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Pieces of Eight

An Economic Perspective on the 8th District

THE FEDERAL RESERVE BANK of ST. LOUIS

Changes in Agricultural Commodity Processing

Boom or Bust: The Cyclical Nature of Housing

Overhauling the Thrift Industry—FIRREA

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. The views expressed are not necessarily official positions of the Federal Reserve System.

U.S. and Eighth District Food Processing and Tobacco Manufacturing

by Jeffrey D. Karrenbrock
David H. Kelly provided research assistance.

Agricultural commodity processing is one of the oldest economic activities in the United States. While the technology used has changed substantially over time, the industry's role is still to transform raw agricultural products into forms that are usable by the consumer. Besides providing food and other products to consumers, agricultural commodity processing provides employment opportunities throughout the country.

The relative economic importance of the food processing and tobacco manufacturing industries in the United States and the Eighth Federal Reserve District has changed during the past 25 years. The relative importance of these industries has declined in the United States; not all Eighth District states have followed this pattern, however. This article examines the role of these industries in both the U.S. and Eighth District economies and offers some explanations for the evolving patterns in the District states.

Agricultural Commodity Processing in the United States

Agricultural commodity processing encompasses various activities in the food processing and tobacco products manufacturing industries. For example, the food processing industry is composed of all businesses involved in the processing or making of meat, dairy, fruit and vegetables, fats and oils, grain, sugar or beverages, while the tobacco products industry consists of those firms involved in the manufacturing of cigarettes, cigars, chewing and smoking tobacco, and tobacco stemming and redrying.

The contribution of the food and tobacco processing industries to the nation's economy can be analyzed in terms of real output (with the effects of inflation removed) and employment. In 1986, the food products industry accounted for 1.7 percent of the nation's real output, which made the industry the ninth-largest of 53 narrowly defined U.S. industries. Not only is the U.S. food processing industry large relative to other U.S. industries, but it is also large relative to the food processing industries in other countries. A 1982 study found that the U.S. food processing industry was the largest among market economies and accounted for about 27 percent of the food processing output of all market economies.

Between 1963 and 1986, the food processing industry's share of real output declined from 2.0 percent to 1.7 percent. This decline occurred because other industries grew more rapidly, not because actual output has fallen in the industry. Between 1963 and 1986, the real output of the food processing industry increased about 69 percent. This increase can be attributed to population growth and an increase in the value of products stemming from such processing activities as precooking and premixing.

Furthermore, the increase in real output reflects productivity increases within the food processing sector, as employment in the food processing industry fell from about 1.75 million people in 1963 to 1.62 million in 1986. Consequently, food processing's share of total U.S. non-agricultural employment dropped from 3.1 percent in 1963, to only 1.6 percent in 1986. Food processing employment remained at 1.62 million in 1987.

Similarly, tobacco manufacturers have also accounted for a declining part of the nation's total output. In 1963, tobacco manufacturers accounted for about 0.4 percent of the nation's real output; this figure had fallen to less than 0.2 percent by 1986. Unlike food processors, tobacco manufacturers have experienced a decline in their real output after increasing for several years. Since 1963, real output in the industry has declined more than 11 percent, including a drop of more than 29 percent from its most recent peak in 1981. This drop in real output can be attributed to declining per capita consumption of tobacco products, which has fallen from 11.82 pounds in 1960 to about 6.26 pounds in 1987. Similarly, employment in the tobacco manufacturing industry has fallen from 88,600 in 1963 to about 45,100 in 1987.

