities) declined approximately 5 percent in 1987. These declines were offset by an 11.2 percent gain in nonresidential building construction. The region's nonresidential building growth originated in Kentucky and Tennessee, and was particularly strong in Louisville and Memphis.

The weakness of the residential building sector during 1987, revealed in the contract data, is also evident in preliminary housing permit data. Housing permits issued in District states declined 9.2 percent in 1987 and 13 percent nationally. In the District, fewer housing permits were issued in 1987 than in any year since 1983, largely because of a sharp decline in multifamily housing. Nationally, permits for multifamily structures also dropped rapidly. Industry analysts blame years of overbuilding for the weakness in this sector. As mortgage rates increased through most of the year, the expansion in the number of District permits for single-family homes slowed in 1987 from the double-digit gains of 1985 and 1986. District permits for single-family homes grew 5.6 percent last year, while dropping 3.8 percent nationally.

Service-Producing Sectors

Three of the service-producing sectors — finance, services and wholesale/retail trade — accounted for about half of the District workforce and were responsible for the majority of District job growth during the 1980s. Consumers have spent an increasing proportion of their rising incomes on services in recent decades. Slower labor productivity growth in service-producing than in goods-producing industries also has contributed to the relatively rapid job growth in services.[7]

Services. The miscellaneous services category, including personal, business, auto repair, health and legal services, was the fastest growing of the District service-producing sectors both in 1987 and in the current decade. Employment rose 4.6 percent in 1987, slowing slightly from its pace over the previous three years. Health and business services dominate this category and were among the most rapidly expanding industries. Employment in services grew particularly rapidly in Tennessee, rising by more than 6 percent in both 1986 and 1987.

Trades. Employment in the District's wholesale and retail trade businesses rose 2.3 percent in 1987, similar to the nation's gain. The pattern of growth in 1987 exemplified that in the 1980s: District trade employment grew at a 1.7 percent annual rate during the 1980s, similar to the nation's 2.2 percent pace, with sluggish growth in Missouri and Kentucky contrasting the faster growth in Arkansas and Tennessee.

Finance. The finance sector includes finance, insurance and real estate. Employment in the District finance sector has grown more slowly than its national counterpart for most years of the decade. In 1987, employment in the sector grew 3.3 percent in the District compared with 4.6 percent nationally. This sector expanded slower than the national average in each of the District states.

Government. Government employment has grown at less than a 1 percent rate in the current decade in both the nation and the District. Last year, the sector grew slightly more rapidly than it averaged over the decade, with a 1.9 percent growth regionally and a 2.1 percent increase nationally.

Federal government spending in District states continued to contribute to regional economic growth in 1987. Federal expenditures in District states during fiscal year 1987 totaled $54 billion, 7.7 percent less than in the previous year, after

[7]See Ott (1987), pp. 8–13, for an explanation of services' rapid employment growth.

adjusting for inflation. Defense contractors in District states received $8.2 billion in procurement contracts during the fiscal year, a real gain of 0.4 percent over the previous fiscal year. Defense contracts fell 2 percent nationally. The value of contracts awarded in Missouri, recipient of three-fourths of the District defense contracts, increased 8.1 percent in 1987, following a sharp drop in 1986.

Transportation, Communication and Public Utilities. After falling the first four years of the decade, employment in the District's transportation, communication and public utilities sector has grown steadily. In 1987, this sector's employment rose 2.7 percent regionally and 2.5 percent nationally.

INTERSTATE COMPARISONS

Despite the overall similarity of economic growth in the District and the nation, all District states did not grow at the national rate during either 1987 or the current decade. While employment growth in Arkansas and Tennessee approached the national rate, Kentucky's and Missouri's expansions were substantially slower.

Two factors that earlier explained the parallel growth of District and U.S. employment — industrial mix and relative growth of individual sectors — are also helpful in understanding why employment in Arkansas and Tennessee grew at near the national rate and why employment in Kentucky and Missouri expanded more slowly. A discussion of the general influences of these factors follows; a more detailed accounting of the effects of industrial mix and relative industry growth can be found in the appendix.

Arkansas

Arkansas has a relatively high job concentration in slow-growing manufacturing and a smaller-than-national proportion in services, the most rapidly growing employment sector nationally. Despite this difference, Arkansas' employment growth was nearly as large as that in the nation in the 1980s because individual industries in the state grew faster than their national counterparts. An important factor was a relatively strong manufacturing sector; factory employment rose 0.5 percent in Arkansas while falling 9.2 percent nationally.

As chart 3 shows, the state's unemployment rate has fallen slowly since 1984. Arkansas enjoyed a moderate job expansion in 1987; as a result, the civilian unemployment rate dropped to 8.1 percent from 8.8 percent in 1986. Nonagricultural employment rose a moderate 2.8 percent (see table 3). Real personal income, however, grew only 0.9 percent during the year, in part because wage hikes were minimal and employment gains were concentrated in lower-wage sectors, such as services and trade. Manufacturing employment grew at a healthy 3.2 percent pace, but these gains were concentrated in food processing, a relatively low-wage industry.

For the third successive year, the real value of construction contracts awarded in Arkansas declined in 1987, dropping 5.6 percent. This drop showed up in both residential and nonresidential categories.

Kentucky

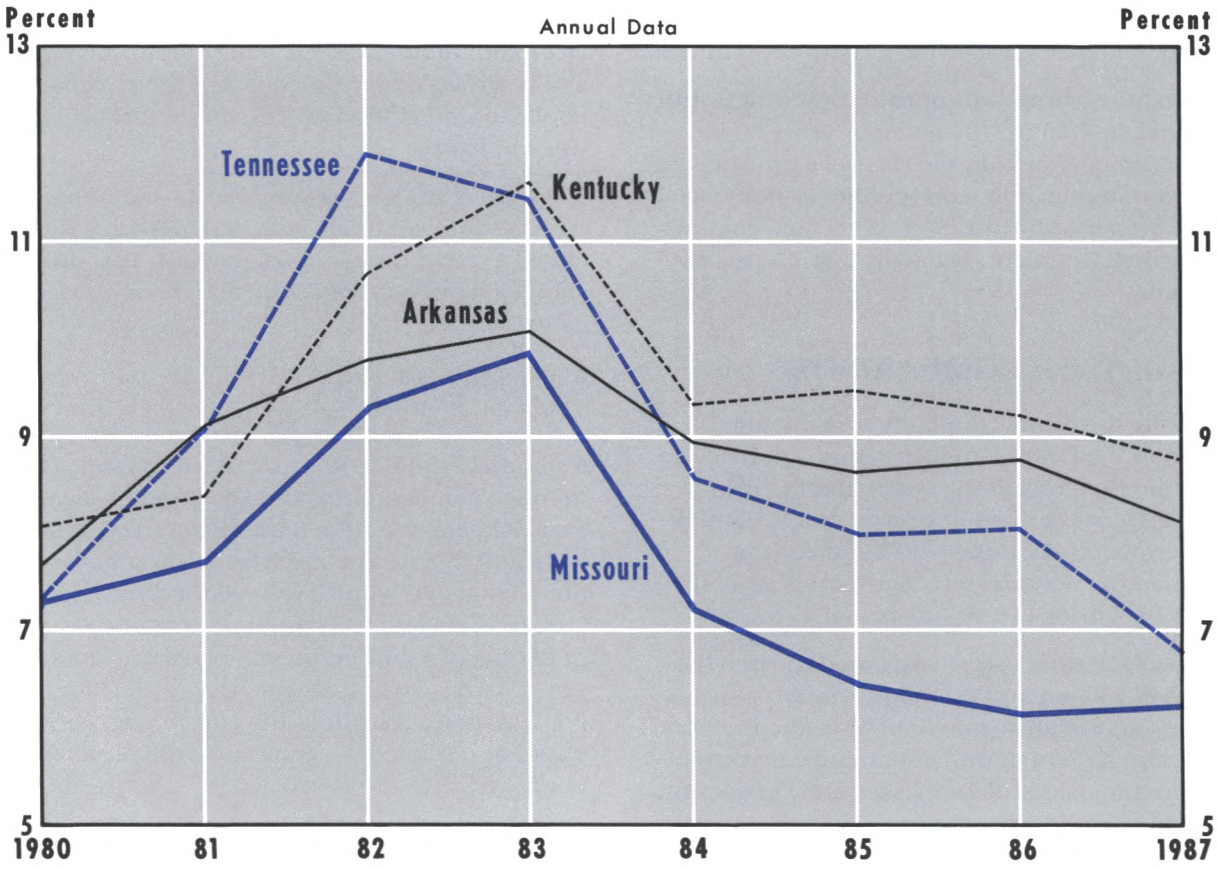
Kentucky's workforce has been more concentrated than the national average in the sluggish mining, manufacturing and government sectors and less concentrated in the faster-growing services and finance sectors. This employment structure, combined with slower-than-national job growth in each of its eight major sectors, resulted in Kentucky's slow employment expansion in the 1980s. Two sectors that were responsible for much of the nation's growth in the current recovery — trades and services — grew substantially slower in Kentucky.

Kentucky's economy grew slightly slower than the nation's in 1987 (see table 3). While Louisville and Lexington enjoyed moderate growth, economic growth in non-metropolitan areas more dependent on agriculture and mining was generally weaker. Real personal income growth in 1987 was influenced by weakness in the non-earnings income segment; real earnings rose a moderate 2.7 percent. Kentucky's unemployment rate dropped to 8.8 percent in 1987 after hovering around 9.3 percent for three years. The decrease from 1986 was largely the result of a declining labor force. The expansion of the state's nonagricultural workforce of 2.2 percent was similar to that of 1986. Unlike the previous year, however, manufacturing employment increased in 1987, rising by 2.1 percent. One of the state's larger manufacturing industries, textile and apparel production, increased its workforce by 5.2 percent.

Kentucky continued to lead the nation in coal production in 1987; mining employment, on the other hand, dropped during the year. Construction and services employment in Kentucky grew

Chart 3

Unemployment Rates in the Eighth District States



rapidly, with gains concentrated in Louisville and the central part of the state, where activity related to auto plant construction is stimulating regional development.

Missouri

In contrast to other District states, Missouri's economic structure has been quite similar to the nation's throughout the decade. Its comparatively slow employment growth in the 1980s cut across all major sectors, with particularly slow employment growth in the trades and services sectors.

The sluggish expansion of Missouri's economy continued in 1987. Real personal income grew only 1.4 percent in 1987, while nonagricultural employment rose 1.1 percent. This sluggishness resulted in a slight increase in the unemployment rate from 6.1 in 1986 to 6.2 in 1987. Despite this increase, Missouri's unemployment rate remained below that in other District states and has been lower throughout the 1980s, a reflection of its diversified economy and slow labor force growth.

