June 1992

Pieces of Eight

An Economic Perspective on the 8th District

THE FEDERAL RESERVE BANK of ST. LOUIS

Banks on the Rise in 1991

Ag Sector Weakens

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THE EIGHTH FEDERAL RESERVE DISTRICT

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Pieces of Eight—An Economic Perspective on the 8th District is a quarterly summary of agricultural, banking and business conditions in the Eighth Federal Reserve District. Single subscriptions are available free of charge by writing: Research and Public Information Department, Federal Reserve Bank of St. Louis, Post Office Box 442, St. Louis, MO 63166-0442. The views expressed are not necessarily official positions of the Federal Reserve System.

District Bank Performance In 1991: More Ups Than Downs

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After several years of mediocre performance, Eighth District commercial banks posted sizable earnings gains in 1991. Gradually improving economic conditions, including lower interest rates and rising loan demand, provided much of the impetus to increased earnings and improved asset quality throughout the District. A detailed analysis of this performance is presented below, with comparisons drawn between District banks and their national peers.[1] Conventional performance measures, defined precisely in the shaded insert, are examined to assess the financial condition and soundness of the District's banking industry.[2]

Earnings

Eighth District banks earned $1.29 billion in 1991, an increase of more than 11 percent from 1990. In 1990, District bank earnings rose just 2.6 percent. U.S. peer banks, meanwhile, recorded a larger turnaround, with earnings rising 27.2 percent to $14.64 billion after a 23.6 percent decline in 1990.

Despite the substantial improvement in earnings, slightly more District banks reported losses in 1991 than in 1990. Seventy-five (or 6.1 percent of the District's 1,238 banks) incurred losses in 1991, vs. 73 banks (or 5.8 percent of the District's banks) in 1990. In contrast, a smaller proportion of U.S. peer banks lost money last year than they had in the previous year; in 1991, 10.7 percent of U.S. peer banks were in the red compared with 12.7 percent in 1990.

Return on Assets and Equity

When examining bank earnings, two standard profitability measures are generally used: the return on average assets (ROA) ratio and the return on average equity (ROE) ratio. ROA indicates how successfully bank management employed the bank's assets to earn income; ROE provides shareholders with a measure of the institution's return on their investment.

ROA and ROE improved moderately at District banks in 1991 after declining the previous two years. As indicated in table 1, ROA rose 5 basis points to 0.93 percent while ROE increased 54 basis points to 11.71 percent. These ratios rose as earnings growth exceeded that of average assets (up 5.6 percent in 1991) and average equity (up 6.3 percent in 1991).[3] Much of the improvement in District average profitability ratios can be attributed to strong year-over-year earnings increases at the largest District banks—the 11 banks with assets of $1 billion to $5 billion and the three banks with assets of more than $5 billion. These two groups registered gains of 17 and 20 basis points, respectively, in ROA, and gains of 235 and 322 basis points, respectively, in ROE from 1990 to 1991.

Profit ratios at U.S. peer banks increased substantially in 1991, with average ROA rising 14 basis points to 0.67 percent and ROE rising 163 basis points to 9.06 percent. Despite this substantial improvement, most categories of U.S. peer banks still rank far below their District counterparts in these profit measures. All of the improvement in U.S. peer bank profit ratios can be attributed to strong earnings growth (the numerator), as average assets rose a meager 1.2 percent in 1991 while average equity capital rose 4.3 percent. Asset growth slowed in 1991 largely because of weak loan demand. In addition, some banks facing trouble raising capital opted to curtail asset growth to meet new risk-based capital guidelines.[4]

Components of Earnings

As with any business, a bank's financial success is determined by how much revenue its activities generate over and above the costs incurred in generating that revenue. In assessing the earnings performance of banks, analysts typically examine the three major components of income and expense: net interest income, net noninterest income and the loan loss provision. These components, like net income, are usually adjusted by average assets to facilitate comparison among banks.

Net Interest Margin — The net interest margin (NIM) is an indicator of how well interest-earning assets (basically loans and investments) are being employed relative to interest-bearing liabilities (deposits and other sources of funds). After declining 12 basis points in 1990, the NIM at District banks rose 1 basis point to 4.19 percent in 1991 (see table 2). Mid-sized District banks (those with average assets in the $100 million to $300 million range and the $300 million to $1 billion range) posted declines of 4 basis points and 21 basis points, respectively. Substantial increases in the average NIM at the largest District banks, however, offset those declines. District banks with assets of $1 billion to $5 billion posted a 17-basis-point gain in the average NIM, while those with more than

Ratio Definitions

Return on average assets ratio (ROA)—An indicator of how well management is employing a bank's assets to earn income, return on assets (ROA) is calculated by dividing a bank's net income by its average annual assets.

Return on average equity ratio (ROE)—An indicator to shareholders of a bank's return on their investment, return on equity (ROE) is calculated by dividing a bank's net income by its average annual equity capital. Equity capital consists of common and perpetual preferred stock, surplus, undivided profits and capital reserves and cumulative foreign currency translation adjustments.

Net interest margin (NIM)—An indicator of how well interest-earning assets are being employed relative to interest-bearing liabilities, the net interest margin is calculated by dividing the difference between interest income and interest expense by average earning assets. Interest income comprises the interest and fees realized from interest-earning assets, and includes such items as interest and points on loans, interest and dividends from securities holdings, and interest from assets held in trading accounts. Interest expense includes the interest paid on all categories of interest-bearing deposits, the expenses incurred in purchasing federal funds and selling securities under agreements to repurchase, and interest paid on capital notes. Average earning assets rather than average assets are used in the net interest margin because they are the only assets from which a return in the form of interest is generated.

Net noninterest margin (NNIM)—An indicator of a bank's operating efficiency and its ability to generate income from noninterest-earning assets, the net noninterest margin is calculated by subtracting noninterest expense (overhead) from noninterest income and dividing by average assets. Noninterest expense is the sum of the costs incurred in the bank's day-to-day operations, which includes employee salaries and benefits, expenses of premises and fixed assets, as well as legal and directors' fees, insurance premiums, and advertising and litigation costs. Noninterest income includes income from fiduciary (trust) activities; service charges on deposit accounts; trading gains (losses) from foreign exchange transactions; gains (losses) and fees from assets held in trading accounts; and charges and fees from miscellaneous activities like safe deposit rentals, bank draft and money order sales, and mortgage servicing.

Loan and lease loss provision ratio—An indicator of expected loan and lease losses, the loan and lease loss provision ratio (usually shortened to loan loss provision ratio) is calculated by dividing the provision for loan and lease losses by average assets. The provision for loan and lease losses is an income statement account which reduces a bank's current earnings.

Nonperforming loan and lease loss ratio—An indicator of current and future loan problems, the nonperforming loan ratio is calculated by dividing loan and lease financing receivables that are 90 days or more past due or in nonaccrual status by total loans. Restructured loans and leases that fall into the 90 days or more delinquent status or in nonaccrual status are included as well.

Net loan loss ratio—An indicator of actual loan losses, the net loan loss ratio is calculated by dividing loan losses (adjusted for recoveries) by average total loans. Also called the charge-off rate.

Risk-based capital and leverage ratios—Two risk-based capital measures have been established to control for credit risk across banks. One ratio comprises Tier 1 capital divided by risk-adjusted assets and the other comprises total capital (Tier 1 + Tier 2) divided by risk-adjusted assets. Tier 1 capital consists of: common stock and its related surplus, undivided profits and capital reserves (retained earnings), noncumulative perpetual preferred stock and its related surplus, minority interests in consolidated subsidiaries and mortgage servicing rights (up to a specified limit, using the FDIC definition of eligible intangible assets) *less* net unrealized loss on marketable equity securities. Tier 2 capital consists of allowable subordinated debt and limited life preferred stock, cumulative preferred stock, mandatory convertible debt, the allowable portion of the loan and lease loss allowance and agricultural loss deferral. Risk-adjusted assets are computed by attaching weights of 0, 20, 50 and 100 percent to on- and off-balance sheet assets and subtracting disallowed intangible assets, reciprocal capital holdings, the excess portion of the allowance for loan and lease losses and the allocated transfer risk reserve. In addition to the risk-based ratios, banks are required to meet a leverage ratio. A top-rated bank with no plans for expansion is expected to have a leverage ratio of at least 3 percent; lesser-rated banks and those wishing to expand must meet a 4 percent minimum. The leverage ratio is computed by dividing Tier 1 capital by average total consolidated assets (average assets less ineligible intangible assets and investments in unconsolidated subsidiaries).

Table 1
Return on Average Assets (ROA)

Asset Category	1991		1990		1989		1988	
	District	U.S.	District	U.S.	District	U.S.	District	U.S.
All banks[1]	0.93%	0.67%	0.88%	0.53%	0.91%	0.71%	0.95%	0.76%
Less than $25 million	0.78	0.62	0.77	0.45	0.82	0.58	0.84	0.36
$25 million - $50 million	0.92	0.77	0.90	0.74	1.02	0.76	0.98	0.66
$50 million - $100 million	0.93	0.88	1.02	0.81	1.09	0.85	1.05	0.78
$100 million - $300 million	1.01	0.84	0.96	0.87	1.04	0.94	0.99	0.81
$300 million - $1 billion	0.90	0.76	0.97	0.74	1.05	0.82	1.02	0.70
$1 billion - $5 billion	1.00	0.50	0.83	0.47	0.47	0.70	0.85	0.78
$5 billion - $15 billion	0.81	0.61	0.61	0.21	0.82	0.50	na	0.80

Return on Average Equity (ROE)

Asset Category	1991		1990		1989		1988	
	District	U.S.	District	U.S.	District	U.S.	District	U.S.
All banks[1]	11.71%	9.06%	11.17%	7.43%	11.55%	9.99%	12.07%	10.91%
Less than $25 million	7.96	6.13	7.89	4.39	8.37	5.64	8.67	3.56
$25 million - $50 million	9.99	8.29	9.90	8.06	11.08	8.41	10.94	7.45
$50 million - $100 million	10.30	9.94	11.28	9.22	12.20	9.76	11.88	9.16
$100 million - $300 million	12.18	10.40	11.71	10.76	12.78	11.85	12.20	10.41
$300 million - $1 billion	11.10	9.91	12.50	9.87	13.49	11.43	13.06	10.19
$1 billion - $5 billion	14.87	7.13	12.52	6.94	7.24	10.48	12.74	11.79
$5 billion - $15 billion	12.64	9.72	9.42	3.64	12.97	8.56	na	14.35

SOURCE: FFIEC Reports of Condition and Income for All Insured Commercial Banks, 1988-91.

[1]Includes only those banks with average assets of less than $15 billion. The division of banks into asset categories is based on annual average assets.

na = not available

in the average NIM, while those with more than $5 billion in assets recorded an 11-basis-point gain.

U.S. peer banks typically outperform District banks in this basic measure of profitability, and 1991 was no exception. The gap between the District NIM and that of U.S. peer banks widened to 36 basis points in 1991, as the U.S. peer bank ratio increased 12 basis points to 4.55 percent. The improvement in NIMs was widespread, with every asset category of U.S. banks but one (the $300 million to $1 billion category) posting increases. As with District banks, the largest U.S. peer banks experienced the largest increases in the NIM. Despite the increases, however, the majority of the nation's (and the District's) larger banks still lag their smaller peers in this "bread and butter" measure of industry profitability.

Interest Income and Expense — Differences in net interest margins among banks in different asset categories and geographic areas can be accounted for by the income and expense components of the ratio. In 1991, banks generally experienced increases in NIMs because interest expense declined more than interest income. In a period of declining interest rates, banks reduced the rates paid on deposits and other interest-bearing liabilities by more than they reduced the rates charged on loans.

Interest income as a percent of average earning assets declined across the board at District banks in 1991; the average for all banks declined 95 basis points to 9.37 percent, its lowest level since 1988 (see figure 1). U.S. peer banks' average interest income ratio dropped 88 basis points to 9.77 percent. At both the District and the national level, banks in the largest asset categories posted the steepest drops in the ratio. Despite a sharper decline in interest income from loans, leases and securities (which comprise about 80 percent of District and U.S. bank earnings before taxes), U.S. peer banks experienced a smaller decline in the ratio of interest income to earning assets because of weak asset growth. District banks' interest income from these sources declined

Table 2
Net Interest Margin (NIM)

	1991		1990		1989		1988	
Asset Category	**District**	**U.S.**	**District**	**U.S.**	**District**	**U.S.**	**District**	**U.S.**
All banks[1]	4.19%	4.55%	4.18%	4.43%	4.30%	4.52%	4.26%	4.54%
Less than $25 million	4.41	4.66	4.42	4.65	4.52	4.80	4.49	4.70
$25 million - $50 million	4.36	4.61	4.35	4.59	4.36	4.73	4.31	4.64
$50 million - $100 million	4.31	4.60	4.25	4.58	4.31	4.76	4.30	4.66
$100 million - $300 million	4.21	4.66	4.25	4.65	4.41	4.86	4.39	4.72
$300 million - $1 billion	4.23	4.63	4.44	4.73	4.57	4.76	4.48	4.62
$1 billion - $5 billion	4.31	4.54	4.14	4.33	4.06	4.44	3.87	4.49
$5 billion - $15 billion	3.71	4.42	3.60	4.18	4.02	4.36	na	4.37

SOURCE: FFIEC Reports of Condition and Income for All Insured Commercial Banks, 1988-91.

[1]Includes only those banks with average assets of less than $15 billion.

na = not available

2.4 percent vs. the 4.7 percent decline at U.S. peer banks.

Interest expense as a percent of average earning assets declined 96 basis points in the District in 1991 to 5.18 percent, while the ratio for U.S. peer banks declined 100 basis points to 5.22 percent. As was the case with interest income, declines in interest expense increased with bank size. District banks in the $1 billion to $5 billion asset category, for example, experienced a 128-basis-point decline in their average interest expense ratio, while U.S. banks in the same category recorded a 98-basis-point decline. One explanation for the sharper declines at larger banks in 1991 was their declining reliance on purchased funds, such as federal funds and brokered deposits. In a period of weak loan demand, which is typical during recessions, banks are more likely to be able to fund loan demand with core deposits, decreasing their reliance on more expensive purchased funds.