Agricultural Commodity Processing in the Eighth District[1]

Changes in the food and tobacco manufacturing industries in the Eighth District, as a whole, have paralleled the changes in these industries in the U.S. economy. Over time, both industries have accounted for smaller portions of the District's real output. In 1963, food processing and tobacco manufacturing accounted for 3.4 percent and 1.4 per-

Table 1
Food and Tobacco Manufacturing Statistics[1]

	Food Processing			Tobacco Manufacturing		
	1986 Real output (millions)[2]	Percent of total real output	Employment (thousands)[3]	1986 Real output (millions)[2]	Percent of total real output	Employment (thousands)[3]
United States	$62,553	1.70%	1,620.4	$6,994	.19%	45.1
Eighth District	5,921	2.79	150.9	878	.41	7.9
Arkansas	989	3.51	46.1	—	—	—
Kentucky	1,428	3.01	19.7	772	1.63	6.6
Missouri	1,943	2.68	45.6	1	0	N.A.
Tennessee	1,561	2.43	39.5	105	.16	1.3

[1]Derived from data obtained from U.S. Departments of Commerce and Labor

[2]1982 constant dollars

[3]U.S. figures are 1987. All others are 1988.

cent of the District's real output, respectively. In 1986, these figures stood at 2.8 percent and 0.4 percent, though they are higher than the 1.7 percent and 0.19 percent figures for the U.S. economy. Thus, the food and tobacco manufacturing industries are relatively more important to the District than to the nation.

Also following the national trend, the District's food processing industry has increased its real output since 1963, while the real output of tobacco manufacturing has fallen after increasing for several years. Between 1963 and 1986, the food processing industry increased its real output by 66 percent, while tobacco manufacturing output dropped 40 percent. By 1988, employment had risen by 17,600 since 1975 in the District's food processing industry, but had fallen by 6,300 in the tobacco manufacturing industry.

While these industries have generally followed the U.S. pattern, the aggregated District figures disguise the divergent roles these industries are playing in individual states. The remainder of this article focuses on the role these industries play in Arkansas, Kentucky, Missouri and Tennessee.

Arkansas

Among District states, the food processing industry is the most important in Arkansas in terms of both real output and employment. In 1963, the food processing industry accounted for slightly less than 2 percent of Arkansas' real output, but that number had climbed to more than 3.5 percent by 1986. Real output in Arkansas' food processing sector has increased by more than 300 percent since 1963. Despite the industry's significant increase in output, Arkansas' food processing output is still the smallest in absolute terms among all District states (see table 1). In terms of employment, the number of workers in the food processing industry has increased from 18,800 in 1963 to more than 46,000 in 1988. About 5.4 percent of Arkansas' total non-agricultural employment in 1988 was in food processing.

Expansion of poultry processing in Arkansas has accounted for much of the industry's recent increase in real output. Since Arkansas leads the nation in broiler production, the state was in an ideal position as consumers started to shift from red meat to poultry consumption. Between 1979 and 1987, U.S. red meat consumption fell 9.3 pounds per capita, while chicken meat consumption increased 12.4 pounds per capita. Arkansas poultry producers responded to increased consumer demand by expanding broiler production over 1.3 billion pounds, a 56.5 percent increase, between 1980 and 1988. Since poultry are generally slaughtered near the place of production, the poultry processing industry grew hand in hand with broiler production.

Kentucky

In contrast to Arkansas, food processing in Kentucky has experienced a sharp decline. Tobacco manufacturing has experienced a sharp decline as well. In 1963, the food and tobacco industries accounted for more than 12 percent of Kentucky's

real output, with food processing accounting for 6.6 percent and tobacco manufacturing 5.5 percent. By 1986, the share of real output from these two industries had fallen to 3.0 percent and 1.6 percent, respectively. Output in the food processing industry fell 16 percent between 1963 and 1986, while the output of tobacco manufacturers fell 46 percent. Employment in these industries has followed a similar pattern. From 1975 to 1988, the food processing industry reduced its labor force by about 2,500 to 19,700 people. At the same time, tobacco manufacturers had cut their workforce by almost 50 percent to 6,600 employees.

The fall in real output in tobacco manufacturing is largely due to falling per capita consumption of tobacco products. Meanwhile, declining per capita consumption of distilled spirits and slow population growth have contributed to Kentucky's falling real output in the food processing sector. U.S. per capita consumption of distilled spirits has fallen from a recent peak of about 2 gallons in 1978 to 1.59 gallons in 1987. Most of the distilled spirits produced in Kentucky are whiskeys, and the amount of whiskey produced in the state has dropped from 84.6 million tax gallons in 1970 to 24.3 million tax gallons in 1988.