Except for mining, employment in all sectors of the state's economy grew slower than their national counterparts in 1987. Missouri factories employed 1.8 percent fewer workers, a contrast to the manufacturing employment gains elsewhere. Except for 1984, manufacturing employment in Missouri declined in each year of the decade. The state's economy has shifted away from some manufacturing industries like primary metals and footwear production, and these jobs have not been replaced in the faster-growing manufacturing industries. As discussed earlier, layoffs in state's auto assembly plants during the year contributed

substantially to the reduction in manufacturing employment.

The trade and construction sectors, which have provided many new jobs in Missouri in recent years, stagnated in 1987. The real value of construction contracts awarded in the state declined by 3.4 percent in 1987; in the previous four years of the recovery, contracts had expanded at a 10.5 percent annual rate. Contracts for both nonresidential and residential building sectors dropped in 1987. Weakness in the multifamily sector was largely responsible for the residential sector decline.

Tennessee

The economic structure of the Volunteer State is similar to that of Arkansas and Kentucky, with a relatively large manufacturing sector and a small services sector. As in Arkansas, Tennessee's moderate growth during the decade stemmed from faster-than-national growth in most industries. Growth in manufacturing, trade and services was particularly strong relative to national trends.

The Tennessee economy outpaced other District states in 1987 as it has throughout the decade. As table 3 shows, both income and employment growth were strong. As chart 3 shows, the state's unemployment rate fell in 1987 to 6.8 percent after remaining at 8 percent for two years.

The trade and services sectors, sources of much of the decade's job growth, continued to expand rapidly in 1987. Growth of the manufacturing sector also contributed to the state's expansion. Employment growth in one of the state's largest manufacturing industries, textile and apparel production, increased 1.4 percent last year, aided by the rising costs of imported goods. Meanwhile, the number of workers producing transportation equipment grew slightly and employment by suppliers of auto parts for the region's assembly plants grew steadily.

A boom in nonresidential building activity pushed the total real value of construction contracts up 8.8 percent in 1987. Much of this activity is located in Memphis and the central part of the state. Contracts for residential structures declined slightly, constrained by weakness in the multifamily segment.

Table 3

Growth of Real Income and Nonagricultural Employment in 1987

	Real personal income	Nonagricultural employment
United States	1.9%	2.5%
Eighth District	1.8	2.5
Arkansas	0.9	2.8
Kentucky	1.8	2.2
Missouri	1.4	1.1
Tennessee	2.8	4.2

CONCLUSION

For the fifth successive year, the District economy expanded in 1987. Last year, as in most previous years of the current decade, the growth of the District economy was similar in strength to the national expansion. This parallel was a result of similar industrial diversification combined with similar growth in individual industries. Although the growth of District income slowed and the value of construction contracts was virtually unchanged in 1987, District employment growth remained moderate, allowing unemployment rates to fall in most District states.

REFERENCES

Creamer, Daniel. "Shift of Manufacturing Industries," chapter 4 in *Industrial Location and National Resources* (U.S. Government Printing Office, 1942).

Mandelbaum, Thomas B. "How Important are Manufactured Exports to the District Economy?" *Business: An Eighth District Perspective,* Federal Reserve Bank of St. Louis (Winter 1987/88).

_____ . "Is Eighth District Manufacturing Endangered?" this *Review* (November 1987) pp. 5–15.

Ott, Mack. "The Growing Share of Services in the U.S. Economy — Degeneration or Evolution?" this *Review* (June/July 1987), pp. 5–22.

Santoni, G. J. "Business Cycles and the Eighth District," this *Review* (December 1983) pp. 14–21.

Appendix
Identifying Sources of Regional Growth

This article uses a technique, called shift-share analysis, to determine why a state's employment grew at a different rate than that of the nation.[1] A region's differential employment growth during a given period is called its net relative change; it indicates the difference between the state's actual employment at the end of the period and what employment would have been if it had grown at the national rate. The state's net relative change is due to differences in industrial mix and relative growth rates of individual sectors between the state and the nation.

A region's employment expansion partially depends on whether it specializes in industries that are growing rapidly nationally. The industry mix component estimates this influence on overall employment growth by assuming that each of the region's sectors grew at the national rate. Under this assumption, if the District's or state's employment composition were exactly like the nation's, then the industry mix component would equal zero. A positive industry mix component indicates the number of additional workers that would be expected because of the region's favorable industrial mix, while a negative number indicates that the region's workforce is more heavily concentrated in industries that are growing slowly nationally.

Local conditions also will cause some of a region's industries to grow at different rates than their national counterparts. These conditions might include differences in infrastructure, human or natural resources, or energy and labor costs. The relative industry growth component compares the growth of each major sector of the District and state economy with its national counterpart's growth. If each regional sector grew at the national rate, the component would equal zero. A positive number reflects the additional District employees working in 1987 compared with the level that would have existed if each sector grew at the national rate, while a negative number indicates overall slower industry growth in the District than in the nation.

Mathematically, these components can be notated as follows:

NRC_i = net relative change, sector i
IM_i = industry mix, sector i
RIG_i = relative industry growth, sector i
R_i = base year employment, sector i, in region
R = base year total employment in region
U_i = base year employment, sector i, in United States
U = base year total employment in United States
r_i = percentage change in employment in sector i, in region, during the period
r = percentage change in total employment in region during the period
u_i = percentage change in sector i employment, in United States during the period
u = percentage change in total employment in United States during the period

1) $NRC_i = IM_i + RIG_i$
2) $NRC_i = r_iR_i - uR_i$
3) $IM_i = u_iR_i - uR_i$
4) $RIG_i = r_iR_i - u_iR_i$

Total NRC, IM and RIG are the sums over all sectors. Decimal forms of percent changes are used in calculations (e.g., .05 is used for 5 percent).

Shift-Share Results

In the present analysis, eight sectors of total nonagricultural employment were used: mining, manufacturing, construction, transportation/communication/utilities, services, finance, trade and government.

Table A1 presents the 1979 employment compositions and the 1979–87 percent changes in nonagricultural employment for the United States, Eighth District and four District states. The results of a shift-share analysis based on this data are presented in table A2.

During the 1979–87 period, District nonagricultural employment grew by 9 percent compared with a 13.7 percent national gain. The District's slower growth resulted in the net relative change of −265 as shown in table A2, which indicates that the District's 1987 employment level is 265,000 less

[1]Shift-share analysis was originated by Creamer (1942).

Table A1

Composition and Growth of Nonagricultural Employment[1]

	U.S.		Eighth District		Arkansas		Kentucky		Missouri		Tennessee	
	Composition	Growth	Composition	Growth	Composition	Growth	Composition	Growth	Composition	Growth	Composition	Growth
Mining	1.1%	−22.6%	1.4%	−28.7%	0.6%	−16.8%	4.4%	−27.9%	0.4%	−33.6%	0.6%	−34.1%
Manufacturing	23.4	−9.2	26.0	−7.6	29.1	0.5	23.9	−13.1	23.1	−10.7	29.5	−5.1
Construction	5.0	12.9	5.1	1.6	5.6	−15.1	5.6	−8.8	4.6	7.8	5.0	11.0
TCU	5.7	4.7	5.9	5.6	5.8	15.8	5.6	0.1	7.1	0.3	4.9	13.3
Trade	22.5	19.1	22.4	14.4	21.6	17.9	21.5	13.3	23.6	7.2	21.9	22.4
Services	19.1	41.0	17.0	36.2	14.6	40.5	16.4	31.5	19.1	32.1	16.1	43.5
Fire	5.5	32.4	4.6	23.6	4.1	23.1	4.1	21.4	5.4	24.8	4.4	23.7
Government	17.8	7.0	17.7	3.3	18.6	4.6	18.5	4.1	16.8	1.7	17.7	3.7
Total Nonagricultural		13.7		9.0		11.6		4.7		7.2		13.1

[1]Composition refers to the percent of 1979 nonagricultural employment; growth is the percent change in employment 1979–87.

Table A2

Employment Effects of Industry Mix and Relative Industry Growth (in thousands of jobs)

	Total relative change	Total industrial mix	Total relative industry growth
District	−265	−84	−181
Arkansas	−15	−21	6
Kentucky	−110	−30	−80
Missouri	−130	6	−136
Tennessee	−10	−39	29

(or 4.2 percent of the actual 1987 level) than if the District workforce had grown at the national pace. The sum of the net relative changes for the four states equals the District total. It clearly can be seen that slower-than-national job growth in Kentucky and Missouri accounted for most of the District's net relative loss. Combined, the two states net relative change was −240,000, or more than 90 percent of the District total.

The data in table A2 confirm that the District industrial mix was not very different than the nation's; the District's 84,000 employment loss due to its industrial mix represents only 1.3 percent of the District's 1987 nonagricultural employment level of 6.3 million. The similarity of industrial compositions in the District and the United States can also be seen in table A1.

Arkansas, Kentucky and Tennessee had employment compositions that were not as conducive to growth as the national average, with relatively high employment concentrations in slow-growing industries (particularly manufacturing) and smaller-than-national proportion in services, the most rapidly growing sector nationally. Missouri's industrial structure resembled the nation's more closely than any of the other three states, a fact reflected in its small industry mix component. This similarity can be seen in table A1, particularly in the four largest sectors — manufacturing, trades, services and government — which account for most of the change in the past seven years.

In Arkansas and Tennessee, in which total nonagricultural employment grew at near the national rate during the 1980s, individual industries also tended to grow more rapidly than nationally. This faster industry growth, reflected in the positive relative industry growth measures, partially offset industrial structures that were not conducive to

growth, allowing the states to expand at near the national rate.

These results emphasize the fact that a state can grow moderately, not only by specializing in industries that are rapidly expanding nationally, but also by capturing an increasing share of a slowly-growing or contracting national market. For example, both Arkansas and Tennessee have large concentrations of their workforce in manufacturing, an industry with moderate job losses between 1979 and 1987 in the nation. The states' heavy reliance on manufacturing did not cause as great a decline as nationally, however, because of the relative strength of the manufacturing sectors in those states. Manufacturing employment rose by 0.5 percent in Arkansas and declined by 5.1 percent in Tennessee, while the nation lost 9.2 percent of its manufacturing workers.

In Kentucky and Missouri, whose overall employment growth trailed the nation's average, each individual industry grew slower than its national counterpart, resulting in negative relative industry growth components. In Kentucky, this slower industry growth, combined with its industrial mix, resulted in the weakest employment performance of the four states. While Missouri's structure was quite similar to the nation's, the slower growth of individual sectors (particularly services and trades) led to overall slower employment growth.

Kenneth C. Carraro

Kenneth C. Carraro is an economist at the Federal Reserve Bank of St. Louis. Dawn M. Peterson provided research assistance.

The 1987 Agricultural Recovery: A District Perspective

THE agricultural economy showed signs of a strong recovery in 1987. This resurgence came after five years of rising farm bankruptcies, falling land values and commodity prices, declining exports and low farm incomes. Just over one year ago, the U.S. Department of Agriculture (USDA) expected that many of these indicators would continue to decline or show only modest improvement.