Net Noninterest Margin — The net noninterest margin (NNIM) is an indicator of a bank's operating efficiency and its ability to generate fee income. Because noninterest expense usually exceeds noninterest income, the calculation of the NNIM yields a negative number; it is common practice, however, to report the net noninterest margin as a positive number. Smaller NNIMs, therefore, indicate better bank performance, all else equal.

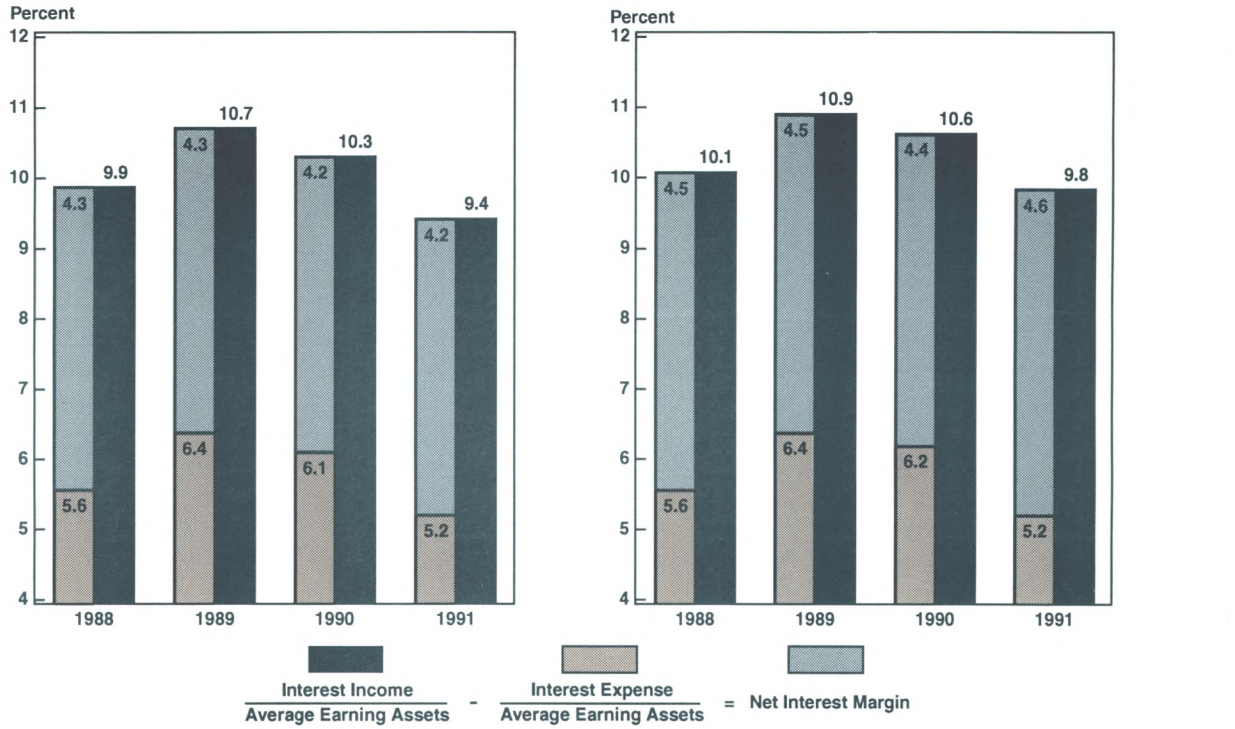
In 1991, as in previous years, District banks recorded substantially lower NNIMs than their U.S. peers. As shown in table 3, the difference in margins between the two groups of banks widened to 26 basis points in 1991. The 1.97 percent NNIM recorded by District banks was essentially unchanged from its 1990 level; U.S. peer banks, however, experienced a substantial increase (or deterioration) of 11 basis points in the average NNIM in 1991, to 2.23 percent. The increases in NNIMs at District banks were concentrated at the very smallest (less than $100 million in average assets) and the very largest banks (greater than $5 billion in average assets). At U.S. peer banks, in contrast, the two largest categories of banks experienced increases of 18 and 12 basis points, while the very smallest banks experienced declines or slight increases.

Noninterest Income and Expense — Noninterest income as a percent of average assets rose 10 basis points in both the District and the nation in 1991. U.S. peer banks, however, maintained their substantial edge over District banks in their noninterest income earnings. District banks recorded an average noninterest income ratio of 1.12 percent vs. the 1.55 percent ratio recorded by U.S. peer banks. U.S. banks surpassed District banks in every asset category, with the largest differences occurring in the smallest asset categories. The largest District banks were able to narrow the gap somewhat in 1991. District banks with assets of $1 billion to $5 billion, for example, increased their average noninterest income ratio by 19 basis points, to 1.64 percent, while District banks with assets of more than $5 billion increased their ratio by 38 basis points to 1.98 percent. The comparable ratios for U.S. peer banks were 1.74 percent and 2.12 percent, respectively.

Noninterest expense (overhead) as a percent of average assets also rose at District and U.S. peer banks in 1991. The noninterest expense ratio increased 11 basis points to 3.09 percent at District banks in 1991, and 20 basis points to 3.77 percent at U.S. peer banks. Like the noninterest income ratio, the largest increases in the noninterest expense ratio occurred at the largest District and

Figure 1

Interest Income and Interest Expense as a Percent of Average Assets



U.S. banks. As in previous years, the lowest noninterest expense ratios at both District and national levels were recorded by mid-sized banks (those with average assets of $50 million to $300 million). These results are consistent with most bank cost studies, which show that mid-sized banks typically have a cost advantage over their smaller and larger peers.[5]

District banks continued to record substantially lower noninterest expense ratios than their U.S. peers. This result can be largely attributed to lower salary expense, which makes up about half of all noninterest expense. The average salary of a District bank employee was about $27,400 in 1991 compared with about $31,200 for an employee at a U.S. peer bank.

Loan and Lease Loss Provision — District banks set aside $683 million from 1991 pre-tax earnings (called a loan loss provision) to replenish and bolster the fund used to absorb loan and lease losses (called the loan and lease loss allowance or reserve). The District's 1991 loan and lease loss provision (hereafter provision) was 3.2 percent more than the $662 million provision taken in 1990. U.S. peer banks, in contrast, reduced the size of their provision in 1991 by 7.1 percent to $20.36 billion. U.S. peer banks were able to make a smaller contribution to their loan loss allowance because of reductions in delinquent loans (discussed in the next section).

Despite the increase in the level of the provision at District banks, the provision as a percent of average assets declined 1 basis point in 1991, returning to its 1989 value of 0.49 percent (see table 4). The District's average ratio declined primarily because of reductions in provision ratios at the District's largest banks. The average ratio at U.S. peer banks declined 9 basis points in 1991 to 0.93 percent. The difference between the District and national averages is due primarily to the much greater loan problems at large U.S. banks compared with District banks. The loan loss provision ratio at U.S. banks with average assets of $1 billion to $5 billion, for example, was 67 basis points higher than the District's ratio of 0.53 percent in 1991. Nevertheless, it is clear that loan problems at large U.S. peer banks have decreased from their 1990 levels.

Asset Quality

Improved performance at District and U.S. peer banks in 1991 can be largely attributed to

Table 3
Net Noninterest Margin (NNIM)

	1991		1990		1989		1988	
Asset Category	District	U.S.	District	U.S.	District	U.S.	District	U.S.
All banks[1]	1.97%	2.23%	1.96%	2.12%	2.00%	2.11%	2.05%	2.20%
Less than $25 million	2.66	2.94	2.63	3.03	2.60	2.85	2.59	2.95
$25 million - $50 million	2.30	2.67	2.26	2.62	2.19	2.60	2.19	2.61
$50 million - $100 million	2.16	2.48	2.06	2.45	2.04	2.48	2.10	2.48
$100 million - $300 million	1.99	2.47	2.01	2.37	2.05	2.43	2.11	2.47
$300 million - $1 billion	2.03	2.33	2.08	2.30	2.11	2.28	2.15	2.36
$1 billion - $5 billion	1.84	2.11	1.87	1.93	1.98	2.01	1.73	2.05
$5 billion - $15 billion	1.44	1.95	1.38	1.83	1.47	1.72	na	1.83

SOURCE: FFIEC Reports of Condition and Income for All Insured Commercial Banks, 1988-91.

[1]Includes only those banks with average assets of less than $15 billion.

na = not available

declines in delinquent loans and other assets. Real estate loan problems, which have plagued the nation's bankers for the past several years, have abated somewhat. Troubled consumer and business loans, which rose in 1990 with the onset of the recession, also declined throughout 1991 in both the District and the nation. Despite the improvement, the industry continues to face difficulties stemming from a national economy that is far from robust and weak real estate markets in many parts of the country.

Asset quality may be gauged by examining the nonperforming loan ratio and the net loan loss ratio. The nonperforming loan ratio indicates the current level of problem loans as well as the potential for future loan losses. The net loan loss ratio specifies the percentage of loans actually written off the bank's book for a given period.

Nonperforming Loans and Leases

Total nonperforming loans and leases at District banks declined 6.7 percent from year-end 1990 to year-end 1991, to $1.34 billion. As shown in table 5, the average nonperforming loan ratio at District banks dropped 13 basis points in 1991 to 1.68 percent. Most categories of District banks experienced declines in their nonperforming loan ratio, with the two categories of the largest District banks showing the most improvement, 15 and 74 basis points, respectively. Two groups of banks, however, posted significant increases in the nonperforming loan ratio: those banks with less than $25 million in assets (up 38 basis points) and those banks with assets of $300 million to $1 billion (up 18 basis points).

U.S. peer banks recorded a slightly larger decline in the nonperforming loan ratio than did District banks, because of a sharper drop in the level of nonperforming loans (7.6 percent) in 1991. The U.S. peer bank average fell 15 basis points to 2.90 percent. As with District banks, most categories of U.S. peer banks posted declines in the nonperforming loan ratio, and the largest peer banks (those with assets of $5 billion to $15 billion) also recorded the biggest decline (62 basis points) in the ratio. Still, the nonperforming loan ratios of most categories of U.S. banks remain substantially above the "problem" or benchmark level of 2 percent. In contrast, most categories of District banks have, for the past four years, maintained nonperforming loan ratios comfortably below the industry benchmark.

All major categories of District bank loans—agricultural, consumer, real estate and business—showed improvement in nonperforming ratios at District banks in 1991. For the nation, this was also true of every category but consumer loans. Real estate loan problems, which have received much attention from analysts, the media and regulators during the past several years, have diminished, as illustrated by the drop in the ratio of nonperforming real estate loans to all real estate loans. That ratio declined from 2 percent to 1.86 percent at District banks in 1991, and from 3.81 percent to 3.51 percent at U.S. peer banks in 1991. Still, nonperforming real estate loans accounted for 56.4 percent of District nonperforming loans and 55.4 percent of U.S. peer bank nonperforming loans at year-end 1991.

The bulk of problem real estate loans remain in commercial real estate portfolios. Figure 2 shows the nonperforming loan ratios for six types of real estate loans at both District and U.S. peer banks as of the end of 1991. Although most of these ratios declined throughout the year, some are

Table 4
Provision for Loan Losses as a Percent of Average Assets

	1991		1990		1989		1988	
Asset Category	**District**	**U.S.**	**District**	**U.S.**	**District**	**U.S.**	**District**	**U.S.**
All banks[1]	0.49%	0.93%	0.50%	1.02%	0.49%	0.84%	0.39%	0.64%
Less than $25 million	0.30	0.34	0.28	0.41	0.32	0.50	0.31	0.62
$25 million - $50 million	0.38	0.40	0.36	0.42	0.28	0.48	0.33	0.55
$50 million - $100 million	0.42	0.43	0.33	0.46	0.29	0.47	0.31	0.52
$100 million - $300 million	0.42	0.55	0.44	0.53	0.41	0.48	0.40	0.50
$300 million - $1 billion	0.53	0.73	0.48	0.80	0.44	0.67	0.37	0.60
$1 billion - $5 billion	0.53	1.20	0.57	1.24	0.77	0.80	0.47	0.69
$5 billion - $15 billion	0.73	1.27	0.91	1.49	0.76	1.34	na	0.74

SOURCE: FFIEC Reports of Condition and Income for All Insured Commercial Banks, 1988-91.

[1]Includes only those banks with average assets of less than $15 billion.

na = not available

Table 5
Nonperforming Loans as a Percent of Total Loans

	1991		1990		1989		1988	
Asset Category	**District**	**U.S.**	**District**	**U.S.**	**District**	**U.S.**	**District**	**U.S.**
All banks[1]	1.68%	2.90%	1.81%	3.05%	1.60%	2.39%	1.62%	2.14%
Less than $25 million	1.95	1.77	1.57	1.96	1.62	2.12	1.71	2.55
$25 million - $50 million	1.56	1.86	1.60	1.96	1.67	2.31	1.68	2.50
$50 million - $100 million	1.54	1.96	1.57	2.02	1.50	2.00	1.67	2.15
$100 million - $300 million	1.71	2.12	1.82	2.01	1.64	1.92	1.70	2.38
$300 million - $1 billion	1.78	2.46	1.60	2.51	1.45	2.31	1.28	1.99
$1 billion - $5 billion	1.48	3.22	1.63	3.11	1.56	2.15	1.68	1.96
$5 billion - $15 billion	1.96	3.63	2.70	4.25	1.75	2.98	na	2.18

SOURCE: FFIEC Reports of Condition and Income for All Insured Commercial Banks, 1988-91.

[1]Includes only those banks with average assets of less than $15 billion.

na = not available

stubbornly high, such as the ratio of nonperforming construction and land development (CLD) loans to all CLD loans. The two other types of commercial real estate loans—multifamily mortgages and nonfarm nonresidential mortgages—also have very high delinquency rates, in both the District and the nation. Banks carrying large portions of these nonperforming loans will no doubt take a hit to earnings for several more years, as real estate markets slowly move back toward equilibrium.