In addition to declining whiskey output, Kentucky's population has grown at an average annual rate of only 0.7 percent between 1960 and 1988, well below the national growth rate of 1.1 percent. This slower population growth rate has meant that the market for food processors, like bakeries and meat packers, who sell mostly to local or regional markets, has also grown slowly. Hence, slow growth in staple food output has not been large enough to offset declining output in the beverage industry.

Missouri

The food processing industry has maintained a relatively stable role in Missouri's economy since the 1960s, and its output is the largest of all District states. While real output from the industry expanded almost 77 percent between 1963 and 1986, the industry's share of Missouri's total output has remained at about 2.7 percent during this period. Employment in the food processing industry has fallen from about 50,000 in 1972 to about 45,600 in 1988, accounting for about 2.1 percent of the state's total non-agricultural employment.

In contrast to other District states, Missouri's food processing industry is relatively diversified. The brewing industry accounted for the largest part of total food processing output in 1982, followed by cheese and soft drinks. The state has benefited from increasing consumption of these goods as U.S. per capita consumption of beer has increased from 15.4 gallons in 1960 to 22.7 gallons in 1987, while soft drink per capita consumption has risen from 27 gallons in 1979 to 30.3 gallons in 1986. U.S. per capita consumption of cheese has increased from 17.2 pounds in 1979 to 24 pounds in 1987.

Tennessee

The food processing industry in Tennessee has expanded its role in the state's economy as output has grown more than 200 percent between 1963 and 1986. During this period, output in the industry increased from about 2 percent to 2.4 percent of total output. Employment in the food processing industry has increased by about 7,000 workers since 1963, standing at 39,500 in 1988. Output from the tobacco manufacturing sector has also jumped more than 200 percent, but its share of the state's real output has remained at about 0.1 percent. Tobacco manufacturers, however, have gradually trimmed their workforce from 1,800 in 1963 to about 1,300 in 1988. The two industries account for about 2 percent of Tennessee's total non-agricultural employment.

Like Missouri, Tennessee's food processing industry is not dominated by a single sector. The beverage sector, which is dominated by production of beer, whiskey and soft drinks, accounted for the largest share of output in 1982. In addition, Tennessee ranks second in the nation in soybean processing and first in the processing of frozen vegetables. The state's industry has benefited from specializing in these commodities, as U.S. consumption of both frozen vegetables and soybean oils has increased in the United States in recent years.

Tennessee's expansion in tobacco manufacturing output can be largely attributed to increased consumption of chewing tobacco and snuff during the 1970s and early 1980s. The output of Tennessee's tobacco manufacturers, who concentrate mainly on non-smoking tobacco products, was relatively stable until the early 1970s when output began to rise in response to increased total chewing tobacco consumption in the United States. When chewing tobacco output began to fall in 1981, snuff consumption picked up the slack. Snuff is the only tobacco product whose consumption rose each year from 1979 to 1985. In recent years, output from Tennessee's tobacco manufacturers has declined.

Conclusion

In general, the food processing and tobacco manufacturing industries have declined in importance in Kentucky, remained stable in Missouri, and grown in relative importance in Arkansas and Tennessee. Changing consumption patterns in the

meat, beverage and tobacco sectors account for a large part of the divergent roles these sectors are playing in Eighth District states' economies. Continued changes in consumption patterns and new agricultural products and technologies will help determine the future role of these industries in District states. As biotechnological advances both increase agricultural productivity and attempt to meet consumer demands for more healthful foods, food and tobacco manufacturers will have to adjust their processing procedures, product mix and perhaps the geographic location of output production.

FOOTNOTES

[1]While the Eighth Federal Reserve District actually encompasses all of Arkansas and parts of Illinois, Indiana, Kentucky, Mississippi, Missouri and Tennessee, only the industries in Arkansas, Kentucky, Missouri and Tennessee are discussed in this article.