This article examines the factors behind last year's farm sector recovery. It briefly describes the recent farm crisis and the improvements that took place in the nation and the Eighth Federal Reserve District.[1] Thus far, the farm recovery has been heavily dependent on government aid, and stronger market conditions are needed if the agricultural sector is to fully recover.

FROM BOOM TO BUST

The 1970s were boom years for U.S. agriculture. Farm income, exports and land values all registered sharp and largely unexpected gains due to the expansion of international agricultural trade early in the decade. Expectations that food scarcity would remain a long-term world problem, pushing commodity prices and farm income to new highs, drove farmland values to ever higher levels.

In the early 1980s, however, it became evident that farm exports would decline and that farm income growth would fall short of earlier expectations. From 1980 to 1986, farmers lost $293 billion in equity as farm real estate values declined to reflect the lower earning potential. Moreover, as crop prices fell by 14.4 percent from 1980 to 1986, many farmers were unable to meet their debt obligations. Furthermore, they could not pay off their loans by selling their land because the debt on the land frequently exceeded the new, lower market values. As a result, many farmers went bankrupt.

Farm lenders also were hurt when the farmland they used as loan collateral was no longer sufficient to cover the loan balance. As farmers de-

[1]The Eighth Federal Reserve District comprises all of Arkansas and parts of Illinois, Indiana, Kentucky, Mississippi, Missouri and Tennessee. Because of data limitations, this article uses the entire states of Arkansas, Kentucky, Missouri and Tennessee to represent the District when farm income and crop production are discussed. Since comprehensive bank data are available, the entire District is assessed in the discussion of agricultural lending.

faulted on loan payments, lenders incurred losses on the repossessed land. The cooperative Farm Credit System (FCS), which had profits of almost $2 billion from 1982 to 1984, lost more than $4.6 billion from 1985 to 1987. Fifty agricultural banks failed from 1982 to 1984, but 202 failed from 1985 to 1987.[2] Losses were not restricted to farmers and their lenders alone; other rural businesses such as farm equipment and automobile dealers faced lower demand for their products as a result of lower farm-related income.

THE RECOVERY

The stage was set for the farm sector recovery in 1986 when good weather conditions resulted in abundant yields of major crops for most parts of the country. The high levels of production in conjunction with government support payments resulted in improved financial performance for farmers. Crop conditions in 1987 again were favorable, and the farm sector began to show indications that the worst was over.

Farm Finances

The strongest evidence of recovery in farm finances is provided by real net farm income, a comprehensive measure of farm profitability.[3] Because of gains over the past two years (see chart 1), real net farm income has returned to the levels that prevailed before the boom of the early 1970s. These recent gains were both large and unanticipated, making them particularly noteworthy.[4]

Table 1 presents the income statement of the farm sector since 1980. It indicates that, while farm receipts actually fell in 1986 and 1987, net farm income rose because of rising government payments and falling farm expenses. From 1984 to 1987, farmers cut expenses by 17 percent, or $24 billion. Expenses have fallen for three main reasons. First, farmers removed 69 million acres (17 percent of all "readily usable" cropland) from production in order to participate in government farm programs in 1987. As acreage was reduced, farmers needed fewer inputs. Second, prices for inputs such as livestock feed, credit, chemicals and fertilizers fell. Finally, farmers reduced their rates of usage of many inputs on the acreage they did farm.

Consider credit, for example. Since 1983, total farm debt has declined by more than $50 billion to $141 billion in 1987. This reduction occurred through a combination of actions by individuals and debt restructuring and write-offs by farm lenders. Because of falling interest rates and reduced debt levels, farm interest expense fell by $7 billion, or 32 percent, from 1983 to 1987.

Rising Farmland Values

Strength in farmland values is one of the most widely reported indicators of the farm sector recovery. The USDA estimates that after falling for five straight years, the value of farm real estate appreciated by 3.1 percent in 1987.[5] The combination of stabilizing farm asset values and lower debt levels (shown in chart 2) has strengthened the farm sector's balance sheet. Last year was the first in the past seven in which farm equity increased; it regained more than $34 billion of the $293 billion of equity lost earlier.

Increased Farm Exports

Like other farm sector indicators, agricultural exports increased in 1987, after falling generally since 1981. The volume of farm exports grew by 18 percent in 1987 to more than 129 million metric tons (mmt). Because of lower prices, however, the

---

[2]Agricultural banks are those with an agricultural loan to total loan ratio greater than the average loan ratio for all commercial banks in the United States. At the end of 1987, the average ratio was 15.7 percent.

[3]Net farm income is calculated as the difference between gross farm income (including government payments and inventory changes) and total expenses (including interest payments and depreciation). Net farm income is generally regarded as a long-term measure of a farm business' viability because it includes the influence of depreciation and adjusts for inventory changes.

[4]At the end of 1986, the USDA anticipated that net farm income would continue to grow by 14 percent from $28 billion in 1986 to $32 billion in 1987 (not adjusted for inflation). These estimates of the initial level and growth of income were too low. Farm income for 1986 later was revised from $28 billion to $37.5 billion. The projection for income growth in 1987 also proved too low, as income now is forecast to have grown by 20 percent to a new record of $45 billion in 1987.

[5]U.S. Department of Agriculture, *Agricultural Resources* (April 14, 1988).

Chart 1

U.S. Real Net Farm Income

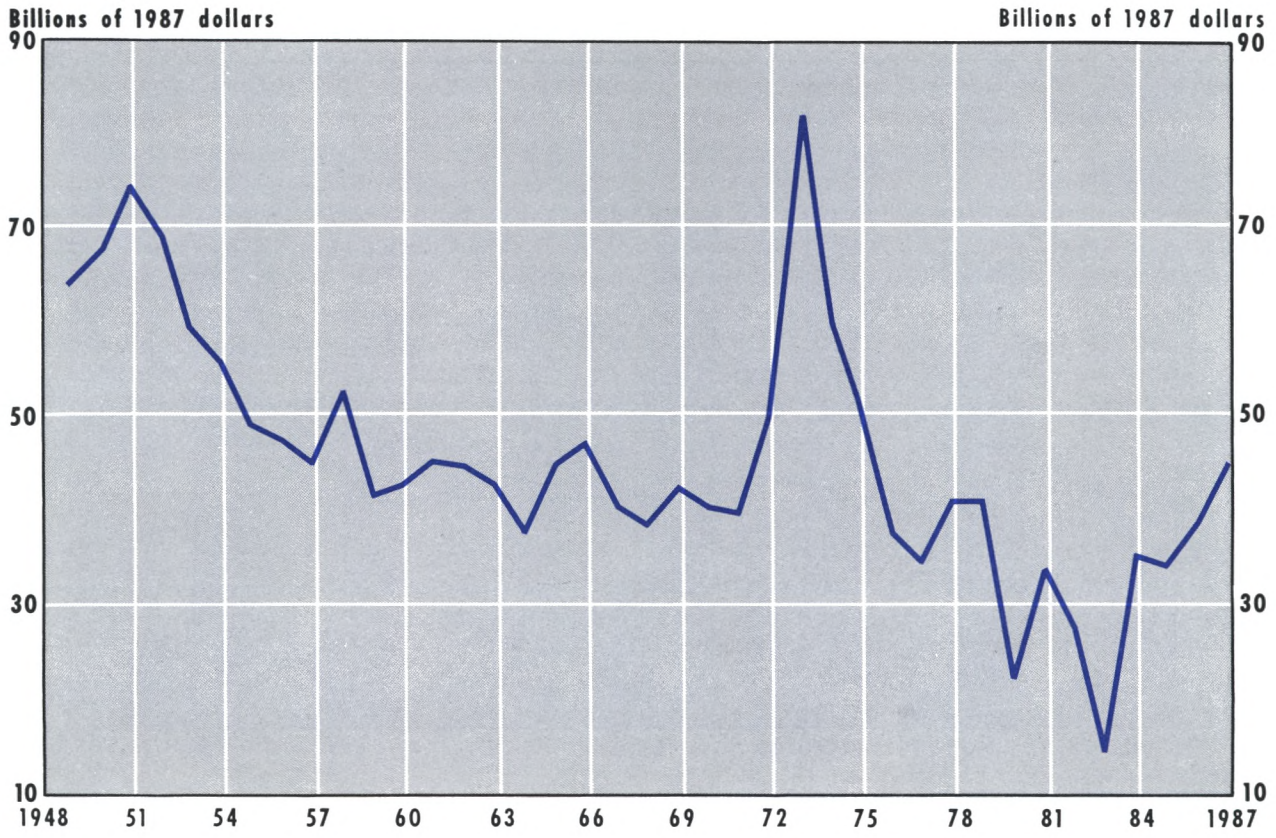


Table 1

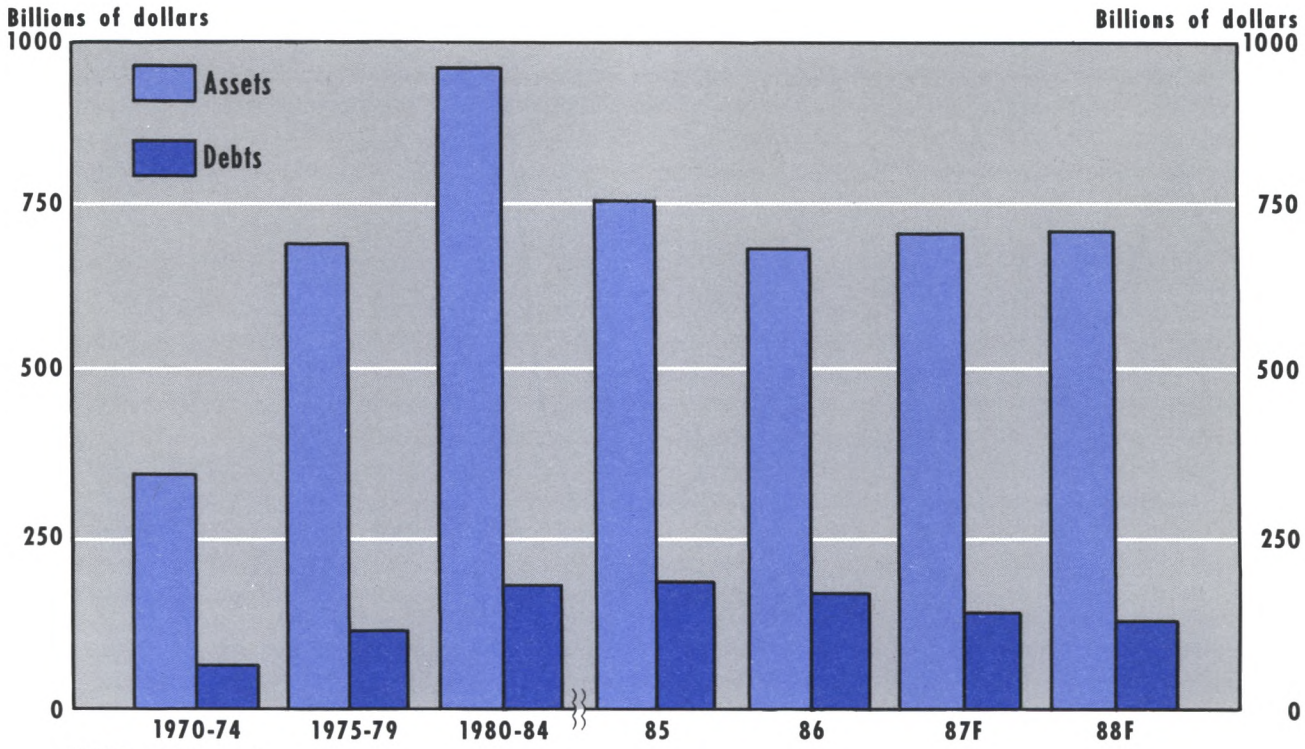
Farm Sector Income Statement (billions of dollars)