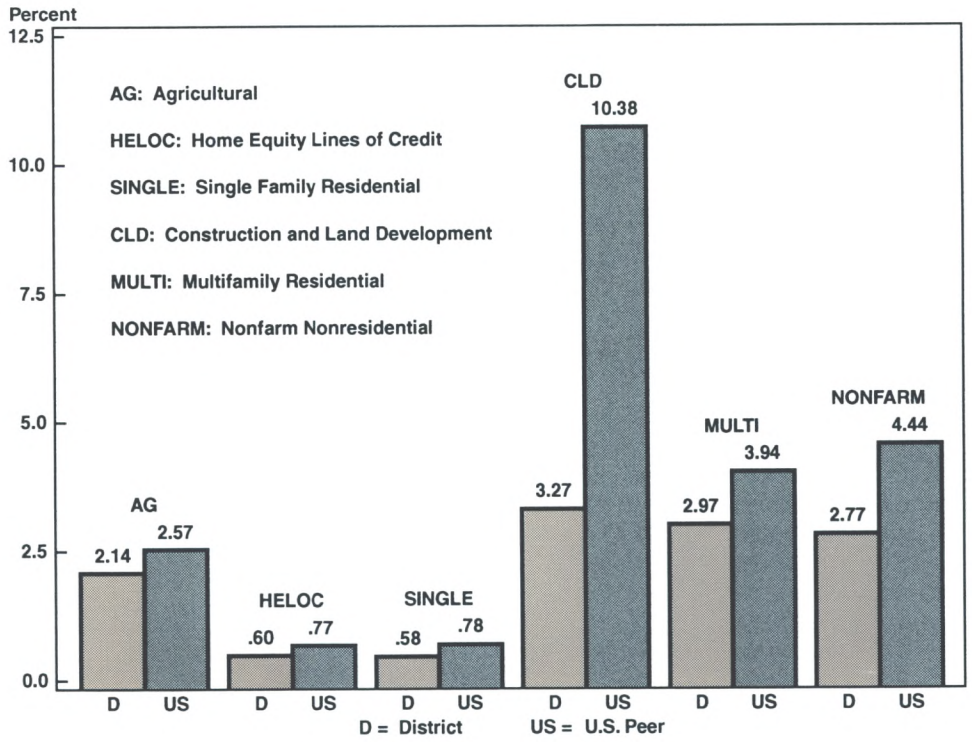
Net Loan and Lease Losses

A more direct measure of loan problems than the nonperforming loan ratio is the percentage of loans and leases actually written off a bank's books. The ratio of net loan and lease losses to total loans (also called the charge-off rate) is an indicator of problem lending in the current year as well as prior years, because of bank management's partial discretion in determining when a loan is deemed uncollectible and is thus written off.[6]

As indicated in table 6, District banks wrote off an average of 74 cents for every $100 of loans on the books in 1991, up 3 cents from the charge-off rate of 1990. In contrast, U.S. peer banks charged off $1.33 for every $100 in loans outstanding in 1991, up 15 cents from the 1990 charge-off rate of $1.18. Net loan and lease losses totaled $584.9 million at District banks in 1991, an

Figure 2

Nonperforming Real Estate Loan Ratios by Type, District and U.S. Peer Banks As of Year-End 1991



increase of 7.4 percent from the 1990 level. U.S. peer banks wrote off a total of $17.6 billion in uncollectible loans in 1991, up 11 percent from 1990.

All District bank asset categories but one registered increases in the charge-off rate in 1991. The same scenario held true for U.S. peer bank asset categories. As in previous years, District banks recorded lower net loan loss ratios than their U.S. peers, with the differences becoming larger as bank size increased. Business loans comprised about 42 percent of all charge-offs at District banks, while consumer loans accounted for 27 percent and real estate loans another 30 percent. U.S. peer banks had a smaller concentration of commercial loan losses (36 percent of net loan losses), and a higher concentration of consumer loan losses (34 percent of the total). Real estate loans comprised about 28 percent of net loan losses at U.S. peer banks.

Capital Adequacy

Banks maintain capital to absorb losses, provide for asset expansion, protect uninsured depositors and promote public confidence in their financial soundness. Since 1985, banks have been required by regulators to meet minimum capital standards.[7] In concert with regulators in 11 other industrial countries, U.S. bank regulators in 1988 adopted new capital guidelines that would not only standardize capital measures across countries, but would also account for differences in credit risk across banks. These new requirements will be fully phased in by December 31, 1992; transitional requirements went into effect at year-end 1990.

The requirements consist of a leverage ratio (core or Tier 1 capital to average total consolidated assets) and two risk-based capital ratios (Tier 1 capital to risk-adjusted assets and total capital to risk-adjusted assets); the year-end 1992 minimums for these ratios are 3 percent, 4 percent and 8 percent, respectively.[8] U.S. bank supervisors have indicated they expect banks to exceed these minimums by a substantial margin. The extent to which banks surpass capital ratio minimums is expected to influence regulatory decisions about mergers, acquisitions and new banking powers. The vast majority of District and U.S. banks already meet the fully phased in capital requirements.

As illustrated in table 7, the average ratios recorded by District and U.S. peer banks in 1991 far exceeded the regulatory minimums. District

Table 6
Net Loan Losses as a Percent of Total Loans

	1991		1990		1989		1988	
Asset Category	District	U.S.	District	U.S.	District	U.S.	District	U.S.
All banks[1]	0.74%	1.33%	0.71%	1.18%	0.71%	0.97%	0.76%	0.96%
Less than $25 million	0.52	0.58	0.44	0.67	0.48	0.82	0.60	1.09
$25 million - $50 million	0.57	0.65	0.51	0.64	0.47	0.78	0.54	0.89
$50 million - $100 million	0.60	0.67	0.50	0.66	0.45	0.68	0.48	0.78
$100 million - $300 million	0.67	0.81	0.64	0.71	0.57	0.66	0.55	0.70
$300 million - $1 billion	0.68	1.01	0.64	0.95	0.55	0.86	0.45	0.77
$1 billion - $5 billion	0.76	1.56	0.86	1.22	0.87	0.91	1.22	0.97
$5 billion - $15 billion	1.19	1.80	1.11	1.71	1.35	1.31	na	1.23

SOURCE: FFIEC Reports of Condition and Income for All Insured Commercial Banks, 1988-91.

[1]Includes only those banks with average assets of less than $15 billion.

na = not available

Table 7
Year-End 1991 Regulatory Capital Ratios

	Average Tier 1 Capital Ratio		Average Total Capital Ratio		Average Leverage Ratio	
Asset Category	District	U.S.	District	U.S.	District	U.S.
All banks[1]	12.35%	12.60%	13.36%	13.77%	9.52%	9.50%
Less than $25 million	14.35	15.92	15.32	17.09	10.55	11.80
$25 million - $50 million	12.29	12.33	13.31	13.46	9.31	9.27
$50 million - $100 million	12.15	11.75	13.15	12.83	9.02	8.86
$100 million - $300 million	10.71	10.48	11.69	11.62	9.49	8.21
$300 million - $1 billion	9.56	9.60	10.67	10.97	9.44	7.70
$1 billion - $5 billion	9.66	10.17	10.90	12.00	6.76	6.88
$5 billion - $15 billion	8.66	8.23	10.57	10.25	6.32	6.30

SOURCE: FFIEC Reports of Condition and Income for All Insured Commercial Banks, 1991.

[1]Includes only those banks with average assets of less than $15 billion.

banks' year-end 1991 Tier 1 capital ratio of 12.35 percent was 835 basis points above the minimum; U.S. peer banks' ratio of 12.60 percent was 860 basis points above the minimum. Average total capital ratios of 13.36 percent for District banks and 13.77 percent for U.S. peer banks, and average leverage ratios of 9.52 percent and 9.50 percent, respectively, also far exceeded the required levels. In most cases, average ratios were highest for banks in the smallest asset-size categories. This is not surprising given the generally less-risky (as defined by regulators) assets carried by small banks as well as a tendency for them to have high equity capital relative to assets. Less than 1 percent of all District banks failed to meet one or more of the minimum capital ratios. U.S. peer banks had a slightly higher proportion of capital-deficient banks, with 1 percent to 2.4 percent failing to meet one or more of the requirements.

Conclusion

After a lackluster performance in 1989 and 1990, District banks posted improvements in earnings and asset quality in 1991. ROA and ROE were up moderately at District banks last year, with the most improvement recorded by the District's largest banks. U.S. peer bank earnings and earnings ratios rose sharply in 1991 after poor per-

formances in 1990. While delinquent asset levels are still far above desired levels in many parts of the country, it appears as if those conditions are improving, especially in real estate.

Improvements in ROA and ROE in both the District and the nation in 1991 can be attributed to increases in net interest margins (NIMs) and decreases in loan loss provision ratios. Declines in market interest rates led to larger declines in the rates paid on deposits and other interest-bearing liabilities than on the rates received on loans and other investments. The result was a slight improvement in District NIMs and substantial improvement in U.S. peer NIMs. After a significant increase in 1990, District banks set aside a smaller portion of before-tax earnings to cover nonperforming loans and other assets. The loan loss provision at U.S. peer banks, meanwhile, actually declined in 1991 after a large increase in 1990.

Asset quality, as measured by the nonperforming loan ratio and the net loan loss ratio, also improved significantly in 1991. The largest District and U.S. peer banks experienced the largest declines (that is, improvement) in these ratios. Much of the deterioration in asset quality over the last several years was due to declining economic performance; loan delinquency problems always rise when the economy turns down. Therefore, increased economic growth should bring delinquency rates down even further. The other major drag on asset quality, and hence earnings, over the last several years has been overbuilt commercial real estate markets. While some improvement has occurred, it will be many years before vacancy rates and rents return to profitable levels.

Improved earnings and asset quality also led to improvements in capital ratios at many District and U.S. banks. While some banks shrunk their balance sheets to meet the risk-based capital and leverage requirements, others were able to raise capital in equity markets. Despite slightly smaller average ratios than their U.S. peers, a smaller proportion (less than 1 percent) of District banks failed to meet the year-end 1992 capital guidelines than did U.S. banks overall.

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[1]U.S. peer banks are defined as banks with average annual assets of less than $15 billion.

[2]Selected performance measures for banks in Eighth District states are presented in the appendix that follows the conclusion.

[3]Much of the increase in District average assets in 1991 can be attributed to the acquisition of thrifts—solvent and insolvent—by District banks.

[4]See Michelle A. Clark, "District Banks Navigate Recession's Waters," Federal Reserve Bank of St. Louis *Pieces of Eight*, (December 1991), p. 12, for a discussion of factors affecting asset growth.

[5]See Jeffrey A. Clark, "Economies of Scale and Scope at Depository Financial Institutions: A Review of the Literature," Federal Reserve Bank of Kansas City *Economic Review*, (September/October 1988), pp. 16-33, for a discussion of bank cost issues.

[6]Bank management will adjust the loan and lease loss provision in the current year to reflect nonperforming loans and leases; those loans may be carried on a bank's books, however, for years before a decision is made to write them off. Net loan and lease losses do not affect *current* earnings as does the loan loss provision; rather, they just alter the allowance for loan losses (or loan loss reserve), a contra account on the asset side of a bank's balance sheet.

[7]See Michelle A. Clark, "Eighth District Banks in 1989: In the Eye of a Storm?" Federal Reserve Bank of St. Louis *Review*, (May/June 1990), p. 15, for a description of the capital requirements that were in effect from 1985 through 1990.

[8]Actually, the required leverage ratio depends on a bank's regulatory rating and its plans for expansion. See the shaded insert for details.

Appendix Table 1
Earnings Analysis: United States and Eighth District States, 1988-91

	United States[1]	AR	IL	IN	KY	MS	MO	TN
Return on Assets								
1991	0.67%	1.15%	0.69%	0.83%	0.88%	0.92%	0.75%	0.78%
1990	0.53	1.05	0.69	0.80	0.80	0.76	0.84	0.42
1989	0.71	1.04	0.89	1.02	1.04	0.79	0.93	0.61
1988	0.76	0.97	1.01	1.06	1.01	0.85	0.91	0.84
Return on Equity								
1991	9.06	13.60	9.86	10.51	10.77	11.77	9.95	10.53
1990	7.43	12.14	10.68	10.37	9.98	9.72	11.05	5.74
1989	9.99	12.10	13.94	13.34	12.98	9.94	2.21	8.17
1988	10.91	11.47	16.64	13.98	12.57	10.82	11.96	11.43
Net Interest Margin								
1991	4.55	4.40	3.68	4.52	4.23	4.48	3.97	4.52
1990	4.43	4.42	3.56	4.29	4.15	4.26	4.03	4.46
1989	4.52	4.52	3.65	4.31	4.22	4.30	4.38	4.43
1988	4.54	4.57	3.66	4.32	4.24	4.44	4.30	4.67
Net Noninterest Margin								
1991	2.23	2.08	1.68	2.11	1.98	2.26	1.86	2.24
1990	2.12	2.15	1.60	1.95	1.89	2.16	1.87	2.13
1989	2.11	2.20	1.51	1.99	1.82	2.19	1.95	2.16
1988	2.20	2.24	1.57	2.00	1.92	2.23	2.02	2.17
Loan Loss Provision Ratio								
1991	0.93	0.26	0.55	0.69	0.66	0.44	0.57	0.71
1990	1.02	0.28	0.43	0.63	0.71	0.54	0.51	1.16
1989	0.84	0.35	0.36	0.38	0.48	0.46	0.55	0.85
1988	0.64	0.41	0.27	0.36	0.45	0.41	0.49	0.66

[1]Because all banks in the Eighth District had average assets of less than $15 billion from 1988 to 1991, this category includes only those banks in the United States with average assets of less than $15 billion to allow for a meaningful comparison.