The Nation and the Region: Home Building in the 1980s

By Thomas B. Mandelbaum
Thomas A. Pollmann provided research assistance.

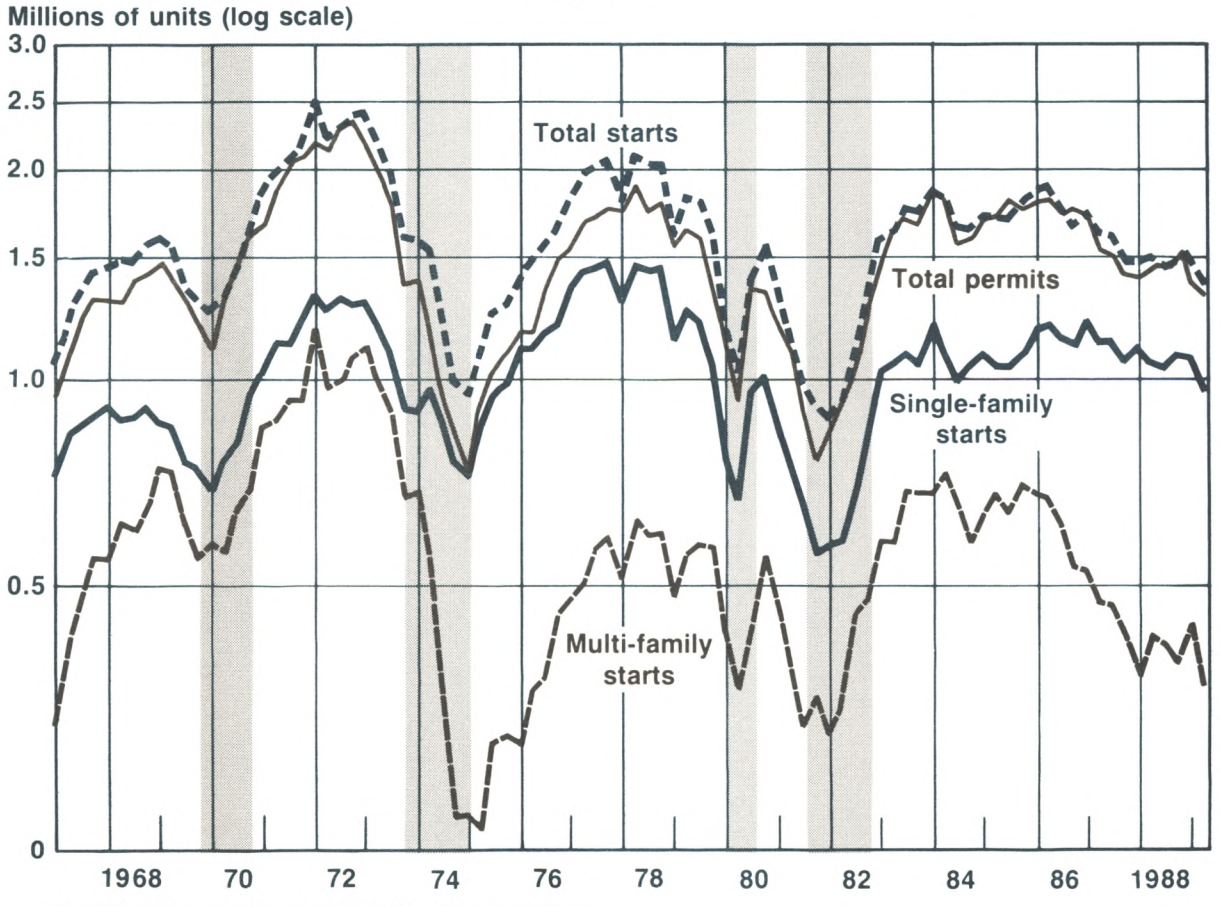
After bottoming out during the national recessions of the early 1980s, residential construction rebounded strongly in the mid-1980s along with the rest the U.S. economy. Since 1987, however, the overall national economy has continued to expand, but new home construction has weakened. In many ways, homebuilding in the Eighth District's four largest metropolitan areas mirrored the national housing market. This article reviews recent changes in homebuilding in the nation and major District metropolitan areas and examines factors responsible for these changes.