	1980	1981	1982	1983	1984	1985	1986	1987[1]
Farm receipts	$142.0	$144.1	$147.1	$141.1	$146.7	$149.2	$140.2	$138
Government payments	1.3	1.9	3.5	9.3	8.4	7.7	11.8	17
Total farm income[2]	149.3	166.3	163.5	153.1	174.7	166.0	159.5	163
Total expenses	133.1	139.4	140.0	140.4	142.7	133.7	122.1	119
Net farm income	16.1	26.9	23.5	12.7	32.0	32.3	37.5	45

[1]Values for 1987 are forecasts.
[2]Total net farm income includes the value of inventory changes. Net farm income totals may not add due to rounding. Data are not adjusted for inflation.
SOURCE: *Agricultural Outlook* (March 1988), p. 54, table 32

Chart 2

Farm Sector Balance Sheet



NOTE: F=forecast.
Source: Agricultural Outlook (Jan.-Feb. 1988), p.25.

value of agricultural exports rose by only 6 percent to $28 billion in 1987.[6]

Agricultural Lenders

Because of higher farm income, conditions at agricultural banks and the Farm Credit System improved in 1987. Delinquent farm loans at agricultural banks declined from 8.1 percent of farm loans in 1985 to 6.4 percent in 1986 and to 4.0 percent at the end of 1987.[7] The average return on assets at agricultural banks also improved, rising from .43 percent in 1986 to .69 percent in 1987. Although loan performance and earnings improved, agricultural banks continued to fail; there were 32 failures in 1984, 68 in 1985, 65 in 1986 and 69 in 1987. The volume of farm loans by all commercial banks at the end of 1987 was only .7 percent lower than one year earlier. This represents a slowing in the decline of farm lending by banks. Farm loans had declined by approximately 6 percent in both 1985 and 1986. In 1987, farm real estate loans grew by 14.1 percent while farm operating loans fell by 6.7 percent.

Improvement at the FCS was also significant. Although the FCS lost $17 million in 1987, this was much smaller than its $1.9 billion loss in 1986 or its $2.7 billion loss in 1985. Losses for 1987 had been projected to reach $1.3 billion. Farm loan

[6]U.S. Department of Agriculture, *Agricultural Outlook* (March 1988), p. 52, table 30.

[7]The farm loan delinquency rate used here expresses the total of farm loans classified as past due 30 days or more and farm loans in nonaccrual status as a percentage of total farm loans outstanding.

volume fell 9.8 percent in 1987 after falling 16.6 percent in 1986. Additionally, the FCS made progress by reducing its portfolio of problem loans. Nonaccrual and other high-risk loans fell from $12.8 billion in 1986 to $9.5 billion in 1987. Nationally, the rate of nonperforming loans, which increased from 14.5 percent in 1985 to 22.6 percent in 1986, recovered to 20.1 percent in 1987.[8]

The congressional rescue plan for the FCS, known formally as the Farm Credit System Amendments of 1987, was a significant development for District farm lenders. The bill gave the FCS government loan guarantees as well as access to the U.S. Treasury to help support weak FCS districts. In exchange, however, Congress issued more liberal guidelines for handling farm foreclosures by the FCS and the Farmers Home Administration. It also mandated that the FCS be restructured from its current 12 districts to a minimum of six districts to reduce operating expenses. The St. Louis and Louisville districts initially discussed a merger but have not proceeded past the initial stages.

To gain support from the nation's agricultural bankers, the bill also created a secondary market for farm real estate loans known as "Farmer Mac." This secondary market may prove to be an important influence on farm real estate lending. In the past, commercial banks have made only a small share of farm real estate loans (less than 10 percent) because these loans have long maturities. A secondary market for these loans would allow commercial banks to be more competitive in making farm real estate loans. The stronger competition, while desirable for farm borrowers, may make the recovery of the FCS more difficult.

THE GOVERNMENT'S INFLUENCE ON THE FARM SECTOR

Any discussion of the U.S. farm economy must include the pervasive influence of federal intervention in agricultural markets. Government programs directly affect the market prices and production of supported crops, while indirectly influencing the price and production levels of non-supported crops. Furthermore, government programs have a strong effect on farmland values because they influence the income potential of crop production. Increasingly, farmers' decisions are based on expectations of government payment levels rather than on signals from competitive market prices. The crop programs, in turn, directly affect the cost structure of livestock producers.

Large price support payments to farmers are the most obvious form of government subsidy. These payments are an important and controversial influence on the farm income gains of recent years. Direct payments rose from $11.8 billion in 1986 to $17 billion in 1987 and accounted for more than 37 percent of net farm income. Such payments represented less than 7 percent of net farm income from 1975 to 1979.

Direct government payments affect farmland values in at least two ways. First, crop price supports boost the income derived from crops, thereby increasing the value of the land. Second, under the relatively new Conservation Reserve Program (CRP), farmers make bids to the USDA to take land out of production for 10 years in exchange for guaranteed annual payments. The lowest bids are accepted until the targeted level of acreage retirement is obtained. Thus, CRP increases land values by reducing the supply of land. Furthermore, the certainty of these payments serves to strengthen farmland prices. The CRP has contracted to remove 22.5 million acres of highly erodible land from production since the program began in 1986. By 1990, the program is projected to remove more than 40 million acres of farmland.[9] In 1986, that amount represented 10 percent of total U.S. cropland.

The expansion of farm exports also was influenced by government policy. The volume of agricultural exports grew by 20 mmt. in 1987. Approximately 16 mmt. of this growth came from grain exports. The Export Enhancement Program (EEP), created by the Food Security Act of 1985, was a major factor behind the grain export increase. The EEP addresses the problem that U.S. prices for many commodities have been above world prices due to U.S. price support programs and to subsidized commodity sales by the European Economic Community. The EEP gives government-owned commodities to U.S. exporters to allow them to sell at competitive prices. The

[8]The FCS rate of nonperforming loans is calculated as the sum of restructured, nonaccrual and other high-risk loans expressed as a percentage of gross loans outstanding at the end of the year. This rate is not comparable to the commercial bank delinquency rate.

[9]U.S. Department of Agriculture, *Agricultural Resources* (September 1987), p. 5.

Table 2

Cash Receipts from Farming in 1985 (dollar amounts in millions)

Crops	District		United States	
Soybeans	$1,846	31.5%	$11,305	15.2%
Tobacco	1,091	18.6	2,722	3.7
Corn	898	15.3	16,821	22.6
Rice	451	7.7	1,114	1.5
Wheat	264	4.5	7,927	10.7
Cotton	364	6.2	3,729	5.0
Sorghum	341	5.8	1,970	2.6
Other Crops	603	10.3	28,825	38.7
CROP TOTAL	$5,858	49.0	$74,413	51.6
Livestock				
Cattle + Calves	$1,825	29.9%	$29,057	41.6%
Poultry + Eggs	1,691	27.7	10,904	15.6
Dairy	1,017	16.7	18,063	25.9
Hogs	959	15.7	9,029	12.9
Other Livestock	609	10.0	2,727	3.9
LIVESTOCK TOTAL	$6,101	51.0	$69,780	48.4
FARM TOTAL	$11,959		$144,193	

NOTE: The crop and livestock totals are expressed as percentages of the farm total.
SOURCE: USDA, Economic Indicators of the Farm Sector: National Financial Summary, 1986, and Agricultural Statistics Services of the four states.

USDA estimated that the EEP was responsible for export sales of 20 mmt. of grain in 1987.[10]

EIGHTH DISTRICT AGRICULTURE

The agricultural economy of the Eighth Federal Reserve District is best described by comparing it to the agricultural sector of the nation. In table 2, cash receipt data from 1985 indicate that, in both the District and the nation, livestock and crop production each account for roughly half of all farm receipts. Differences appear, however, when individual crop and livestock categories are examined.

Soybeans make up a much larger share of crop sales in the District (31.5 percent) than in the nation (15.2 percent). Corn, however, is slightly less important in the District (15.3 percent of crop sales) than in the nation (22.6 percent). The nation's large share of "other crops" (38.7 percent) reflects the importance of vegetables, fruits, nuts and other crops that make relatively small contributions to District agricultural output. Finally, tobacco represents a much larger share of cash receipts in the District than in the nation.

The District's livestock enterprises also vary from the national picture. Both poultry and hog production make up larger shares of production in the District than in the nation, while cattle and dairy production account for smaller shares.

Table 3 provides the same breakdown of cash receipts for the four states used to represent the District. Arkansas is notable as the nation's largest producer of rice and broilers. Kentucky is the nation's second-largest tobacco producer, and tobacco is the most important farm industry in the state. The large share held by "other livestock" is due to the state's large horse industry which is the second-most-valuable farm product after tobacco. Missouri data reflect the state's "corn-belt" heri-

[10]U.S. Department of Agriculture, *Agricultural Outlook* (January-February 1988), p. 28.

Table 3

1985 Cash Receipts (dollar amounts in millions)

Crops	Arkansas		Kentucky		Missouri		Tennessee	
Soybeans	$ 589	40.5%	$ 259	16.4%	$ 754	42.8%	$ 244	23.1%
Tobacco	0	0.0	858	54.2	11	0.6	222	21.0
Corn	12	0.8	324	20.5	434	24.6	128	12.1
Rice	422	29.0	0	0.0	29	1.6	0	0.0
Wheat	58	4.0	34	2.1	146	8.3	26	2.5
Cotton	195	13.4	0	0.0	58	3.3	111	10.5
Sorghum	118	8.1	14	0.9	169	9.6	40	3.8
Other Crops	61	4.2	94	5.9	162	9.2	286	27.1
CROP TOTAL	$1,455	44.4%	$1,583	53.9%	$1,763	47.8%	$1,057	51.4%
Livestock								
Cattle + Calves	$ 250	13.7%	$ 395	29.2%	$ 754	39.2%	$ 426	42.6%
Hogs	92	5.0	138	10.2	571	29.7	158	15.8
Poultry + Eggs	1,330	72.9	24	1.8	221	11.5	116	11.6
Dairy	113	6.2	270	20.0	352	18.3	282	28.2
Other Livestock	40	2.2	525	38.8	26	1.4	18	1.8
LIVESTOCK TOTAL	$1,825	55.6%	$1,352	46.1%	$1,924	52.2%	$1,000	48.6%
FARM TOTAL	$3,280		$2,935		$3,687		$2,057	

SOURCE: Agricultural Statistics Services of the four states.

tage with its heavy reliance on corn, soybeans, cattle and hogs. Tennessee, with the smallest farm output of the four states, has an important tobacco industry and large greenhouse and vegetable industries which account for the large share held by "other crops."