NOTE: State data are for the whole state, not just the portion located within the Eighth District.

SOURCE: FFIEC Reports of Condition and Income for All Insured Commercial Banks, 1988-91.

Appendix Table 2
Asset Quality Analysis: United States and Eighth District States, 1988-91

	United States[1]	AR	IL	IN	KY	MS	MO	TN
Nonperforming Loans[2]								
1991	2.90%	1.67%	2.65%	1.89%	1.74%	1.61%	2.07%	1.98%
1990	3.05	1.81	2.45	1.80	2.06	1.72	1.74	2.30
1989	2.39	1.90	2.17	1.41	1.72	1.43	1.57	1.82
1988	2.14	2.10	2.40	1.19	1.53	1.47	1.67	1.41
Net Loan Losses[2]								
1991	1.33	0.44	0.98	0.88	0.88	0.73	0.80	1.24
1990	1.18	0.49	1.08	0.71	1.03	0.74	0.67	1.41
1989	0.97	0.59	1.39	0.63	0.68	0.74	0.75	1.06
1988	0.96	0.77	0.85	0.58	0.64	0.68	0.95	0.98

[1]Includes only U.S. banks with average assets of less than $15 billion.

[2]As a percent of total loans.

NOTE: State data are for the whole state, not just the portion located within the Eighth District.

SOURCE: FFIEC Reports of Condition and Income for All Insured Commercial Banks, 1988-91.

Agriculture

Agriculture In 1991: The Decline Continues

by Kevin L. Kliesen

Kevin B. Howard provided research assistance.

For the second consecutive year, farm income in inflation-adjusted (real) terms fell in 1991.[1] Declines in crop and livestock receipts and a reduction in government support payments more than offset a slight decline in total farm expenses. Farm income is forecast to decline again this year, although the decline should not be as marked.

This article examines the preceding developments, as well as others—some of which are positive—for the nation and for the Eighth Federal Reserve District in 1991. Forecasts for 1992 and developments thus far are provided as well.

Measures of Farm Sector Performance in 1991

Lower Farm Income

Table 1 lists the two primary measures of real farm income. Net farm income (NFI), which is the most widely watched measure of farm income, declined 20.2 percent in 1991 to $35.9 billion. This was the largest one-year percentage drop since the drought year of 1983, when real NFI fell 43 percent. Another measure of farm income performance is net cash income (NCI).[2] Although NCI—like NFI—declined in 1991, it declined by much less in percentage terms, falling by 11 percent. Both measures, though, were below their 1985-90 average.

Generally speaking, real farm income at the District level closely parallels the national trend. Individual District states, however, may differ substantially from the national figure when the focus is restricted to the *change* for a specific year. This is shown in table 2, which details farm income statistics for the District states. Although state farm income statistics are available with a one-year lag, table 2 indicates that real NFI in 1990 declined in each of the District states, just as it did at the national level. Inflation-adjusted NCI, on the other hand, rose substantially in Illinois and Indiana, but declined in every other state. Again, this was consistent with the national numbers as real NCI in 1990 was down from 1989. For 1991, District NCI and NFI will probably track the national average. Reinforcing this prediction is the fact that the total *nominal* value of production for the major Eighth District commodities listed in table 3 declined by 3.3 percent in 1991.

Why Did Farm Income Fall?

The value of agricultural production in any given year is largely derived from the sale of crops and livestock. As shown in table 1, both livestock and crop receipts declined in 1991 at the national level. Crop receipts, measured at $69.2 billion, declined 2.8 percent in 1991. Livestock receipts, on the other hand, registered a sharper decline. After reaching a six-year high of $79.4 billion in 1990, livestock receipts fell 7.4 percent in 1991 to $73.5 billion; both measures also fell short of their 1985-90 average.

Figure 1 provides one piece of evidence as to why crop and livestock receipts fell last year. Crop prices rose substantially in the first half of 1991 largely because of the California freeze in December 1990 that temporarily inflated many fruit and vegetable prices. As fruit and vegetable prices declined to previous levels, the overall crop prices index fell as well. In fact, as of December 1991, crop prices were about 1 percent lower than a year earlier, as the average price for 1991 was lower than 1990's average for the major crops of corn, soybeans, cotton and wheat; the average price of rice in 1991 was up over 1990.

Figure 1 also shows that although livestock prices had trended upward from early 1986 to mid-1990, they have since subsequently weakened. In fact, despite an increase in early 1991, livestock prices fell 6.1 percent between December 1990 and December 1991; as will be discussed below, the livestock prices index fell because of lower prices received by beef, pork and poultry producers.

Decline in Farm Expenses

Ameliorating the effects of the decline in farm receipts last year was a 2.3 percent decline in total farm expenses (table 1). Lower energy costs and declines in interest rates, key components of farm expenses, were the primary reasons for this development. Crude oil prices, the major determinant of energy prices, declined 36 percent from fourth-quarter 1990 to fourth-quarter 1991, while the average interest rate on all non-real estate farm loans fell from 11.8 percent to 9.8 percent during the same period. If interest rates and energy prices remain near their 1991 year-end levels for much of

Table 1
U.S. Farm Sector Income Statement
(Billions of 1987 dollars)

Category	1989	1990	1991 P	1992 F	1985-90 Avg.
Total Farm Receipts[1]	$155.7	$155.7	$148.7	$136 to $142	$152.5
Crops	70.8	71.2	69.2	68 to 71	70.2
Livestock	77.6	79.4	73.5	68 to 73	76.2
Government Payments	10.1	8.2	6.8	6 to 8	11.6
Gross Farm Income	175.6	172.8	160.7	155 to 162	169.5
Gross Cash Income	166.0	164.7	155.6	148 to 155	164.4
Total Expenses	129.3	127.8	124.8	122 to 128	130.7
Cash Expenses	111.3	110.0	106.8	104 to 110	111.2
Net Cash Income[2]	54.8	54.7	48.7	41 to 46	53.2
Net Farm Income[3]	46.2	45.0	35.9	31 to 36	38.8

P = Preliminary F = Forecast

SOURCE: United States Department of Agriculture, *Agricultural Outlook* (May 1992), Table 29. Nominal numbers in original table were deflated by the Gross Domestic Product implicit price deflator, 1987 = 100.

[1]Includes farm-related income such as machinery hire or custom work. Farm-related income is usually less than 5 percent of total farm receipts and relatively invariant over time.

[2]Gross cash income less cash expenses.

[3]Gross farm income less total expenses; includes value of inventory changes.

NOTE: Totals may not add due to rounding.

Table 2
Eighth Federal Reserve District Farm Income Statistics (Billions of 1987 dollars)

	Net Farm Income		Net Cash Income	
State	1990	1989	1990	1989
Arkansas	$1.07	$1.15	$1.28	$1.38
Illinois	1.51	1.86	2.19	1.85
Indiana	0.93	1.17	1.39	1.14
Kentucky	0.92	1.05	1.28	1.33
Mississippi	0.55	0.60	0.72	0.76
Missouri	0.77	0.99	1.12	1.22
Tennessee	0.41	0.51	0.70	0.75

SOURCE: *Economic Indicators of the Farm Sector: State Financial Summary, 1990,* United States Department of Agriculture (December 1991).

1992, farm expenses will probably hold steady or even decline moderately. If rising interest rates and increased oil demand accompany a resumption in economic growth, which is a more plausible scenario, then 1992 farm expenses will probably rise. A further boost to farm expenses will likely occur from increased expenditures associated with the expected 4 percent increase in corn acreage this year.

Lower Government Support Payments

Another important component of farm income is the level of federal government support. In 1987, government payments in real terms totaled $16.7 billion, 42 percent of NFI and 30 percent of NCI. Subsequently, the level of government support payments to farmers has declined by more than one-half, falling to an estimated $6.8 billion in 1991—or 19 percent of NFI and 14 percent of NCI (table 1). While the United States Department of Agriculture (USDA) has forecasted the possibility of a slight rise in government support payments for 1992, barring drastic declines in market prices or severe weather problems, levels of government support in real terms will probably continue to hold to their downward *trend*.

What's in Store for This Year?

The next-to-last column of table 1 lists USDA forecasts for 1992. Both real NFI and NCI are forecasted to decline in 1992, the third year in a row. Livestock prices are expected to remain relatively weak in 1992 because of expanded production and existing large meat supplies (discussed below). Although 1992 crop receipts are projected to remain approximately equal to 1991, the relatively small levels of grain stocks for many commodities may translate into sharp price increases if

Table 3
Eighth Federal Reserve District and United States Crop and Livestock Production in 1991 as a Percent of 1990

State	Corn	Cotton	Rice	Soybeans	Wheat	Beef	Pork	Poultry[1]
Arkansas	115%	143%	111%	99%	42%	119%	104%	105%
Illinois	89	—	—	96	50	98	109	67
Indiana	73	—	—	101	57	100	105	104
Kentucky	93	—	—	94	54	107	95	857
Mississippi	100	122	86	117	29	99	84	116
Missouri	104	135	125	109	63	97	104	128
Tennessee	100	141	—	93	44	98	97	109
United States	94	113	99	103	72	101	104	105

SOURCE: Agricultural statistics office of each individual state and the United States Department of Agriculture.

[1]Defined as the production of broilers and turkeys and the pounds sold of mature chickens. (Note: Some District states may not produce all three categories of poultry.) Broiler production is measured from December 1 to November 30 of 1990 and 1991, respectively.

weather volatility or sudden export demand arises. Farm expenses in 1992 are forecast to be roughly equal to those in 1991; however, if the aggregate economy grows at a stronger pace than many expect, rising interest rates and farm input prices (for example, wage rates or energy costs) may increase more than expected as well. Since state income and expense measures tend to mirror the national trends, it is reasonable to anticipate that, if the USDA's national forecasts are reasonably accurate, similar changes will occur at the District level.

Major Eighth District Farm Commodities: 1991 Performance, 1992 Outlook

The interaction of market demand and market supply generally determines the price the farmer receives.[3] Market supply includes the current year's production, unused production from the previous year(s) and, if any, the quantity of imports. Similarly, market demand is a broad measure that includes human and animal consumption, exports and industrial uses. The following section discusses some of these considerations for those crop and livestock commodities that are most important in the Eighth District.[4]

Corn

Weather, as usual, had a significant influence on last year's corn production. The nearly ideal spring growing conditions in many areas gave way to unusual dryness in mid-summer; this was followed by an early freeze in the fall in parts of the upper Midwest. When all was said and done, 1991 corn production was down nearly 6 percent from a year earlier, as a 10-bushel-per-acre yield reduction more than offset a 2.7 percent increase in harvested acreage.

Table 3 lists 1991 crop and livestock production relative to 1990 for District states and for the United States. Corn production declined the most in the traditional Corn Belt states of Illinois and Indiana, and was down somewhat less in Kentucky. On the other hand, Mississippi and Tennessee corn production was unchanged from last year, while Arkansas and Missouri posted year-over-year increases.

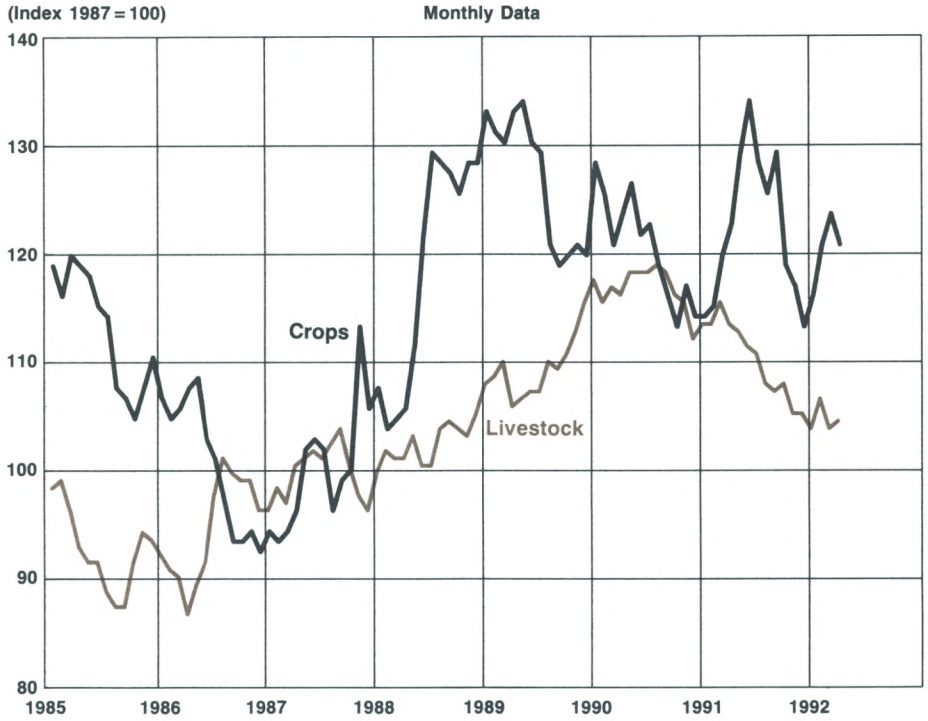
Table 4 lists the primary components of the supply and demand of important Eighth District farm commodities, including corn. Although beginning corn stocks rose 13 percent in the marketing year 1991-92, the combination of a 6 percent decline in production and a 5 percent increase in domestic use are expected to push ending stocks in 1991-92 to their lowest level since the drought year of 1983, notwithstanding the expected 10 percent drop in exports. As a result, the USDA estimates that corn prices could rise as much as 14 percent over last (marketing) year's average of $2.28 to $2.60 a bushel. Preliminary estimates released by the USDA, however, point to a 4 percent increase in corn plantings this year, which may have a depressing effect on corn prices.

Cotton

Cotton production in 1991 totaled 17.6 million bales—the second-largest crop on record and

Figure 1

United States Crop and Livestock Prices



14 percent above 1990. Cotton is an important District cash crop—worth an estimated $1.4 billion in 1991, up 19.7 percent from the previous year. Last year's crop was substantially larger than in 1990 in all four District cotton-producing states (table 3) and would have been even larger if Mississippi, the nation's third-largest producer, had not suffered from a deluge of spring rains that severely hampered planting and emergence.