The National Context

Homebuilding in the United States is cyclical. As figure 1 shows, sharp residential construction downturns have been associated with each of the recessions (shaded areas), as defined by the National Bureau of Economic Research. In the current recovery, privately-owned housing starts rose from approximately a 1.1 million unit annual rate during the 1981 and 1982 recession years to approximately 1.75 million units per year from 1983 through 1986. Despite continued national economic growth, homebuilding activity has declined in recent years. For example, housing starts totaled approximately 1.5 million in 1988 and, based on the first three quarters of the year, will total 1.4 million in 1989.

Figure 1

Homebuilding and the Business Cycle



Note: Shaded areas represent periods of business recessions.

Several factors contributed to housing's strong recovery through 1986. Rising incomes and lower mortgage rates made housing more affordable. As business activity expanded rapidly in 1983 and 1984, unemployment rates fell and household incomes rose. Simultaneously, mortgage interest rates fell. According to Federal Home Loan Bank Board surveys, effective interest rates on conventional first mortgages for new homes fell from nearly 16 percent in late 1981 to 9.87 percent in fourth-quarter 1986. In addition, adjustable-rate mortgages (ARMs), with relatively low initial interest rates, were increasingly available after 1981. The overall impact of rising incomes and falling interest rates was magnified because some households that were forced to postpone buying a first home or a more expensive home during the recession found that the purchase was now possible.[1]

As figure 1 indicates, the building of multifamily dwellings has been more volatile than the building of single-family housing. Multifamily starts rose from 378,800 in 1981 to an average of 649,025 for the 1983-86 period. Legislative changes such as the 1981 Economic Recovery Tax Act encouraged construction of multifamily housing by accelerating depreciation writeoffs, reducing capital gains taxes and allowing opportunities for sheltering income. This last feature allowed taxpayers not regularly, continuously and substantially involved in the housing market to use losses from these investments to offset income from other activities. In addition, a 1980 change in the Internal Revenue Service Code stimulated greater use of tax-exempt mortgage revenue bonds, issued by state and local governments, to assist in the construction of multifamily housing for lower- and middle-income households.

Multifamily starts have fallen off substantially since 1986, averaging 440,500 in 1987 and 1988 and 384,667 (annual rate) in 1989's first three quarters. Part of the weakening of multifamily homebuilding is due to the reversal of 1981's construction incentives by the Tax Reform Act of 1986. This Act reduced depreciation writeoffs, raised taxes on capital gains and eliminated the passive loss deductions on rental activity. In addition, some rental markets were overbuilt, resulting in rising vacancy rates and depressed rents.

Demographic forces also may have contributed to this weakening in housing activity. Between 1981 and 1985, the number of households with heads 25 to 34 years old rose by an estimated 253,000 per year. In the 1986-90 period, this rate is slowing to just 93,000 per year.[2] Since younger households are a primary home-buying group, the slowdown in household formation may have weakened the demand for for single-family houses as well as for apartments.

One factor that seemingly works against the recent declines in housing starts is that conventional mortgage rates in 1987 through the first half of 1988 remained relatively low and are currently well below those of the first half of the 1980s. A recent study, however, found that the responsiveness of housing starts to declines in long-term interest rates has weakened since 1983 compared with earlier decades, largely because of financial deregulation and innovations in housing finance.[3] In other words, a given rise (fall) in interest rates causes a smaller decline (rise) in housing starts since the mid-1980s than previously.