Crop Production in 1987

In many respects, the 1987 crop year is a repeat of the previous year. Favorable planting conditions in both years enabled farmers to plant and harvest crops much earlier than usual. In both years, the southern portions of the District experienced periods of dryness that lowered crop yields below initial expectations while northern portions enjoyed sufficient moisture to produce record or near-record yields.

In general, crops that are harvested early, such as corn and cotton, fared better than late-season crops, such as soybeans, because of nearly ideal growing conditions early in the year. Table 4 indicates crop yields in the four states. It shows record cotton yields in Arkansas, Missouri and Tennessee that were far above both the 1986 and the recent average yields. These record cotton yields are attributed to the early planting, favorable rains and ideal harvest conditions. Another early crop, wheat, also produced large yields.

Corn yields in Missouri, although slightly under the record levels of 1986, were well above the average yields of the past three years. In Kentucky, the corn yields set a new record, while in Tennessee, they exceeded the previous year's and the recent average yields.

Soybeans, the District's most valuable crop, had been expected to produce large yields based on the early planting and the initial progress of the crop. Dry weather in late July and August in southern parts of the District, however, reduced yields. In Arkansas, Kentucky and Tennessee, soybean yields were below their recent average yields; only in Arkansas were soybean yields above last year's level. Late season dryness also affected Missouri soybean farmers but not to the extent of farmers to the south. The Missouri soybean yield was below 1986 levels but above the recent average yield. Similarly, tobacco yields in Kentucky and Tennessee were higher than in 1986, but below yields in recent years.

Livestock Production in 1987

Production of cattle and calves in the District fell by 1.9 percent in 1987. Nationally, the decline

Table 4

Eighth District Crop Yields[1]

Arkansas				Kentucky			
Crop	1987	1986	1984–86 average	Crop	1987	1986	1984–86 average
Cotton	762	602	667	Corn	104	92	98
Rice	5,250	5,300	5,033	Soybeans	25	32	32
Sorghum	72	62	69	Tobacco	2,125	2,050	2,238
Soybeans	22	20	24	Wheat	49	33	35
Wheat	41	41	39				

Missouri				Tennessee			
Crop	1987	1986	1984–86 average	Crop	1987	1986	1984–86 average
Corn	113	116	102	Corn	91	74	89
Cotton	830	588	598	Cotton	701	567	555
Sorghum	85	81	78	Soybeans	23	25	27
Soybeans	32	32.5	29	Tobacco	1,782	1,682	1,936
Wheat	46	33	38				

[1]Crop yields are measured as bushels per acre for corn, sorghum, soybeans and wheat and as pounds per acre for cotton, rice and tobacco.
SOURCE: Agriculture Statistics Services of the four states.

was .5 percent. Most of the decline came in Missouri, the District's largest cattle producer where production was off by 3.4 percent. In Arkansas, cattle production increased by 3.9 percent. District hog production declined by .2 percent, but this was due to a 23.4 percent decline in Tennessee. Hog production was up 8.1 percent in Arkansas, 9.3 percent in Kentucky and 2.7 percent in Missouri. Nationally, production increased 5.2 percent.

The largest increase in meat production came from poultry. Arkansas, the nation's leading producer of broilers, posted a 14.4 percent increase in broiler production. District broiler production was up 14.1 percent; nationally, broiler output grew 9.5 percent in 1987.

District Farm Income Growth

District farm income data are available with a one-year lag. In general, however, they closely correspond to national farm income trends. Chart 3 plots movements in the close relationship between real net farm income in the United States and the District. The large increase in national farm income last year suggests that District farm income also increased sharply in 1987.

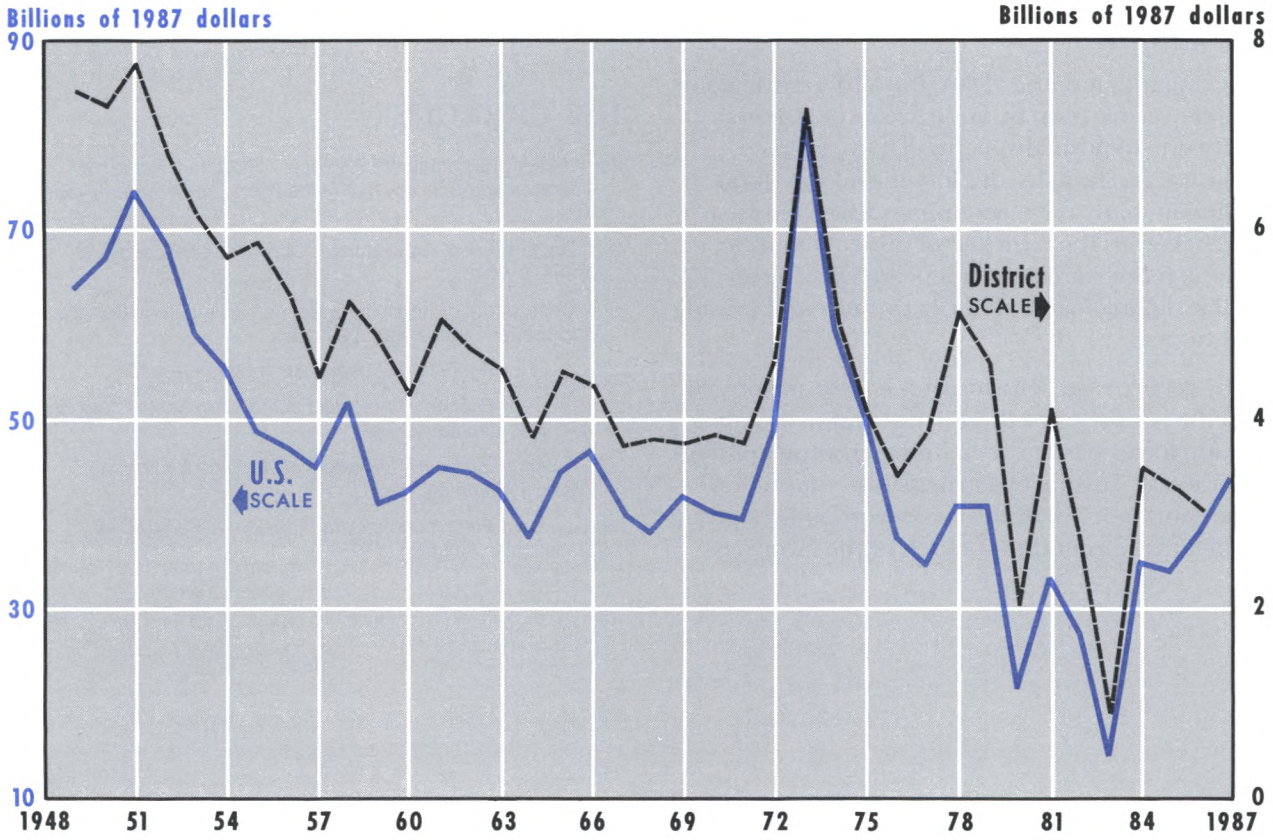
The sources of farm income growth in the District also follow a similar pattern as those in the country. In 1986, government farm payments accounted for 27 percent of District net farm income, up from 20 percent in 1985. In 1987, the national figure jumped to 38 percent from 32 percent in 1986; the District level of government support is likely to have increased as well.

The financial position of District farmers was also strengthened by a recovery in the market for farmland. Farmland values increased in three of the four District states for the year ending February 1988. The average value of farmland increased 1.7 percent in Arkansas, 3.6 percent in Missouri and 9.1 percent in Tennessee. In Kentucky, land values fell .6 percent. In the previous year, values had fallen in all of the states except Tennessee.

District Agricultural Lenders

Agricultural bank performance improved significantly in 1987 both in the nation and in the District. Nationally, agricultural bank profitability improved in 1987 for the first time since 1980. In the District, agricultural banks' return on assets rose from .71 in 1986 to .83 in 1987. The improved profitability is attributable to reduced losses and lower farm loan delinquency rates. Losses at District agricultural banks fell from 1.6 percent of all loans in 1986 to 1.0 percent in 1987. Farm loan

Chart 3
U.S. and District Real Net Farm Income



delinquencies fell from 6.6 percent in 1985 to 5.4 percent in 1986 and to 3.5 percent in 1987.

As the delinquency rate has fallen, so too has the number of vulnerable agricultural banks. Vulnerable banks are those for which the volume of delinquent loans exceeds primary capital. At the end of 1985, there were 18 vulnerable agricultural banks in the District. This fell to 11 in 1986 and to six at the end of 1987. The number of banks with negative earnings also fell in 1987 after rising in 1986. There were 62 banks with losses in 1985, 73 in 1986 and 39 in 1987.

Despite combined losses in 1987, the performance of the Farm Credit Banks of St. Louis and Louisville improved in 1987.[11] The combined losses of the two Farm Credit System banks fell from $228.0 million in 1986 to $6.7 million in 1987. Large reductions in the banks' provisions for loan losses and lower losses on property owned account for the improved results.

Loan volumes at FCS lenders also continued to decline in 1987 but at a slower rate than in recent years. Total loans at the two FCS lenders fell 14.2 percent in 1987 after falling 19.8 percent in 1986.

[11]There are two FCS districts in the Eighth Federal Reserve District. The Farm Credit Banks of St. Louis cover the states of Arkansas, Illinois and Missouri, while the Farm Credit Banks of Louisville cover the states of Indiana, Kentucky, Ohio and Tennessee. In 1987, the St. Louis district had a combined net income of $18.4 million and the Louisville district had losses of $25.1 million.

The rate of nonperforming loans rose from 16.8 percent in 1985 to 26.0 percent in 1986, then declined to 24.6 percent in 1987.

SUMMARY

During much of the 1980s, the agricultural community was hit hard by large losses of farmers' equity due to farmland depreciation, farm bankruptcies, farm lender losses and a general decline in many rural economies. Over the past year, however, the farm sector appears to have become more stable as evidenced by rising farm income, falling loan delinquency rates and firming land values.

The recent restructuring of the farm sector will help the recovery continue. These adjustments include lower use of credit, reduced problem debt, general cost-cutting by farmers, lower farmland values and more internationally competitive pricing of farm commodities. Much of the farm sector's recovery, however, is the result of a sharp rise in government payments and subsidies. The continuing presence of government support programs will profoundly influence the future of the recovery in both the nation and the Eighth District.