The 1991-92 cotton marketing year (August to July) began with a relatively small 2.3 million bales in beginning stocks, down 22 percent from the previous marketing year (table 4). This positive development was mitigated, however, by last year's large crop. On the demand side, domestic cotton mill use is expected to total 9.3 million bales, nearly 9 percent above last year and the highest usage in 25 years. Nevertheless, a 13 percent drop in exports is expected to push ending stocks to their largest level since 1988-89. Accordingly, cotton prices are forecast to decline about five cents in the 1991-92 marketing year to near 63 cents a pound.

Rice

Aggregate U.S. rice production is heavily influenced by Arkansas, Mississippi and, to a lesser extent, Missouri. Arkansas is the nation's largest rice producer, while Mississippi and Missouri are its fifth- and sixth-largest producers, respectively; together, these three states account for a little more than one-half of all U.S. rice production. Last year, Arkansas and Missouri rice production increased significantly from the previous year, while Mississippi's crop was off 14 percent because of planting delays attributed to spring flooding (table 3).

Last year, U.S. rice production decreased 1 percent from the previous year because of a drop in harvested acreage. Nonetheless, at 154.5 million hundredweight (cwt), last year's crop was relatively large—up nearly 7 percent over the 1985-90 average (table 4). This increased production has been stimulated in part because of a steadily increasing domestic demand for rice, which has risen at a 4.2 percent annual rate since 1986. Rice exports, the other primary demand component, are expected to decline sharply in 1991-92, as they have for each year since 1988. For the 1991-92 marketing year, rice prices should average about $7.50 per cwt, up 80 cents from 1990-91.

Soybeans

Soybeans are grown in each of the seven District states, and they are the second-largest crop,

Table 4
Supply and Demand of the Major Eighth District Crops in 1991-92 and Percent Change from 1990-91[1]

	Beginning Stocks		Production		Domestic Use		Exports	
Crop	Amount	Percent Change	Amount	Percent Change	Amount	Percent Change	Amount	Percent Change
Corn (million bushels)	1,521.0	+13%	7,474.0	− 6%	6,345.0	+ 5%	1,550.0	−10%
Cotton (million bales)	2.3	−22	17.6	+14	9.4	+ 9	6.8	−13
Rice (million cwt)	24.6	− 6	154.5	− 1	94.8	+ 3	60.0	−15
Soybeans (million bushels)	329.0	+38	1,986.0	+ 3	1,335.0	+ 4	690.0	+24
Wheat (million bushels)	866.0	+62	1,981.0	−28	1,210.0	−12	1,250.0	+17

[1]Periods are on a marketing year basis; market years are June to May for wheat, August to July for cotton and rice, and September to August for corn and soybeans. Numbers for domestic use and exports are forecasts.

SOURCE: *World Agricultural Supply and Demand*, United States Department of Agriculture (May 1992).

behind corn, in terms of revenue. The value of District soybean production last year was down 3.3 percent to $4.8 billion, as declines in production occurred in Arkansas, Illinois, Kentucky and Tennessee (table 3).

The weather that affected the nation's corn crop last year also affected the soybean crop. After much early season promise, last year's soybean crop of almost two billion bushels was a little more than 3 percent larger than 1990's crop (table 4). Assisted by increasing meat production, domestic consumption is forecasted to increase nearly 4 percent in the 1991-92 marketing year, while exports are projected to increase 24 percent because of modest declines in world production and agricultural credits extended to the former Soviet Union. As a result, ending stocks are forecast to decline to roughly 300 million bushels and soybean prices are expected to be moderately higher than in the previous marketing year; however, any hint of weather uncertainty or additional export credits to the former Soviet Union could push the average marketing year price to the USDA's top-end estimate of $5.60 a bushel. Another boost could come from this spring's expected decrease in planted soybean acreage—the smallest acreage planted since 1976.

Wheat

Largely because of crop diseases in the nation's soft-red winter wheat belt (predominantly the Midwest), U.S. wheat production in 1991 declined by approximately 28 percent from 1990. This resulted in the second-smallest wheat crop since 1978. Winter wheat production was curtailed significantly in all District states, particularly in Mississippi, where last year's production dropped by 71 percent (table 3). Elsewhere, winter wheat crops in Arkansas and Tennessee were less than half that of the previous year, while production in Illinois, Indiana and Kentucky declined slightly less. Missouri suffered the smallest relative decline, with production falling 37 percent.

Total wheat supply in the United States declined 13 percent last year. In fact, total supply would have dropped much more were it not for 1990's extremely large harvest, which boosted 1991-92 beginning stocks by 62 percent (table 4). The 28 percent decline in 1991 production and the expected 17 percent increase in exports, has 1991-92 ending stocks falling 58 percent to 366 million bushels; this would represent the smallest level of ending stocks since 1974.

Given these bullish fundamentals, the average price for the 1991-92 marketing year is expected to increase to near $3 per bushel, up from the previous marketing year average of $2.61 per bushel. Significant purchases by the former Soviet Union have boosted wheat prices since late last year. Ameliorating further price increases, however, are the large stocks possessed by Canada and the European Community and the 12 percent decrease in domestic demand because of a drop in wheat used for feeding purposes. Overall, though, in view of the forecasted increases in exports and the relatively small level of ending stocks, relatively strong wheat prices are expected into mid-1992. In fact, the average price of wheat since June 1991—the start of the wheat marketing year—has averaged $3.18 a bushel, well above the previous year.

Beef Cattle

Beef production in the United States last year totaled nearly 23 billion pounds. This was up slightly from 1990 but marginally below that of 1989. In the District, beef production was higher in Arkansas and Kentucky, but was virtually unchanged to down slightly in the remaining District

states (table 3). Because of this increase in production and the relatively large supply of competing pork and poultry meat, beef prices in 1991 declined from about 79 cents a pound to 74 cents a pound.

1992 forecasts point to a 1.1 percent increase in beef production, as recent USDA statistics suggest that cattle producers have responded to the relatively high prices received during the past two to three years by expanding their herds. Total cattle on farms as of January 1, 1992, equaled 100.1 million head—the highest level since 1987 and the third consecutive yearly increase. Furthermore, given the modest downward trend in per capita beef consumption—down 28.5 percent from its 1976 peak—and the large supplies of competing meats, beef producers may see prices fall yet some more.

Hogs

Expansion in pork production nationally began in earnest last year and is expected to continue quite strongly into 1992. Pork production in 1991 was up 4.2 percent from 1990, and it is expected to rise nearly 8 percent in 1992 to an all-time record of 17.2 billion pounds. Likewise, District pork production generally rose last year, particularly in the largest pork-producing states of Illinois, Indiana and Missouri (table 3).

Similar to beef prices, pork prices have been relatively high in the last few years; rising from an average of 43 cents per pound in 1988 and 1989 to 54 cents in 1990. With last year's jump in production, it was not surprising therefore to see the average pork price decline to 49 cents a pound. This price drop occurred chiefly because increases in demand did not keep up with increases in supply. Although pork consumption in 1991 increased 2.3 percent and exports rose modestly, per capita pork consumption only rose six-tenths of a pound to 50.6 pounds; for 1992, the USDA is expecting per capita consumption to rise to 54 pounds. Also, like beef, large supplies of competing meats and expected increases in pork production in the second and third quarters of 1992 should moderate any upward movements in hog prices. In fact, in the first quarter of 1992, pork prices averaged 38 cents a pound, down from 51 cents a pound one year earlier.

Poultry

The other large component of the domestic livestock sector, especially in the Eighth Federal Reserve District, is the poultry industry. In 1991, the District poultry industry produced a little more than $3.6 billion in broilers, turkeys, mature chickens and eggs. Approximately 80 percent of poultry production is concentrated in broilers, of which Arkansas is the nation's largest producer. Last year, Arkansas' poultry production rose 5 percent, substantially less than Mississippi and Missouri but slightly above Indiana, the other large poultry-producing states (table 3). Of particular interest was the large jump in Kentucky's poultry production, which was due to a 14-fold increase in broiler production.

Total U.S. poultry production last year equaled 25.3 billion pounds, up 5 percent from 1990. Because of the large supply of beef, pork and poultry expected on the market, the rate of increase of poultry production in 1992 is expected to slow slightly to 4.7 percent. In 1991, broiler prices averaged 52 cents a pound, down two cents from 1990 and seven cents from 1989. For 1992, broiler prices are expected to fall slightly more, as much as four cents a pound to 48 cents.

While competition among meats in 1992 will be intense, poultry products seem to enjoy a consumer advantage because of the perception that they are "healthier" than beef and pork. This preference shows up in per capita poultry consumption, which has increased at a 3.2 percent annual rate since 1970; this compares with a 1.1 percent rate of decline for beef and a 0.4 percent rate of decline for pork. In 1992, per capita poultry consumption is expected to increase 4.6 percent.

Agricultural Finance: Improving Balance Sheets

Table 5 looks at the U.S. farm balance sheet since 1988 and what is currently being forecast for 1992. As measured by the debt-to-asset ratio, farmers continue to retire the debt they accumulated in the 1970s and early 1980s. For example, the farm debt-to-asset ratio has decreased by almost one-third since 1985 and has not been this low since 1964.

By definition, a decline in the debt-to-asset ratio entails either a decline in debt and/or a rise in the value of farm assets. In 1991, total farm assets equaled $722.2 billion, which represented a decline from the previous year of 2.3 percent. In fact, figure 2 shows that real farm assets, of which nearly three-quarters is farmland, have declined sharply since peaking in 1979.[5]

The bright spot in farm finance is that both farm real estate debt and non-real estate debt have declined markedly in recent years. For example, since 1985, real estate debt has declined at an annual rate of 8.5 percent while non-real estate debt has declined at a 6.5 percent rate. Last year, farm real estate debt declined 4 percent, while non-real estate debt dropped by 2.1 percent.

As with state farm income, state balance sheet data are only available up to 1990. Nevertheless,

Table 5
U.S. Farm Balance Sheet
(Billions of 1987 dollars)

Assets	1988	1989	1990	1991 P	1992 F
Real Estate	$576.9	$558.2	$544.2	$533.3	$521 to $530
Non-Real Estate	198.1	198.1	195.7	188.8	184 to 193
Total Farm Assets	774.9	756.2	739.2	722.2	709 to 717
Liabilities					
Real Estate	74.7	69.5	65.0	62.4	60 to 63
Non-Real Estate	59.4	57.0	55.9	54.7	53 to 56
Total Farm Debt	134.2	126.5	120.9	117.1	113 to 118
Total Farm Equity	$640.8	$629.7	$618.4	$605.1	$592 to $600
Debt-To-Asset Ratio	0.173	0.167	0.164	0.160	0.16 to 0.17

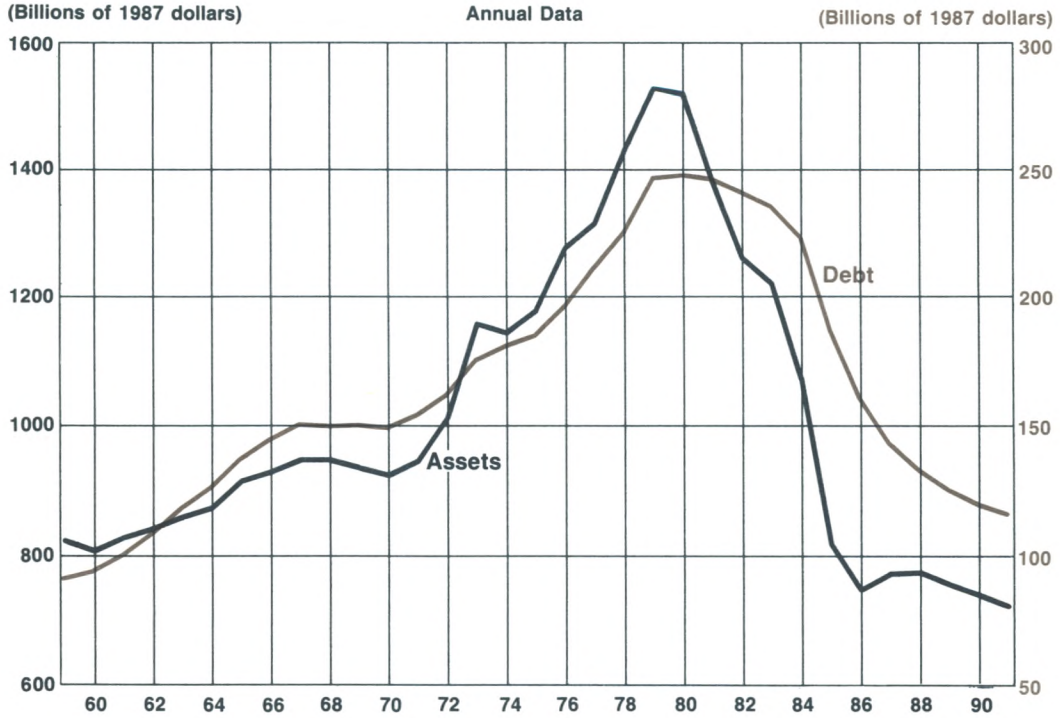
P = Preliminary F = Forecast

SOURCE: United States Department of Agriculture, *Agricultural Outlook* (May 1992), Table 30. Nominal numbers in original table were deflated by the Gross Domestic Product implicit price deflator, 1987 = 100.

NOTE: Totals may not add due to rounding.