Prior to financial deregulation, rises in interest rates would tend to reduce the loanable funds available to conventional housing lenders, such as thrifts. Due to limits on the interest rates that conventional lenders could pay to attract deposits, high interest rates would induce depositors to place their funds elsewhere. Consequently, housing lenders were unable to make as many loans. Regulatory changes in 1978 and 1980 eliminated or began phasing out limitations on interest rates paid on deposits. In addition, innovations in housing finance—such as lenders making ARMs more available and broadening the definition of household income to include the income of a second wage earner—made the affordability of homes less sensitive to rises in long-term interest rates.

Other explanations have been offered for the gradual decline in single-family homebuilding. Some analysts suggest that part of the decline in single-family homebuilding is because the construction boom in the mid-1980s satisfied the pent-up demand from the recession years of the early 1980s. Thus, part of the decline is simply a return to normal construction levels. Single-family housing starts were issued at a 1.02 million rate in 1989's first three quarters, just slightly higher than the 1.01 million average rate of the 1959-88 period.

Another possible explanation is that rapidly rising home prices may have dampened the quantity of homes demanded. Except for in the Northeast, however, increases in new home prices since the mid-1980s mostly reflect increases in the quality of homes; homes built in recent years tend to be larger with more amenities than in the past.[4] As measured by a housing price series developed by the U.S. Department of Commerce that adjusts for many qualitative factors of new homes (such as lot size and house size), new home prices rose at a mere 1.9 percent annual rate between the first half of 1986 and the first half of 1989, a rate less than the rise in overall consumer prices. There is no comparable series for the prices of existing homes, however.

Housing Trends in District Cities

Homebuilding trends in the Eighth District generally followed national trends during the first

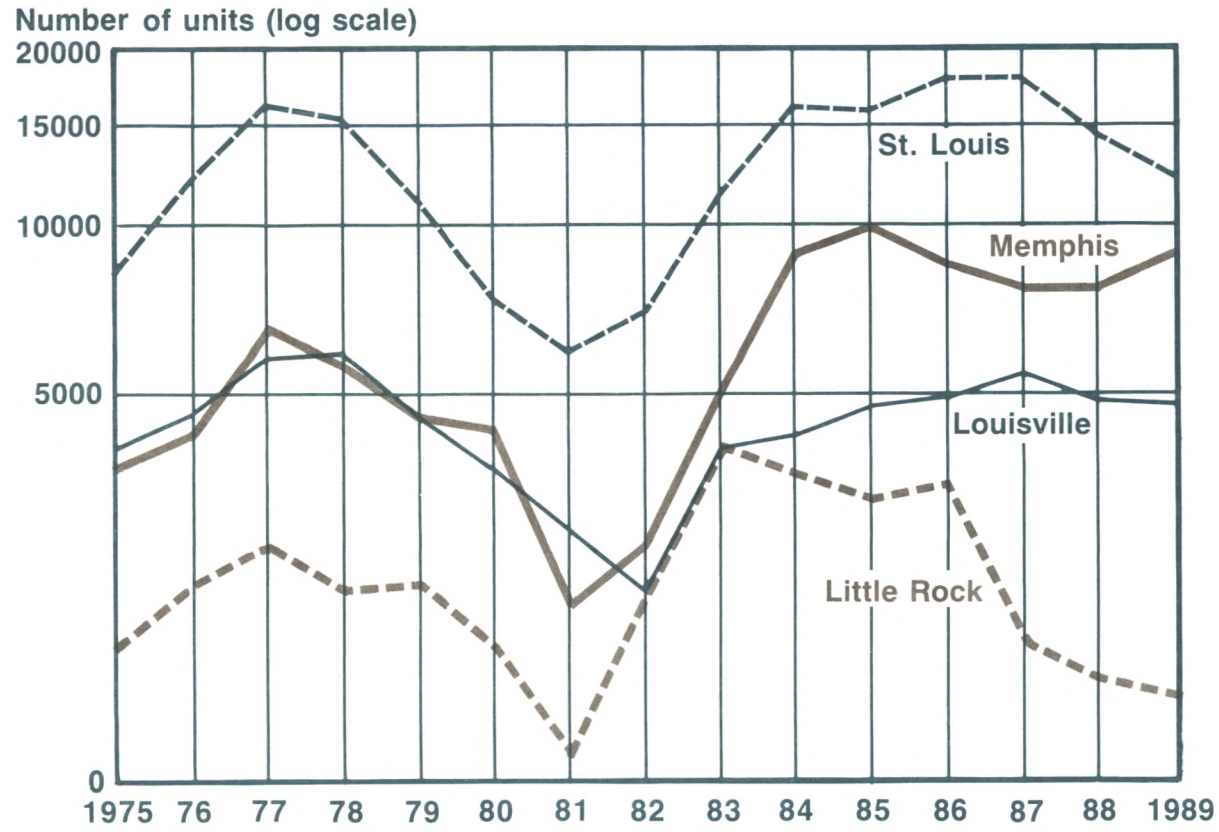
six years of the 1980s. Figure 2 shows the cyclical pattern of housing permits in the District's four largest metropolitan areas.[5] As in the nation, homebuilding activity bottomed out in 1981 in Little Rock, Memphis and St. Louis, while Louisville's homebuilding trough was a year later. Homebuilding activity rebounded strongly in the early years of the recovery in Little Rock, Memphis and St. Louis, before leveling off at relatively high levels through 1986. Louisville's homebuilding recovery has been more gradual, and has not yet matched the levels of 1977 and 1978. Since 1987, the number of housing permits has declined in Little Rock and St. Louis, following the national pattern, while remaining steady in Louisville and trending upward in Memphis.