REFERENCES

Farm Credit Corporation of America. *Summary Report of Condition and Performance of the Farm Credit System*, various dates.

U.S. Department of Agriculture. *Outlook '87 Proceedings* (February 1987).

U.S. Department of Agriculture, Economic Research Service. *Agricultural Outlook*, various issues.

_____ . *Agricultural Resources*, various issues.

_____ . *Economic Indicators of the Farm Sector: National Financial Summary, 1986*.

_____ . *Economic Indicators of the Farm Sector: State Financial Summary, 1986*.

_____ . *Farm Income Data: A Historical Perspective*, Statistical Bulletin No. 740.

Lynn M. Barry

Lynn M. Barry is an economist at the Federal Reserve Bank of St. Louis. Dawn M. Peterson provided research assistance.

District Bank Performance in 1987: Bigger Is Not Necessarily Better

FOR commercial banks in both the nation and the Eighth Federal Reserve District, 1987 was a year of mixed performance.[1] Latin-American-related loan loss provisions at the larger banks were the primary reason that commercial bank profits of $934.7 million in the District last year fell below 1986 profits of $976.7 million. This decline, however, was small relative to the national decline. Commercial banks in the United States earned $3.3 billion in 1987, a substantial decrease from $17.3 billion in 1986.[2]

Some gains were made in 1987 by smaller District banks, which posted higher earnings as loan loss provisions and loan charge offs declined. Asset quality improved considerably at small, agricultural banks as nonperforming assets decreased, loan losses fell substantially, reserves for any future problems were maintained and capital was increased.

Bank failures, which increased nationally from 138 in 1986 to 184 in 1987, declined from five to two in the Eighth District. These two banks, neither of which was a member of the Federal Reserve System, had combined assets of $47.1 million, only .04 percent of total District bank assets.

This article compares the performance and financial circumstances of Eighth District commercial banks with their national counterparts across several asset-size categories. An assessment of bank earnings, asset quality and capital adequacy then provides some useful information on the financial condition, regulation compliance and operating soundness of the regional banking industry.

EARNINGS

Returns on Assets and Equity

There are two standard measures of bank performance: the return on average assets (ROA) and the return on equity (ROE) ratios. The ROA ratio, calculated by dividing a bank's net income after taxes by its average fourth-quarter assets, shows how well a bank's management is employing its

[1]The Eighth Federal Reserve District consists of the following: Arkansas, entire state; Illinois, southern 44 counties; Indiana, southern 24 counties; Kentucky, western 64 counties; Mississippi, northern 39 counties; Missouri, eastern and southern 71 counties and the City of St. Louis; Tennessee, western 21 counties.

[2]The national figures for 1987 are adversely affected by large oil- and real estate-related loan losses incurred by banks in the Southwest.

Table 1

Return on Average Assets and Return on Equity

	1987		1986		1985	
	District	U.S.	District	U.S.	District	U.S.
Return on Average Assets (ROA)						
All banks	0.81%	0.11%	0.88%	0.62%	0.84%	0.68%
< $25 million in assets	0.70	0.17	0.70	0.04	0.70	0.28
$25-$50 million	0.90	0.49	0.84	0.44	0.80	0.67
$50-$100 million	0.95	0.68	0.93	0.62	0.96	0.74
$100-$300 million	0.95	0.78	0.88	0.70	0.97	0.84
$300 million-$1 billion	1.07	0.62	0.67	0.59	0.54	0.76
$1-$10 billion	0.51	0.52	0.98	0.74	0.87	0.85
> $10 billion	N.A.	−0.65	N.A.	0.57	N.A.	0.50
Return on Equity (ROE)						
All banks	10.31%	1.85%	11.28%	9.59%	10.86%	10.64%
< $25 million in assets	7.39	1.72	7.46	0.46	7.60	2.80
$25-$50 million	10.14	5.62	9.74	5.15	9.27	7.73
$50-$100 million	10.93	8.18	10.96	7.62	11.46	9.12
$100-$300 million	11.77	10.09	11.13	9.29	12.43	11.19
$300 million-$1 billion	13.67	8.95	8.82	8.41	7.04	10.36
$1-$10 billion	7.96	8.29	14.59	11.63	13.47	13.49
> $10 billion	N.A.	−15.10	N.A.	10.72	N.A.	10.00

SOURCE: FDIC Reports of Condition and Income for Insured Commercial Banks, 1985–1987.

available resources. The ROE ratio is obtained by dividing a bank's net income after taxes by its equity capital.[3] ROE measures how well management is utilizing the stockholders' investment measured on a book-value basis.[4]

As table 1 reports, the 1987 average ROA and ROE for Eighth District banks were 0.81 percent and 10.31 percent, respectively. These figures exceeded the national average ROA of 0.11 percent and ROE of 1.85 percent. Eighty-two banks in the District, 6 percent of all Eighth District banks, reported negative earnings in 1987; nationally, almost 17 percent of commercial banks reported losses for the year. The U.S. ROA and ROE figures were heavily influenced by poor earnings at the nation's largest banks (those with more than $10 billion in assets). Excluding these banks from the national ratios yielded an ROA of 0.58 percent and an ROE of 8.14 percent for 1987. After this adjustment, however, District bank averages continued to exceed those of the nation.

Table 1 also shows ROAs and ROEs for seven asset-size classes of commercial banks. Across most asset-size categories, except $1–$10 billion, Eighth District banks reported higher returns than their national peers in 1987. District ROAs and ROEs were maintained or increased from 1986 across all size groups except the largest ($1–$10 billion). Large District banks' ROAs averaged 0.51 percent in 1987, down from 0.98 percent in 1986. This category of banks faced a deterioration in the quality of their foreign loan portfolio during the year, resulting in higher loan loss provisions which directly offset earnings. The remaining cate-

[3]Equity capital includes common and perpetual preferred stock, surplus, undivided profits and capital reserves.

[4]A major concern with ROA, ROE and other performance measures is that they are calculated using the book values of assets, liabilities and equity. Book values fail to recognize changes in the value of assets, liabilities and equity between their initial placement on the books of the institution and their removal by sale, repayment, maturity or charge off. In other words, book value is the historic, not market, value of an asset or liability.

Table 2

Net Interest Margin[1]

	1987		1986		1985	
	District	U.S.	District	U.S.	District	U.S.
All banks	4.27%	4.08%	4.40%	4.17%	4.31%	4.20%
< $25 million in assets	4.45	4.61	4.69	4.73	4.58	4.76
$25-$50 million	4.35	4.60	4.55	4.75	4.21	4.60
$50-$100 million	4.33	4.60	4.56	4.77	4.16	4.52
$100-$300 million	4.39	4.59	4.44	4.68	4.54	4.83
$300 million-$1 billion	4.56	4.55	4.46	4.63	4.61	4.76
$1-$10 billion	3.97	4.35	4.14	4.24	4.07	4.41
> $10 billion	N.A.	3.39	N.A.	3.60	N.A.	3.49

[1]Interest income has been adjusted upward for the taxable equivalence on tax-exempt state and local securities.
SOURCE: FDIC Reports of Condition and Income for Insured Commercial Banks, 1985-1987.

gories of District banks, on the other hand, reduced their loan loss provisions, which helped to boost both their ROA and ROE ratios.

MARGIN ANALYSIS

The financial success of a bank depends on its management's ability to generate sufficient revenue while controlling costs. Bank managers make numerous decisions during the year concerning asset and liability management, the pricing of services and operating expenses. Two important measures of the results of these decisions are net interest and net noninterest margins.

Net Interest Margin

Net interest margin is the difference between interest income and interest expense as a percentage of average fourth-quarter earning assets.[5] This ratio indicates how well interest-earning assets are being employed relative to interest-bearing liabilities.[6]

On the asset side, this includes both interest income and fees related to interest-earning assets. Some examples are interest on loans, points on loans, income on tax-exempt municipal loans and bonds and income from holdings of U.S. government securities. On the liability side, interest expense includes the amount paid on all categories of interest-bearing deposits, federal funds purchased and capital notes. In simplest terms, net interest margin is the difference between what a bank earned on loans and investments and what it paid its depositors relative to average earning assets.

Table 2 shows the average net interest margin for commercial banks on a national and District level. As the table shows, the average spread between interest income and interest expense as a percent of average fourth-quarter earning assets was 4.27 percent for District banks in 1987, compared with 4.08 percent for the nation. Average net interest margins at District banks were lower in 1987 than in 1986. This held true not only in the aggregate, but across most asset-size categories as well.

Because of the poor performance of the large banks, focusing on the overall average results con-

[5]Earning assets include: loans (net of unearned income) in domestic and foreign offices; lease-financing receivables; obligations of the U.S. government, states and political subdivisions and other securities; assets held in trading accounts; interest-bearing balances due from depository institutions; federal funds sold and securities purchased under agreements to resell.

[6]A bank should be concerned not only with the level of the net interest margin, but also with the variability of the net interest margin over time. With volatile interest rates, the stability of the net interest margin indicates that the interest sensitivity of assets and liabilities is matched.

Table 3

Net Noninterest Margin

	1987		1986		1985	
	District	U.S.	District	U.S.	District	U.S.
All banks	1.98%	1.87%	1.97%	1.93%	2.03%	1.95%
< $25 million in assets	2.50	2.89	2.51	2.91	2.49	2.90
$25-$50 million	2.16	2.58	2.13	2.58	2.11	2.52
$50-$100 million	2.03	2.44	2.07	2.47	2.04	2.44
$100-$300 million	2.03	2.34	2.01	2.36	2.02	2.38
$300 million-$1 billion	1.98	2.28	2.21	2.35	2.49	2.35
$1-$10 billion	1.75	1.97	1.62	1.96	1.64	2.01
> $10 billion	N.A.	1.34	N.A.	1.43	N.A.	1.41

NOTE: Smaller net noninterest margins indicate better bank performance, holding all other things constant.
SOURCE: FDIC Reports of Condition and Income for Insured Commercial Banks, 1985-1987.

ceals differences across asset-size classes. A closer inspection of the categories reveals that banks across the nation generally outperformed banks in the Eighth District. For five of the six categories encompassing banks with assets less than $10 billion, District averages in 1987 were below the national average. The overall national average was adversely affected by those banks with assets greater than $10 billion (none of which are in the Eighth District). This category of banks experienced a significant decline in net interest margin, in part, because of lost income from nonperforming foreign loans.

Net Noninterest Margin

The net noninterest margin is an indicator of the efficiency of a bank's operations and its pricing and marketing decisions. The net noninterest margin is the difference between other (noninterest) income and noninterest expense as a percent of average fourth-quarter assets. Since noninterest expense generally exceeds other income, the calculation yields a *negative* number; it is common practice, however, to report the net noninterest margin as a positive number. Thus, smaller net noninterest margins indicate better bank performance, holding all other things constant.