Figure 2

*Total United States Farm Assets and Farm Debt**



***Includes operator households.**

Table 6
Eighth Federal Reserve District Farm Finance Statistics
(Billions of 1987 dollars)

	Farm Assets		Farm Debt		Debt-to-Asset Ratio	
State	1990	1989	1990	1989	1990	1989
Arkansas	$12.79	$13.03	$2.60	$2.61	0.18	0.185
Illinois	42.75	43.67	6.23	6.59	0.129	0.139
Indiana	21.94	22.60	3.94	4.25	0.159	0.173
Kentucky	14.82	15.50	2.21	2.37	0.132	0.141
Mississippi	10.05	10.42	2.16	2.43	0.19	0.215
Missouri	23.41	23.87	3.86	4.07	0.146	0.158
Tennessee	12.83	13.47	1.73	1.81	0.12	0.124

SOURCE: *Economic Indicators of the Farm Sector: State Financial Summary, 1990*, United States Department of Agriculture (December 1991).

the same trends in asset values seen nationally are present for each of the District states. Table 6 indicates that real asset values declined in 1990 in each District state. The average decline was 3.1 percent, ranging from 1.8 percent in Arkansas to 4.8 percent in Tennessee. While real asset values declined, the value of real farm debt fell much more, so that debt-to-asset ratios declined in 1990 from 1989. On average, farm debt in the seven District states declined by 5.8 percent.

The USDA expects this pattern to persist into 1992 (table 5). Farm real estate assets are expected to drop from 0.6 percent to 2.3 percent; the range of non-real estate assets goes from an increase of 2.2 percent to a decrease of 2.5 percent. Total farm debt in 1992 is expected to drop about 3.5 percent or rise slightly. In accordance with the national trends, there is little reason to believe that the District will not follow suit.

Agricultural Lenders

Performance of agricultural lenders in the U.S. and the District were mixed last year. Bank performance, like most other industries, suffers during periods of recession and slow economic growth—conditions that were certainly indicative of 1991's economy. In addition, agricultural lenders are directly affected by the agricultural economy.

Various bank performance measures are listed in table 7 for the United States and for the individual District states.[6] Return on assets (ROA) and return on equity (ROE) were marginally higher for all U.S. banks and for those agricultural banks in Kentucky, Mississippi and Missouri last year, but were generally unchanged to lower in the remaining District states. Agricultural loan losses at U.S. and most District banks increased in 1991, although agricultural loan losses as a percent of total agricultural loans increased much more at District banks. Agricultural nonperforming loans as a percent of total agricultural loans, while decreasing slightly for U.S. farm banks, increased at most District farm banks. It is typical for loan losses and nonperforming loans to rise (relative to total loans) in a recession because reduced economic activity causes a slowing in sales, thereby increasing default risk—especially for small businesses that are common to the rural economy.

In addition to commercial banks, the federal Farm Credit System (FCS) is an important lender to the agricultural sector. The FCS continues to recover from some of the difficulties it encountered in the early- to mid-1980s. In 1991, net income of the FCS was $811 million—up significantly from the previous year's $608 million. Net interest income, which is the primary source of the FCS's income, has grown for four consecutive years, rising to $1.6 billion in 1991. Continued loan restructuring, improved lending practices and a goal to aggressively compete in the agricultural loan market has enabled the FCS as a whole to prosper in recent years. Income performance, however, was mixed in 1991 at the District's two Farm Credit Banks (FCB). The Louisville FCB reported net income of $70.9 million, down 25 percent from 1990; the St. Louis FCB, on the other hand, reported 1991 net income of $54.8 million, a jump of 28 percent from 1990.[7]

Summary

The U.S. agricultural sector experienced a second consecutive year of declining real farm income last year. Declines in crop and livestock receipts were the primary reasons, although government support payments also dropped slightly. In 1992,

Table 7
United States and Eighth Federal Reserve District Agricultural Banking Data

	U.S.		Arkansas[2]	
	1991	1990	1991	1990
Banks with negative earnings	161	205	4	2
Return on assets (ROA)	1.05	1.02	1.17	1.24
Return on equity (ROE)	11.25	10.96	11.75	12.36
Ag. loan losses/Total ag. loans	0.30	0.23	0.61	0.17
Ag. nonpf. loans/Total ag. loans[1]	1.67	1.74	0.92	1.34
Number of banks	3935	4043	108	102

	Illinois[2]		Indiana[2]		Kentucky[2]	
	1991	1990	1991	1990	1991	1990
Banks with negative earnings	6	0	0	0	2	5
Return on assets (ROA)	1.04	1.03	1.01	1.02	1.12	1.11
Return on equity (ROE)	10.84	11.10	10.36	10.75	11.88	11.65
Ag. loan losses/Total ag. loans	0.34	0.16	1.16	0.90	0.24	0.17
Ag. nonpf. loans/Total ag. loans[1]	2.59	2.88	2.86	1.68	2.11	1.59
Number of banks	125	127	19	20	61	62

	Mississippi[2]		Missouri[2]		Tennessee[2]	
	1991	1990	1991	1990	1991	1990
Banks with negative earnings	0	1	3	4	3	1
Return on assets (ROA)	1.32	1.17	1.14	1.02	0.79	0.96
Return on equity (ROE)	14.19	12.77	12.61	11.45	8.50	10.43
Ag. loan losses/Total ag. loans	0.34	−0.08	0.35	0.30	0.79	1.07
Ag. nonpf. loans/Total ag. loans[1]	3.21	2.47	2.02	1.99	1.77	1.08
Number of banks	22	25	115	120	15	14

NOTE: Agricultural banks are defined as those banks with a greater-than-average share of total agricultural loans to total loans.

[1]Nonperforming loans include loans past due more than 89 days and nonaccrual loans.

[2]State data only include banks within the Eighth District; see the inside front cover of this publication for a map of this area.

SOURCE: Fourth-quarter FDIC Reports of Condition and Income for Insured Commercial Banks.

crop receipts are forecasted to decline slightly, but weather, as always, will be a key determinant. Livestock receipts will probably fall again in 1992 because of declining prices stemming from large supplies of beef, pork and poultry. While declining farm expenses last year contributed positively to farm income, expenses will probably rise this year because of a pickup in the national economy and an increase in expenses associated with an expected larger 1992 corn acreage. While farmland values seem to have stabilized in nominal terms, they have yet to stabilize in inflation-adjusted terms; thus, total farm assets continue to decline in value. Conversely, farmers continue to retire debt at a fast pace and reduce their debt-to-asset ratios accordingly.

[1]Unless noted otherwise, farm income statement and balance sheet numbers will be referred to in inflation-adjusted terms using the Gross Domestic Product (GDP) implicit price deflator; all real values are reported in 1987 dollars.

[2]The two series differ because net farm income includes noncash income (for example, consumption of home-produced products) and noncash expenses such as depreciation; it also accounts for the value of inventory changes. Net cash income, on the other hand, is simply gross cash income less cash expenses and excludes noncash income and noncash expenses; it is the income farmers use to purchase farmland and farm equipment, retire debt and meet family expenses.

[3]The framework of existing federal farm programs is such that, with most of the food and feedgrains, market prices respond primarily to those factors which influence supply and demand for the product. Thus, while farm programs for such crops as corn, cotton and wheat do not *directly* control market prices, they do significantly influence supply. The price the farmer receives, however, will probably differ from the market price if he is in fact enrolled in the appropriate farm program, simply because he will be entitled to a "deficiency payment" if the market price does not equal the program "target price."

[4]The following discussion for Eighth District crops refers to measures of supply (production) and demand (usage) on a marketing year basis, as opposed to a calendar year basis for livestock (January to December). See the footnote to table 4 for the definition of the market year for each crop. Although production takes place in a given year (for example, corn and soybeans are harvested in the fall of each year), the crop is consumed during the period from one harvest to the next.

[5]For a discussion of the recent trends in U.S. and Eighth District farmland values, see Kevin L. Kliesen, "Where Are Farmland Prices Headed?" *Pieces of Eight*, Federal Reserve Bank of St. Louis (September 1991), pp. 5-8.

[6]For a more in-depth analysis of the U.S. and Eighth District agricultural banking sectors in 1991, see Kevin L. Kliesen, "District Agricultural Banks Ride High in the Saddle," *Pieces of Eight,* Federal Reserve Bank of St. Louis (March 1992) pp. 9-13.

[7]The St. Louis and St. Paul Farm Credit Banks merged to form AgriBank, FCB, and commenced operations in St. Paul, Minnesota, on May 1, 1992.

Restructure and Recession: A Year of Transition

by Adam M. Zaretsky

Thomas A. Pollmann provided research assistance.

"Our recent economic problems are a reminder that even a well-functioning economy faces the risk of...setbacks."

—George Bush, *Economic Report of the President*, February 1992

"[The pace of economic recovery] has been little more than glacial."

—Alan Greenspan, March 1992

With the economy already in recession, 1991 began with the continued threat of conflict in the Persian Gulf. The threat became a reality 15 days later with a war that was swift, ceasing before March, and considered decisive. Real Gross Domestic Product (GDP), however, fell at an annual rate of 2.5 percent in the first quarter (see figure 1).

Many forecasted that the end of the war would bring the beginning of economic recovery. Such forecasts appeared to be accurate as the second quarter of 1991 showed signs of improvement. The return of soldiers from the Gulf brought momentary increases in consumer confidence and spending. Real GDP grew at a moderate annual rate of 1.4 percent during the second quarter.

Meanwhile, other events revealed that the anticipated recovery had little strength. Notices of staff reductions, which had been circulating throughout many firms in many industries, affected many workers in an unprecedented number of occupations. Unemployment rates climbed and numerous individuals, some for the first time, faced job insecurity.

As usually happens, blue-collar workers with production positions in durables manufacturing suffered the most. Notably, more white-collar workers with professional and management positions were cut than ever before. While some of these losses were due to the declining demand associated with the recession, others resulted from industries and firms reorganizing to survive in an increasingly competitive global market. These structural changes caused many jobs to be eliminated permanently.

Not surprisingly, the economy of the Eighth District during 1991 behaved similarly to the national economy. The Eighth District grew little and was not immune to the restructuring present in many industries. Parts of the District, though, did perform better than the nation, primarily due to the types of industries located in those regions. Key developments in the District and national economies for 1991 are examined below.

Recessionary or Restructural?

Worker cutbacks, temporary as well as permanent, were a pervasive feature of 1991, prompting widespread concern about job security. Declining demand for goods and services can explain the employment reductions; however, it is only a partial explanation given current events. Industrial restructurings contributed too.

The U.S. economy is currently undergoing transformations not experienced since mass production redefined manufacturing. These transformations are occurring in the context of global markets and challenging fundamental ideas about "conducting business," as firms find that their competition is not only from Louisville, Little Rock and Memphis, but also from London, Frankfort and Tokyo. It is toward this new global capitalism that today's firms are adjusting. Unfortunately, the timing for the restructurings is not ideal because many of the changes have occurred during the current recessionary period.

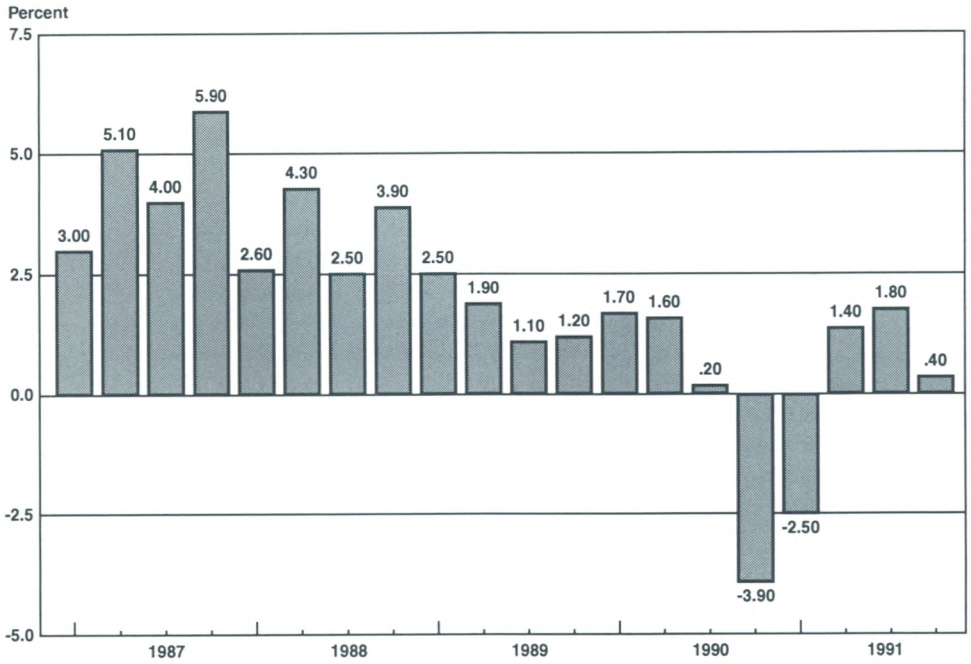
To categorize changes in demand as recessionary or restructural, one must attempt to identify the changes as either temporary or permanent, a task easier explained than executed. Recessionary changes are temporary losses in demand that will be regained as the economy begins to expand. Restructural changes are permanent losses in demand caused by external factors, such as advances in technology or changes in people's preferences.

Restructuring requires firms to reorganize. Dismissing employees is generally a key aspect of reorganization. Of the many job losses in 1991, a substantial proportion can be attributed to firms' reorganization plans. For example, on December 18, 1991, General Motors announced its plan to eliminate approximately 74,000 employees over the next four years. One is hard-pressed to observe a decline in demand so dramatic as to warrant this magnitude of reduction. If these changes were because GM foresaw a temporary shift in demand, the adjustments probably would not occur over a four-year period.

Another example is the more than 10,000 workers McDonnell Douglas laid off, the majority of

Figure 1

Real U.S. GDP Compounded Annual Rates of Change



whom were released during the latter half of 1990 and earlier part of 1991. These layoffs occurred during the height of Operations Desert Shield and Desert Storm, a period during which the United States also witnessed the gradual diminution of the Soviet Union as an adversary. The decline, and eventual demise, of the Soviet Union instigated a major reduction in the demand for defense-related output. This changed international situation will likely cause a shrinking national expenditure for defense during the 1990s and a restructuring of those firms engaged in defense-related production. To prevent or, at least, minimize the effects on these firms from a restructuring, many will pursue production for the civilian market.