Since mortgage rates faced by consumers in District cities are similar to those offered nationally, rising rates in the early 1980s contributed to declines in homebuilding while declining rates until 1988 were a positive factor. Income changes in the District also contributed to the pattern of housing starts. Between 1979 and 1982, real personal income fell at a 0.4 percent annual rate in the United States and declined in the four District metropolitan areas at rates ranging from 0.9 percent in Little Rock to 1.8 percent in Louisville. In the recovery, between 1982 and the first half of 1989, real income has grown at rates of 3.6 percent in the United States and risen in the Little Rock, Louisville, Memphis and St. Louis metropolitan areas at rates of 3.3 percent, 2.6 percent, 4.2 percent and 3.2 percent, respectively.

Nationally, the lack of substantial growth in residential construction after 1986 was partially due to declines in the multifamily sector. Similarly, declines in multifamily construction activity after 1986 pulled down total homebuilding activity in the District. In St. Louis, for example, multifamily permits averaged approximately 6,700 in 1983 through 1986, more than double the rate of the early 1980s. The number of multifamily permits has declined each year since 1986 and in the first half of 1989, only 2,725 were authorized (seasonally adjusted annual rate). Louisville and Little Rock experienced similar trends, with relatively high levels of multifamily homebuilding between 1983 and 1986, followed by declines.

Figure 2

Housing Permits in District Metro Areas



Note: 1989 data are seasonally adjusted annual rates based on the first half of the year.

The number of multifamily homebuilding permits authorized in Memphis rose rapidly in 1984, and stayed at that relatively high level in 1985 before declining in 1986. Unlike the other three areas, however, the number of multifamily permits in Memphis rose slightly in 1987, 1988 and in the first half of 1989. This strengthening may reflect Memphis' smaller boom before 1986 and its more rapid economic expansion since 1986. Memphis' real personal income rose at a 4.1 percent annual rate since 1986, compared with a 3 percent growth rate or less in the other three metropolitan areas. Its population also has grown substantially more rapidly in recent years.

Anecdotal information suggests new home prices are rising in the metropolitan areas, but no data are available for the four areas that measures home prices, after adjusting for changes in quality. There is no reason to think, however, that new home price increases in the District substantially exceed the moderate increases indicated by the national data. A study which implicitly controls for changes in housing quality indicated that increases in existing home prices in the St. Louis metropolitan area have been moderate in recent years.[6] By studying price increases of homes sold in 1986 and sold again in 1989, it was determined that the average house price increased 15 percent. This gain is just slightly higher than the rise in the Consumer Price Index. Thus, unless price increases of new homes in the St. Louis area deviate substantially from those of existing homes, it is unlikely that the recent slowdown in home construction in St. Louis is due to changes in housing prices.