As a supplement to income generated from interest-earning assets, banks have been concentrating their efforts on fee income. Noninterest income derived from bank services and sources other than interest-earning assets has increased as banks seek to price more of their products explicitly. Sources of noninterest income include fees for checking accounts, discount brokerage services, credit cards, fiduciary activities, mortgage loan servicing and safe deposit box rentals. Noninterest expense (overhead) includes all the expense items involved in overall bank operations, such as employee salaries and benefits, as well as expenses of premises and fixed assets. Noninterest expense also covers such items as directors' fees, insurance premiums, legal fees, advertising costs and litigation charges.

Noninterest expenses have been moving upward for the past several years in both the District and the nation. As a result, banks are closely monitoring personnel and occupancy costs in an effort to boost profits. Some banks have elected to reduce staff to streamline operations. In addition, mergers and consolidations have allowed banks the opportunity to centralize operations, improving efficiency as a result of better economies of scale.

Table 3 shows the net noninterest margin for banks in the nation and the Eighth District grouped by various asset sizes. District banks in 1987 outperformed their national counterparts across all asset sizes. In the aggregate, however, the nation outperformed the District primarily because of the pricing strategies and operating efficiencies of banks with assets greater than $10 billion. These large banks continue to expand their noninterest sources of income relative to their noninterest expenses. Smaller institutions, on the other hand, have generated much slower growth of noninterest income.

ASSET QUALITY

Asset quality is a primary factor influencing the banking industry's earnings pattern. With loan

Table 4

Nonperforming Loans as a Percentage of Total Loans

	1987		1986		1985	
	District	U.S.	District	U.S.	District	U.S.
All banks	2.11%	3.50%	2.16%	2.77%	2.49%	2.83%
< $25 million in assets	2.08	3.17	2.68	3.76	3.26	3.73
$25-$50 million	2.15	2.77	2.61	3.19	3.05	3.32
$50-$100 million	2.06	2.45	2.47	2.93	2.67	3.06
$100-$300 million	1.95	2.20	2.04	2.54	2.11	2.58
$300 million-$1 billion	1.47	2.31	2.33	2.51	2.65	2.46
$1-$10 billion	2.44	2.42	1.81	2.06	2.19	2.24
> $10 billion	N.A.	5.26	N.A.	3.37	N.A.	3.34

SOURCE: FDIC Reports of Condition and Income for Insured Commercial Banks, 1985-1987.

losses rising over the past few years at many commercial banks, investors and regulators alike are placing added focus on asset quality in assessing the health of the banking industry.

Asset quality typically is measured by two indicators. The first measure, the nonperforming loan rate, indicates not only the current level of problem loans but also the potential for future loan losses. The second indicator, the ratio of net charge offs to total loans, shows the percentage of loans (adjusted for recoveries) actually written off the bank's books.

Nonperforming Loans

Nonperforming loans are composed of two categories: 1) nonaccrual loans, i.e., those loans for which a bank is recording interest only when cash payments are received, and 2) loans past due 90 days or more. As table 4 reports, Eighth District banks' nonperforming loans as a share of total loans fell slightly from 2.16 percent in 1986 to 2.11 percent in 1987, while rising nationally from 2.77 percent to 3.50 percent.

The dollar volume of nonperforming loans is heavily concentrated at the largest banks in the District and the nation. The nonperforming loan rate at District banks with assets between $1 billion and $10 billion rose from 1.81 percent in 1986 to 2.44 percent in 1987. The average nonperforming loan rate for similar-sized banks across the nation rose from 2.06 percent to 2.42 percent during the same period. Nonperforming loans at the largest banks in the nation rose to 5.26 percent of total loans in 1987, up from 3.37 percent at year-end 1986. In 1987, many of these large banks placed millions of their Latin American loans on a nonaccrual status. The most notable of these were loans to Brazil, which were classified as nonaccrual in February of last year. This means that interest payments will be counted toward the bank's earnings only when actually received. A bank usually places a loan on nonaccrual status when the borrower has failed to make payments. While several District banks with assets greater than $1 billion reported increased levels of nonperforming loans resulting from Latin debt, smaller banks improved in this area during the past year. Banks with assets less than $25 million saw nonperforming loans fall to 2.08 percent of total loans, down from 2.68 percent in 1986. This strong improvement in asset quality was likewise reported by banks with assets between $25–$50 million and $50–$100 million.

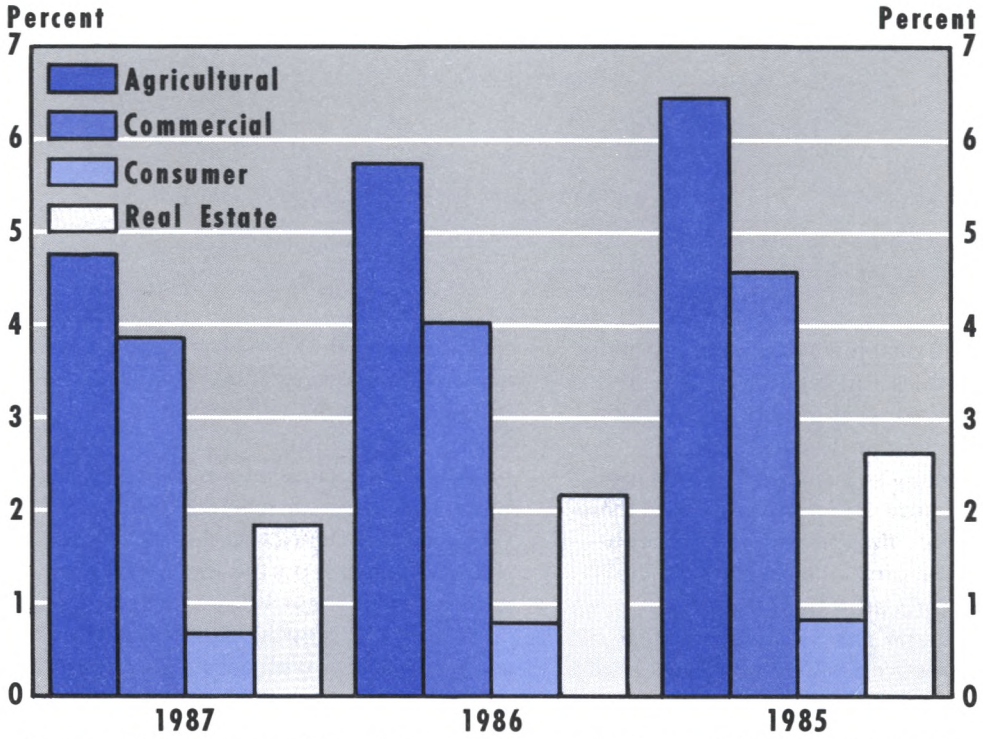
Another indicator of asset quality is the number of banks at which the dollar volume of nonperforming loans exceeds primary capital. At year-end 1987, five banks, or 0.4 percent of Eighth District banks, had nonperforming assets that exceeded their primary capital, compared with 10 banks in 1986. Nationally, 326 banks, or 2.4 percent of all banks, had nonperforming loans in excess of primary capital, down from 409 banks at year-end 1986.

Chart 1 compares nonperforming loans by type of loan for Eighth District banks. At year-end 1987, nonperforming agricultural loans as a percent of total agricultural loans were 4.76 percent, down from 5.72 percent in 1986. Nonperforming commercial loans declined to 3.86 percent of commercial loans, down from 4.02 percent in 1986. Consumer nonperforming loans, which accounted for 0.80 percent of all consumer loans outstanding in 1986, fell to 0.67 percent in 1987. Lastly, real estate

Chart 1

Nonperforming Loans

as a Percentage of Total Loans by Category
Eighth District



Source: FDIC Reports of Condition and Income for Insured Commercial Banks, 1985-1987.

nonperforming loans also declined in 1987, falling to 1.83 percent of total real estate loans, compared with 2.17 percent in 1986.

Loan Losses

The most direct measure of a bank's loan problems is the percentage of loans charged off during the year. As table 5 shows, the average charge-off rate at banks in the Eighth District, which had been rising in the early 1980s, declined considerably in 1987. Net loan charge-offs (adjusted for recoveries) were 0.70 percent at year-end 1987, compared with 0.88 percent in 1986. Nationally, the average aggregate ratio of net loan losses to total loans fell from 0.93 percent in 1986 to 0.88 percent in 1987. Across all asset-size categories, 1987 net loan losses as a percentage of total loans at District banks were lower than at similar-sized banks in the nation.

Table 6 shows the distribution of loan losses by type of loan. For both the nation and the District, commercial loan losses constitute the greatest percentage of overall loan loss: more than 50 percent of all District charge-offs are commercial loans. The percent of District commercial loan charge-offs, however, is falling: 51.55 percent at year-end 1987, compared with 62.24 percent in 1986. Farm-related charge-offs declined considerably in 1987; they now account for 8.26 percent of total District loan losses, compared with 16.24 percent in 1986. Consumer charge-offs, meanwhile, rose in 1987 to 23.24 percent of total District loan losses, up from 18.65 percent in 1986. Foreign office loans that were classified as a loss rose to 1.79 percent of total loans in the District. Nationally, this category of loan losses rose to 6.32 percent, up from 1.14 percent in 1986.

Chart 2 compares loss rates for specific loan

Table 5

Net Loan Losses as a Percentage of Total Loans

	1987		1986		1985	
	District	U.S.	District	U.S.	District	U.S.
All banks	0.70%	0.88%	0.88%	0.93%	0.89%	0.81%
< $25 million in assets	0.93	1.49	1.31	2.00	1.52	1.71
$25-$50 million	0.72	1.15	1.16	1.61	1.38	1.38
$50-$100 million	0.70	0.94	1.05	1.36	1.09	1.22
$100-$300 million	0.67	0.76	0.98	1.02	0.72	0.84
$300 million-$1 billion	0.71	0.85	0.92	0.96	0.78	0.74
$1-$10 billion	0.68	0.85	0.57	0.72	0.59	0.64
> $10 billion	N.A.	0.88	N.A.	0.89	N.A.	0.77

SOURCE: FDIC Reports of Condition and Income for Insured Commercial Banks, 1985-1987.

Table 6

Distribution of Loan Losses

	1987	1986	1985
District			
Agriculture	8.26%	16.24%	19.44%
Commercial	51.55	62.24	65.61
Consumer	23.24	18.65	14.04
Real Estate	19.09	16.92	18.16
Foreign[1]	1.79	0.17	0.37
United States			
Agriculture	3.34%	7.72%	10.39%
Commercial	45.07	56.23	61.32
Consumer	28.72	26.29	22.82
Real Estate	15.20	11.80	8.63
Foreign[1]	6.32	1.14	2.56

[1]Loans held in foreign offices, Edge and Agreement subsidiaries and International Banking Facilities (IBFs).
NOTE: Percentages may sum to greater than 100 because agricultural loans are included in other categories as well.
SOURCE: FDIC Reports of Condition and Income for Insured Commercial Banks, 1985-1987.

types. As one can see from the chart, the loss rate was highest for District agricultural loans, with commercial loans a close second. As a percent of total agricultural loans outstanding, 1.92 percent were charged off in 1987; 1.41 percent of commercial loans were classified as a loss.