The recession has also taken its toll. When the Armour Food Company announced the closing of its Louisville plant in January 1991, citing obsolescence and excess capacity at newer plants as reasons for the shutdown, recessionary forces were at work. When the Essex Group, Inc. closed its Siloam Springs, Arkansas, factory because of poor economic conditions, it too was reacting to recessionary forces.

A firm's decision to move its operations to another part of the District, country or world is more difficult to classify as recessionary or restructural. Many times, moving production to another location is undertaken as a cost-reducing strategy. This strategy can be the result of slackening economic conditions. Possibly, though, the move represents a decision that, from a long-run profit-maximizing perspective, should have occurred earlier. In this case, the onset of the recession only exacerbates the existing signals indicating change.

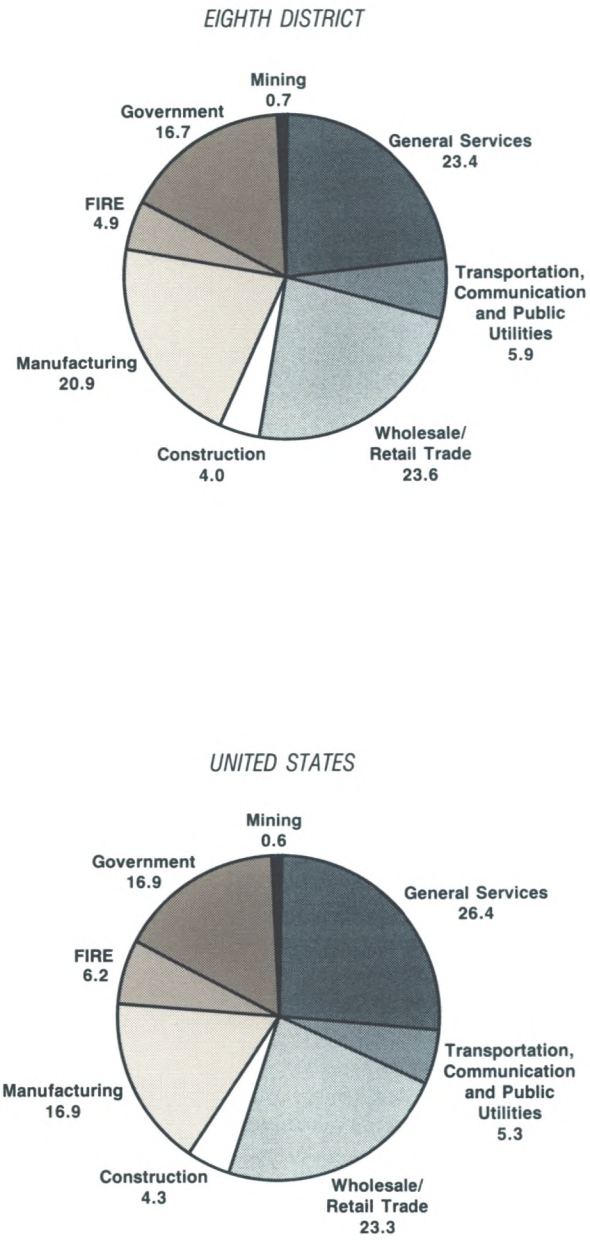
Whether restructural or recessionary, the effects of the changes can be drastic in the short-run. We will see, however, that the outcomes of the two processes can differ. The next section, detailing employment in the District and the nation, launches our discussion into the long-run trends of these markets.

District and National Employment in Perspective

To refine the preceding description of employment changes, an overview of the relationship between the District and the nation is in order. Figure 2 depicts employment concentrations for both the District and nation in 1991. The numbers represent the percentages of the nonagricultural work force that are employed in each sector. Overall, the District mirrors the nation with a few noticeable exceptions.

Figure 2

Nonagricultural Employment by Sector—1991



The manufacturing sector is the most obvious exception. While approximately 17 percent of all nonagricultural workers in the United States were employed in the manufacturing sector, about 21 percent of the District's nonagricultural workers were employed at manufacturing jobs. Between 1990 and 1991, the share of nonagricultural employment in manufacturing declined about 0.4 percentage points both regionally and nationally. A second difference is that the District's share of employment in the wholesale and retail trade sector remained constant last year, while the same sector declined nationally. Finally, the proportion of nonagricultural workers in the finance, insurance and real estate sector (FIRE) did not change last year either nationally or regionally; however, this sector's percentage of District employment remained significantly below its percentage of national employment.

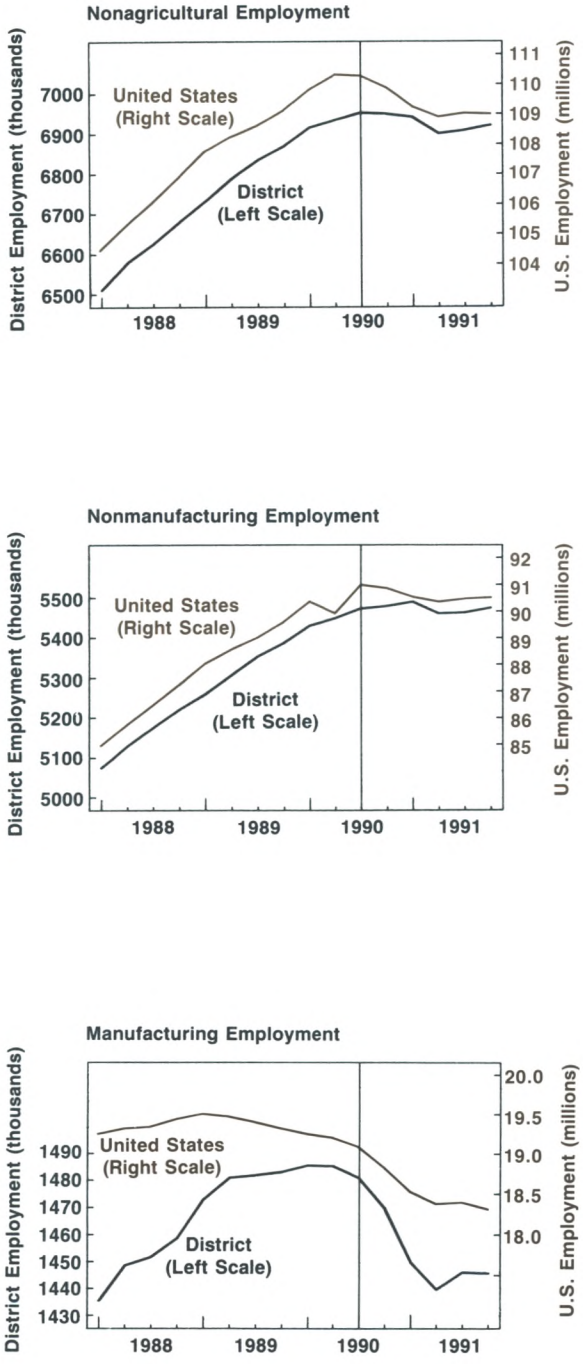
Figure 3 presents three panels which demonstrate the evolution of employment in the nation and District over the past four years. (Note that the left scales are for the District and the right scales are for the United States.) The top panel shows that District movements in total nonagricultural employment were similar to national movements. The nation, however, did record a sharp drop in employment at the start of the current recession, whereas District employment was relatively stable until the first quarter of 1991. To evaluate these movements, nonagricultural employment is separated into its components, nonmanufacturing and manufacturing employment, and displayed in the middle and bottom panels of figure 3.

The middle panel reveals that changes in District nonmanufacturing employment mirrored the nation's until the first quarter of 1990. At that time, the District's nonmanufacturing employment continued to grow while the United States' declined and then rose sharply until the start of the recession in the third quarter of 1990. At that time, U.S. nonmanufacturing employment began a gradual decline. Meanwhile, District nonmanufacturing employment continued along its upward trend until the first quarter of 1991. Between July 1990 and January 1991, District nonmanufacturing employment grew at an annual rate of 0.5 percent, while national nonmanufacturing employment fell 0.8 percent. During 1991, District and national nonmanufacturing employment exhibited little change.

The bottom panel shows that manufacturing employment has undergone relatively larger changes, fluctuating substantially more in the District than in the nation. (The difference in the scales for the two series, however, slightly exaggerates these relative fluctuations.) U.S. manufacturing employment began its decline as early as the first quarter of 1989, while District manufacturing employment continued to grow until approximately

Figure 3

U.S. and District Quarterly Employment Levels



NOTE: Vertical lines represent peak of business cycle.

the first quarter of 1990. The District's sharp decline did not begin until about the start of the recession. It bottomed out by the second quarter of 1991, which some have suggested as the tentative date for the end of the recession. The decline from July 1990 until April 1991, however, resulted only in an annualized 4.2 percent drop in the District's manufacturing employment levels. During the same period, U.S. manufacturing employment fell at an annualized 5.3 percent. In contrast, for the remainder of 1991, District manufacturing employment did not change, while the United States continued to lose these workers.

Long-Run Trends in Employment

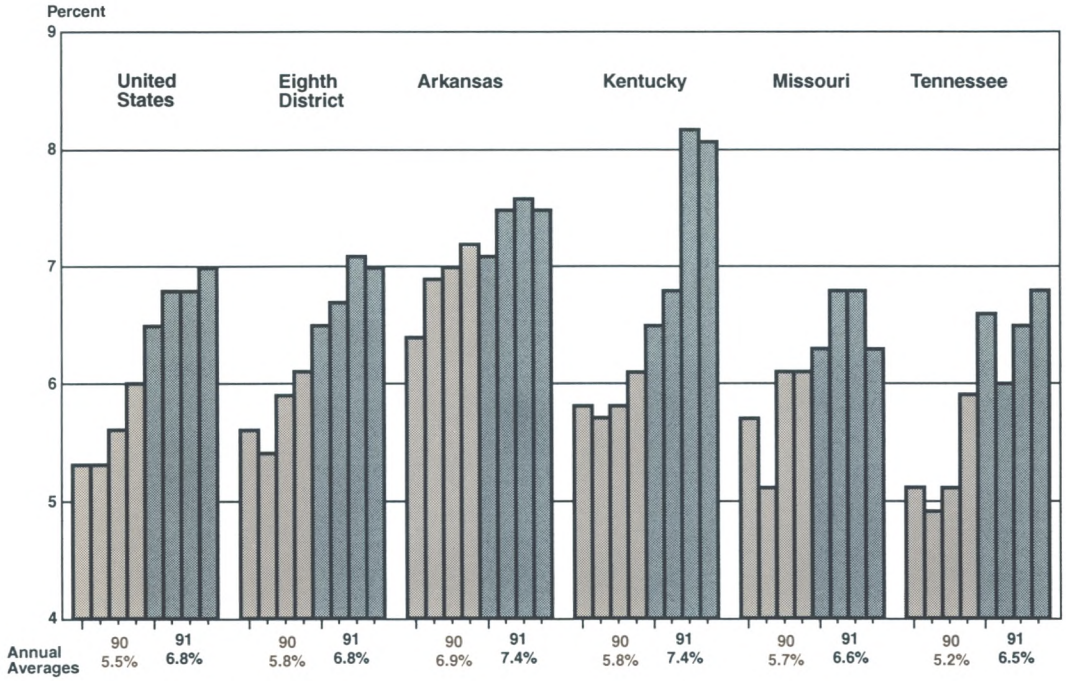
Recent employment changes reflect a trend that has been present regionally and nationally for a long time: the increasing importance of employment in the nonmanufacturing sector relative to the manufacturing sector. Numerous examples of this trend exist.

We have previously cited the effects of the restructuring plans of two of the major manufacturing firms present in our regional economy, General Motors and McDonnell Douglas. Both firms specialize in the production of transportation equipment and rely on a variety of other produced durables for their inputs, such as electrical and nonelectrical equipment. These industries employ large numbers of production (assembly line) workers, most of whom are classified as semi-skilled, unionized, and receiving high wages. We have also already observed that many of these jobs have been lost permanently in the current recessionary/restructural period. As these workers attempt to become re-employed, they frequently find that most of the available opportunities are in the nonmanufacturing sectors, where the job requirements may not be compatible with the workers' skills. As a result, the job search is lengthened.

Another group experiencing high levels of unemployment is professionals, such as engineers and managers. Many of these workers also come from manufacturing firms, but their re-employment differs slightly from that of production workers. While the professionals can be classified as skilled, their work experiences may be too specific to be valuable for other firms. Engineers laid off by McDonnell Douglas, for example, are experienced at designing defense-related output. Many firms, therefore, are trying to incorporate these specific skills into civilian rather than military production to make them valuable. Managers may find that,

Figure 4

Seasonally Adjusted Quarterly Unemployment Rates



while their skills are more transferable than engineers', the positions they are losing may not exist at firms in other industries because of an economy-wide attempt to streamline and consolidate management.

The difficulties of moving labor from manufacturing to nonmanufacturing industries, along with the mismatch of those skills possessed with the skills demanded, affect unemployment rates. Movements in the unemployment rate for the United States, the District, Arkansas, Kentucky, Missouri and Tennessee are displayed in Figure 4.[1]

While much of the increase in these unemployment rates can be attributed to cyclical factors (the recession), a portion is also due to structural factors (the reorganizations). One effect of the structural component is that significant reductions in the unemployment rate may not occur even as the economy improves because it takes longer for structurally unemployed people to find new jobs than for cyclically unemployed people. This is not to say that the full employment rate of unemployment—the rate of unemployment that exists when the economy is producing at its potential level of output—has increased, only that more time may be needed to return to the full employment rate of unemployment again.

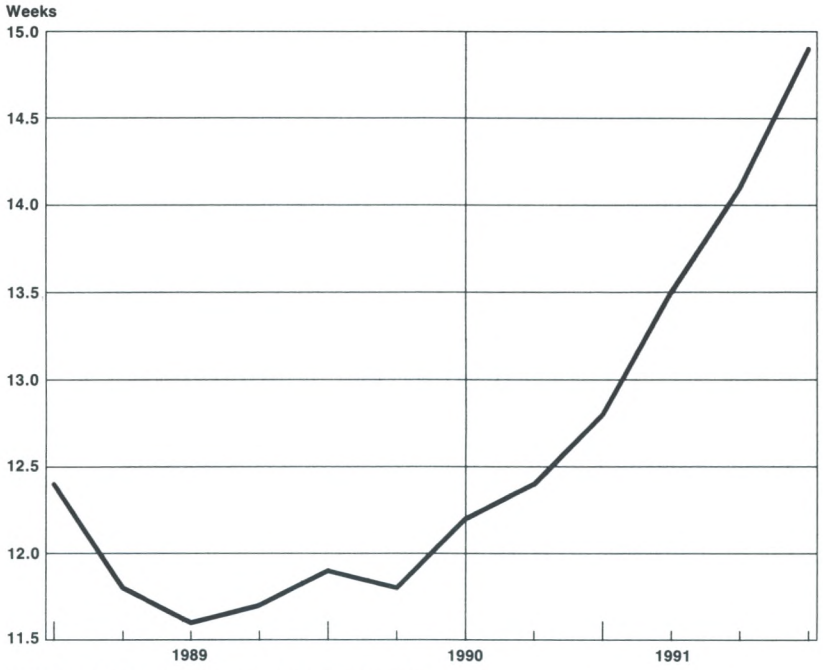
Figure 5 demonstrates that the average duration of unemployment in weeks (the average amount of time a person can expect to remain unemployed) has steadily increased since mid-1989. To substantiate the existence of an important structural component, however, we would have to observe a continued elevation of this number even after the onset of economic recovery. This remains to be seen.

Precise measurement of the full employment rate of unemployment is controversial because it is quite difficult to know exactly when an economy is producing at its potential level of output. Nevertheless, most experts agree that the rate lies between 5 percent and 6 percent. How many jobs, then, would have to be created to reduce the current unemployment rate by approximately the two percentage points needed to achieve the full employment rate of unemployment? At a minimum, such a reduction would require 2.5 million jobs nationally, with 160,000 of them in the Eighth District, given a U.S. labor force of approximately 125 million people and a District labor force of approximately eight million people.

This calculation is likely a low estimate of the number of new jobs required to reach full employment because it assumes no further increases in the number of unemployed persons. In addition, these figures are conservative because they do not account for discouraged workers, individuals who want to work, but who are not actively searching

Figure 5

Average Duration of Unemployment



NOTE: Vertical line represents peak of business cycle.

for a job because of recessionary conditions.[2] This group is not counted in the official unemployment statistic and, therefore, not included in the labor force measurements.

To illustrate, suppose the 2.5 million jobs cited above were generated, and were filled by unemployed workers. Discouraged workers, seeing the job creation and the potential for finding a position compatible with their skills, now re-enter the market by actively looking for a job. As these people re-enter, they become included in the unemployment statistic so that it may appear not to fall even though jobs are being created and filled. This might mean three or four million jobs would need to be created to reduce the unemployment rate rather than the 2.5 million estimated above. Not knowing the rate of re-entry of these discouraged workers makes an exact prediction difficult. Hence, accounting for these discouraged workers could increase the above estimates of job creation significantly, depending on the size of the group.

Looking Backward and Forward

1991 was a year of transition. Unfortunately, the economy suffered through a recession and a restructuring. Some forecasters have suggested that the recovery began during the second quarter of 1991 and expect the U.S. economy to continue improving throughout 1992, especially during the second half of the year. The effects of the recession, while unquestionably serious to the individuals affected, were not too dramatic for the economy as a whole. The effects of the restructuring, on the other hand, will continue to be felt until firms and individuals adjust their conceptions and expectations to the demands of the new system. Emerging from this restructuring, however, we should find an economy better equipped to compete in international markets.

[1]These states are used to represent the Eighth District because they comprise more than the majority of the District's economic activity.

[2]For an explanation of discouraged workers and their effect on unemployment rates, see Adam M. Zaretsky, "How Well Does Unemployment Explain the Low Levels of Consumer Confidence?" *Pieces of Eight - An Economic Perspective on the Eighth District*, Federal Reserve Bank of St. Louis (March 1992), pp. 1-4.

Statistics

Eighth District Business

	Level	Compounded Annual Rates of Change			
	I/1992	IV/1991-I/1992	I/1991-I/1992	1991[1]	1990[1]
Payroll Employment (thousands)					
United States	108,844.0	−0.3%	−0.3%	−0.9%	1.5%
District	6,935.3	0.8	−0.1	−0.3	1.9
Arkansas	965.5	−1.2	1.4	2.8	3.6
Little Rock	259.8	1.5	1.1	1.6	3.2
Kentucky	1,489.0	0.7	−0.3	1.0	2.9
Louisville	490.7	1.0	−0.1	1.9	2.7
Missouri	2,301.9	1.4	−0.4	−2.1	1.3
St. Louis	1,157.7	0.8	−0.5	−1.9	0.6
Tennessee	2,187.9	1.1	−0.3	−0.5	1.3
Memphis	473.9	−6.2	−1.7	0.8	1.0
Manufacturing Employment (thousands)					
United States	18,243.0	−2.0%	−1.6%	−3.6%	−1.7%
District	1,437.6	−2.2	−0.8	−2.4	0.0
Arkansas	238.1	0.1	1.7	1.3	0.8
Kentucky	281.9	−1.6	−0.2	−1.5	1.0
Missouri	412.7	−0.7	−1.3	−5.2	−0.5
Tennessee	504.9	−4.9	−2.0	−2.1	−0.3
District Nonmanufacturing Employment (thousands)					
Mining	44.6	−17.5%	−11.5%	−4.7%	1.8%
Construction	280.5	6.7	−2.1	−5.3	0.7
FIRE[2]	340.7	2.7	0.3	−0.9	0.9
Transportation[3]	405.9	0.0	−1.1	0.2	1.9
Services	1,636.8	1.7	1.4	2.0	4.6
Trades	1,627.7	1.3	−0.7	−0.4	1.0
Government	1,159.6	1.2	0.9	1.0	2.8
	IV/1991	III/1991-IV/1991	IV/1990-IV/1991	1991	1990
Real Personal Income[4] (billions)					
United States	$3,538.1	0.2%	−0.2%	−0.1%	1.1%
District	195.8	1.4	0.7	−0.5	0.8
Arkansas	25.7	0.0	2.0	0.8	1.2
Kentucky	42.8	1.9	1.4	0.0	1.7
Missouri	67.8	2.4	−0.4	−1.6	0.0
Tennessee	59.5	0.7	0.8	0.0	0.9
	Levels				
	I/1992	IV/1991	1991	1990	1989
Unemployment Rate					
United States	7.2%	6.9%	6.7%	5.5%	5.3%
District	6.6	7.0	6.8	5.8	5.8
Arkansas	7.0	7.4	7.4	6.9	7.2
Little Rock	6.2	6.4	6.3	5.9	6.3
Kentucky	6.9	8.1	7.4	5.8	6.2
Louisville	5.3	7.4	6.1	5.1	5.5
Missouri	5.7	6.3	6.6	5.7	5.5
St. Louis	6.2	6.9	6.8	5.9	5.5
Tennessee	7.1	6.7	6.5	5.2	5.1
Memphis	6.1	5.7	5.5	4.5	4.7

Note: All data are seasonally adjusted. On this page only, the sum of data from Arkansas, Kentucky, Missouri and Tennessee is used to represent the District.

[1]Figures are simple rates of change comparing year-to-year data.
[2]Finance, Insurance and Real Estate
[3]Transportation, Communications and Public Utilities
[4]Annual rate. Data deflated by CPI-U, 1982-84 = 100.

U. S. Prices

	Level	Compounded Annual Rates of Change			
	I/1992	IV/1991-I/1992	/1991-I/1992	1991[1]	1990[1]
Consumer Price Index (1982-84=100)					
Nonfood	138.9	3.2%	3.2%	4.5%	5.3%
Food	137.3	1.2	1.3	2.9	5.7
Prices Received by Farmers (1977=100)					
All Products	140.7	4.1%	−3.2%	−2.3%	1.1%
Livestock	153.3	−5.1	−8.2	−5.2	6.4
Crops	127.3	−13.6	3.2	2.4	−5.4
Prices Paid by Farmers (1977=100)					
Production items	171.0	−2.3%	−1.2%	1.5%	2.3%
Other items[2]	189.0	0.0	0.5	2.7	3.4

Note: Data not seasonally adjusted except for Consumer Price Index.

[1]Figures are simple rates of change comparing year-to-year data.
[2]Other items include farmers' costs for commodities, services, interest, wages and taxes.

Eighth District Banking

Changes in Financial Position for the year ending March 31, 1992 *(by Asset Size)*

	Less than $100 million	$100 million - $300 million	$300 million - $1 billion	More than $1 billion
SELECTED ASSETS				
Securities	4.6%	14.0%	17.5%	46.9%
U.S. Treasury & agency securities	7.4	17.6	24.1	55.2
Other securities[1]	−5.6	3.0	−3.7	21.9
Loans & Leases	−1.7	−1.6	−0.9	10.6
Real estate	3.5	3.5	9.5	24.2
Commercial	−8.7	−11.9	−15.7	1.8
Consumer	−4.0	−4.0	−0.3	5.3
Agriculture	2.9	22.9	3.3	49.2
Loan loss reserve	8.0	5.1	5.4	20.6
Total Assets	0	3.4	4.0	18.2
SELECTED LIABILITIES				
Deposits	−0.1%	3.1%	4.2%	17.4%
Nontransaction accounts	−2.4	0.4	1.8	12.0
MMDAs	18.5	13.3	14.2	33.4
Large time deposits	−14.0	−13.4	−22.3	−28.2
Demand deposits	2.1	6.3	2.7	30.9
Other transaction accounts[2]	11.5	16.8	19.7	34.3
Total Liabilities	−0.1	3.1	3.7	18.2
Total Equity Capital	1.2	6.9	8.2	18.5

Note: All figures are simple rates of change comparing year-to-year data. Data are not seasonally adjusted. Note that some changes are inordinately large because of thrift acquisitions by large District banks in 1991.

[1]Includes state, foreign and other domestic, and equity securities.
[2]Includes NOW, ATS and telephone and preauthorized transfer accounts.

Performance Ratios *(by Asset Size)*

	Eighth District			United States		
	I/92	I/91	I/90	I/92	I/91	I/90
EARNINGS AND RETURNS						
Annualized Return on Average Assets						
Less than $100 million	1.05%	.84%	1.00%	1.00%	.68%	.69%
$100 million - $300 million	1.13	1.05	1.03	1.05	.88	.93
$300 million - $1 billion	1.03	.98	1.05	.97	.83	.82
$1 billion - $5 billion	1.03	.94	.89	.92	.87	.72
$5 billion - $15 billion	.99	.77	.66	1.05	.43	.71
Agricultural banks	1.35	1.12	1.17	1.30	1.06	1.05
Annualized Return on Average Equity						
Less than $100 million	11.96%	9.59%	11.36%	11.23%	7.67%	7.83%
$100 million - $300 million	13.45	12.93	12.91	12.87	10.92	11.84
$300 million - $1 billion	12.85	12.77	13.34	12.86	11.01	11.26
$1 billion - $5 billion	15.07	14.19	13.69	12.67	13.05	10.60
$5 billion - $15 billion	15.13	12.60	10.13	15.75	7.24	12.02
Agricultural banks	14.01	11.98	12.51	13.83	11.52	11.31
Net Interest Margin[1]						
Less than $100 million	4.57%	4.25%	4.31%	4.83%	4.55%	4.67%
$100 million - $300 million	4.46	4.17	4.24	4.74	4.52	4.62
$300 million - $1 billion	4.52	4.32	4.46	4.73	4.54	4.56
$1 billion - $5 billion	4.18	4.25	4.05	4.59	4.41	4.35
$5 billion - $15 billion	3.99	3.62	3.63	4.59	4.20	4.15
Agricultural banks	4.46	4.14	4.17	4.51	4.24	4.26
ASSET QUALITY[2]						
Nonperforming Loans[3]						
Less than $100 million	1.66%	1.64%	1.70%	2.09%	2.29%	2.16%
$100 million - $300 million	1.62	1.84	1.68	2.22	2.19	2.04
$300 million - $1 billion	1.51	1.59	1.45	2.49	2.62	2.45
$1 billion - $5 billion	1.40	1.71	1.82	3.21	3.36	2.31
$5 billion - $15 billion	2.04	2.70	1.95	3.49	4.67	2.66
Agricultural banks	1.80	1.77	1.83	1.91	1.93	2.20
Loan Loss Reserves						
Less than $100 million	1.65%	1.44%	1.38%	1.73%	1.66%	1.55%
$100 million - $300 million	1.66	1.56	1.52	1.75	1.61	1.48
$300 million - $1 billion	1.60	1.50	1.40	1.97	1.87	1.72
$1 billion - $5 billion	1.99	1.81	1.76	2.70	2.34	1.76
$5 billion - $15 billion	2.06	1.91	1.56	2.88	2.75	2.21
Agricultural banks	1.68	1.63	1.65	1.89	1.85	1.96
Net Loan Losses[4]						
Less than $100 million	.57%	.48%	.34%	.47%	.54%	.52%
$100 million - $300 million	.43	.46	.34	.49	.56	.46
$300 million - $1 billion	.51	.66	.40	.70	.86	.69
$1 billion - $5 billion	.76	.74	.95	1.40	1.36	1.00
$5 billion - $15 billion	.91	1.02	.68	1.31	1.60	1.82
Agricultural banks	.24	.26	.23	.25	.27	.31

Note: Agricultural banks are defined as those banks with a greater than average share of agriculture loans to total loans.

[1]Interest income less interest expense as a percent of average earning assets
[2]Asset quality ratios are calculated as a percent of total loans.
[3]Nonperforming loans include loans past due more than 89 days and nonaccrual loans.
[4]Loan losses are adjusted for recoveries and are annualized.