Loan Loss Reserve

Mounting loan losses have decreased the average profitability of banks. The relationship between the loan loss provision, which is an income statement item, and the loan loss reserve, which is a balance sheet item, can be shown as follows:

Beginning Loan Loss Reserve
\+ Loan Loss Provisions
− Actual Charge Offs
\+ Recoveries
= Ending Loan Loss Reserve.

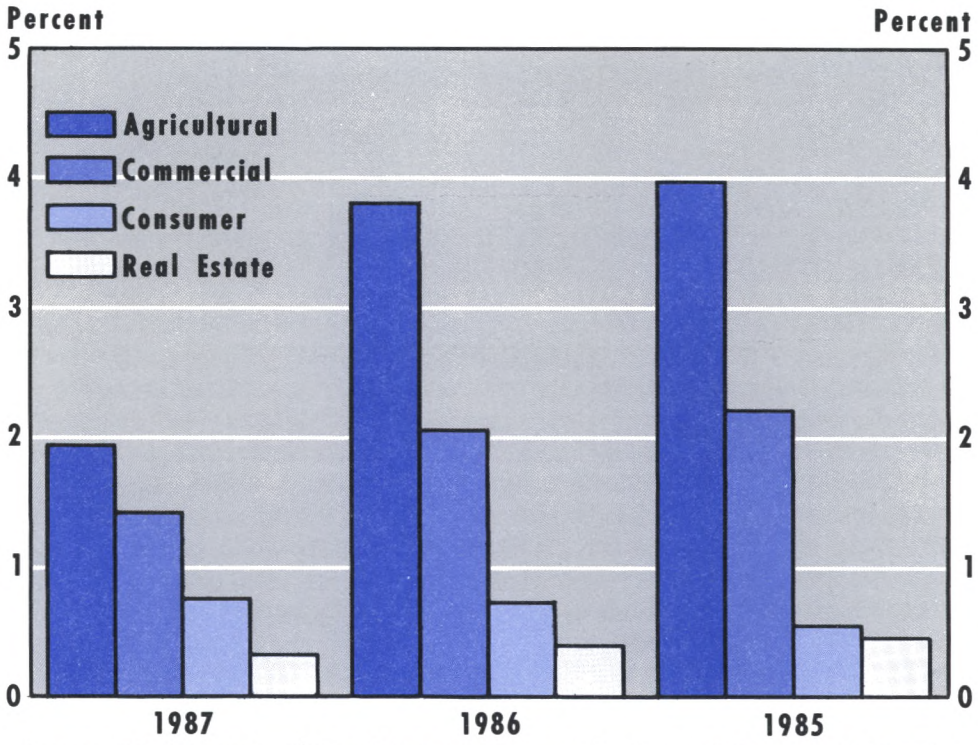
Any addition to the loan loss provision directly reduces profits.

As table 7 shows, banks in the Eighth District and the nation continued to add to their loan loss reserve and loan loss provision accounts during

Chart 2

Loan Losses

as a Percentage of Total Loans by Category
Eighth District



Source: FDIC Reports of Condition and Income for Insured Commercial Banks, 1985-1987.

1987. As a percent of total loans, Eighth District banks' loan loss reserve increased from 1.41 percent in 1986 to 1.67 percent in 1987; nationally, this ratio rose from 1.63 percent to 2.70 percent. The largest District banks increased their reserves to 2.15 percent of total loans, up from 1.40 percent at year-end 1986. Nationally, banks with assets greater than $10 billion increased their reserve levels substantially in 1987; as a percent of total loans, 4.25 percent were covered by reserves, compared with 1.83 percent in 1986.

Loan loss provisions totaled $694.2 million at District banks at year-end 1987, up $40.3 million from 1986 levels. Nationally, banks added $14.8 billion; and at year-end 1987, the loan loss provision account stood at $36.3 billion. This action was taken as a precautionary measure to absorb expected future loan losses. Many large banks added to their loan loss provision account in June 1987 to allow for the deterioration of their foreign loan portfolio. A second round of provision increases occurred during the fourth quarter. By year-end 1987, most banks had set up reserves equal to approximately 50 percent of their Latin American exposure.

CAPITAL ADEQUACY

Bank regulators have a strong interest in ensuring that banks maintain adequate financial capital (the difference between their assets and liabilities). The level of bank capital serves to maintain public confidence in the soundness of the individual bank and the banking system as a whole. Bank capital is intended to absorb losses, cushion against risk, provide for asset expansion and pro-

Table 7

Loan Loss Reserves and Loan Loss Provisions

	1987		1986		1985	
	District	U.S.	District	U.S.	District	U.S.
Loan Loss Reserves						
All banks	1.67%	2.70%	1.41%	1.63%	1.31%	1.42%
< $25 million in assets	1.60	1.86	1.60	1.80	1.59	1.54
$25-$50 million	1.50	1.71	1.44	1.61	1.26	1.39
$50-$100 million	1.44	1.53	1.43	1.54	1.22	1.36
$100-$300 million	1.32	1.50	1.31	1.48	1.19	1.31
$300 million-$1 billion	1.32	1.58	1.48	1.57	1.36	1.37
$1-$10 billion	2.15	1.89	1.40	1.46	1.41	1.35
> $10 billion	N.A.	4.25	N.A.	1.83	N.A.	1.53
Loan Loss Provisions						
All banks	0.60%	1.23%	0.59%	0.77%	0.59%	0.67%
< $25 million in assets	0.47	0.81	0.66	1.14	0.80	1.06
$25-$50 million	0.43	0.69	0.67	0.96	0.76	0.87
$50-$100 million	0.41	0.58	0.61	0.84	0.64	0.81
$100-$300 million	0.45	0.53	0.63	0.74	0.53	0.62
$300 million-$1 billion	0.42	0.66	0.68	0.82	0.61	0.63
$1-$10 billion	0.97	0.88	0.46	0.67	0.43	0.56
> $10 billion	N.A.	2.02	N.A.	0.80	N.A.	0.70

SOURCE: FDIC Reports of Condition and Income for Insured Commercial Banks, 1985–1987.

tect uninsured depositors. Moreover, additional capital can reduce the exposure of the Federal Deposit Insurance Corporation (FDIC) to bank losses. When a bank fails and is liquidated, the FDIC's loss equals the bank's liabilities minus the market value of the failed bank's assets. Therefore, the greater proportion of assets funded by capital rather than by liabilities, the smaller the potential loss to the FDIC insurance fund, all other things equal. The regulatory agencies have set minimum standards of 5.5 percent primary capital to assets and 6.0 percent total capital to assets.[7]

Improvement in bank capital ratios in recent years is apparent throughout the range of institutions. As indicated in table 8, total capital ratios are well above the minimum standards established by the bank regulatory agencies both for banks in the Eighth District and the banking industry as a whole.[8] The average total capital ratio (the sum of the individual banks' total capital divided by the sum of the individual banks' total assets) was 8.86 percent for Eighth District banks in 1987, compared with 8.38 percent for all U.S. commercial banks. As of December 1987, approximately 1.4 percent of all District banks did not meet the minimum regulatory total capital standards, while slightly more than 4.4 percent of the commercial banks in the nation had deficient total capital ratios.

[7]The components of primary capital as reported in the FDIC Consolidated Report of Condition and Income are: common stock, perpetual preferred stock, surplus, undivided profits, contingency and other capital reserve, qualifying mandatory convertible instruments, allowance for loan and lease losses and minority interests in consolidated subsidiaries, less intangible assets excluding purchased mortgage servicing rights. (For the purposes of this paper, only the goodwill portion of intangible assets was deducted.) Secondary capital is limited to 50 percent of primary capital and includes subordinated notes and debentures, limited-life preferred stock and that portion of mandatory convertible securities not included in primary capital. Each bank's secondary capital is added to its primary capital to obtain the total capital level for regulatory purposes.

[8]The regulatory agencies do not assume that a bank's capital is adequate simply because it meets the minimum capital requirements. Banks whose operations involve higher degrees of risk are expected to hold additional capital. The Federal Reserve Board, Federal Deposit Insurance Corporation and Office of the Comptroller of the Currency have formally proposed risk-based capital guidelines that would apply to all U.S. banks. The proposal would tie a bank's capital to its asset risk and require additional capital to support off-balance-sheet activities. This risk-based capital plan would be phased in by 1992, at which time banks would be required to maintain an 8 percent capital-to-asset ratio, half of which must be in common equity and disclosed reserves.

Table 8

Total Capital Ratios

	1987		1986		1985	
	District	U.S.	District	U.S.	District	U.S.
All banks	8.86%	8.38%	8.55%	8.17%	8.47%	8.01%
< $25 million in assets	10.17	10.57	10.02	10.35	9.90	10.58
$25-$50 million	9.54	9.53	9.29	9.32	9.24	9.38
$50-$100 million	9.40	9.14	9.14	8.90	8.99	8.87
$100-$300 million	8.78	8.62	8.61	8.36	8.49	8.30
$300 million-$1 billion	8.60	8.05	8.43	8.03	8.54	8.30
$1-$10 billion	8.19	7.92	7.63	7.78	7.21	7.61
> $10 billion	N.A.	8.36	N.A.	8.03	N.A.	7.59

SOURCE: FDIC Reports of Condition and Income for Insured Commercial Banks, 1985-1987.

SUMMARY

The financial performance of banks in the Eighth Federal Reserve District, like that of banks in the nation, was poor for the largest banks but improved for the smaller banks. Profits at the larger banks were adversely affected by above-normal loan loss provisions and problem loan levels that, while moderating, remained high by historical standards.

District net interest margins declined in 1987. As an offset to interest income, banks have been concentrating their efforts on fee income. Although 1987 overhead levels stabilized, overhead costs have been trending upward for the past several years, cutting into profits. Compounding the pressure on earnings from rising overhead costs are the loan loss provisions required to strengthen loan loss reserves. These provisions rose sharply in 1987, as a result of a deterioration in the District's foreign loan portfolio. The overall level of District nonperforming loans decreased slightly in 1987; and loan losses at District banks, which had been rising in recent years, declined in 1987. Finally, a majority of Eighth District banks improved their capital ratios in 1987 and are positioned well above the minimum standards set by bank regulators.

Federal Reserve Bank of St. Louis
Post Office Box 442
St. Louis, Missouri 63166

The **Review** *is published six times per year by the Research and Public Information Department of the Federal Reserve Bank of St. Louis. Single-copy subscriptions are available to the public free of charge. Mail requests for subscriptions, back issues, or address changes to: Research and Public Information Department, Federal Reserve Bank of St. Louis, P.O. Box 442, St. Louis, Missouri 63166.*