Summary

Homebuilding in the Eighth District's largest metropolitan areas followed national trends in the 1980s, falling sharply in the early part of the decade before rebounding as interest rates declined and general economic activity boomed. Favorable tax regulations and banking innovations instituted in the early 1980s also helped stimulate homebuilding activity in the District as well as in the nation.

In the 1990s, the aging of the American population may result in fewer households being formed than in the 1980s and a consequent slight easing in the demand for housing. According to estimates by DRI/McGraw-Hill, for example, homebuilding activity will slow slightly as net household formation will fall from 1.22 million per year in the 1981-90 period to 1.09 million per year in the 1991-2000 period.

The aging of the populations in the District metropolitan areas will likely have similar depressing effects on their rates of household formation. This factor, however, may be less influential in Little Rock and Memphis which have slightly younger populations than the other areas or the nation. Likely to be more important in all four areas will be how rapidly their overall economies and populations expand, facts which remain uncertain at this time.

[1]A study by the Joint Center for Housing Studies estimated that 800,000 prospective first-time home buyers delayed the purchase of a home between 1979 and 1983 because the costs of owning a home were high, particularly relative to the costs of renting.

[2]The estimates of changes in the number of households were computed by DRI/McGraw-Hill based on U.S. Census Bureau population projections.

[3]See Randall J. Pozdena, "Housing and Interest Rates: A Weaker Link?" *FRBSF Weekly Letter,* Federal Reserve Bank of San Francisco, (August 11, 1989).

[4]See Randall J. Pozdena, "Are Housing Prices Too High?" *FRBSF Weekly Letter,* Federal Reserve Bank of San Francisco (January 20, 1989) and Jesse M. Abraham, "The Myth of High Home Prices," *Construction and Real Estate Review,* F.W. Dodge (April 1989) pp. 9-15.

[5]Housing permits, rather than housing starts data are used because housing starts data are unavailable for the metropolitan areas, with the exception of St. Louis since 1986. Despite changes in the size of the national surveys for permits in 1972, 1978 and 1984, the U.S. permits series closely tracks the U.S. housing starts series, as figure 1 shows. For the periods for which starts data are available, St. Louis housing starts and permits also follow similar trends.

[6]The study was conducted by Gentry Real Estate and Urban Analysts in 1989.

Resolving the Thrift Crisis

by Lynn M. Barry

Thomas A. Pollmann provided research assistance.

The year just ended marked the largest overhaul of America's financial institution industry since the Depression, when the Glass-Stegall Act, the Federal Deposit Insurance Act and the Home Owners Loan Act of 1933 were enacted. On August 9, 1989, President Bush signed the Financial Institutions Reform, Recovery and Enforcement Act of 1989. This legislation restructures the American financial system and affects all savings and loan associations and federal savings banks in the United States.

A fundamental cause of the nation's thrift crisis has been a mismatch in the maturities of assets and liabilities. In the early 1980s, with adjustable rate mortgages recently authorized, most savings institutions had large portfolios of low-yielding, long-term mortgages. With market rates for deposits, which tended to be of much shorter maturity, exceeding the rates of return for their existing portfolios, the decline in earnings at savings and loans (S&Ls) was inevitable.

To counteract their earnings problems, the 1982 Banking Act allowed S&Ls to invest up to 40 percent of their assets in commercial real estate lending. While the returns were potentially more lucrative, S&Ls were generally inexperienced in this type of lending. In addition, the returns from this lending failed to materialize. The fall in oil prices in 1986 led to large declines in commercial property values in the Southwest. S&Ls from other regions were not immune from the adverse earnings effect of these problems because many had bought into southwestern deals.

Figures 1 and 2 summarize two indicators of S&L performance in the 1980s. As shown in the first figure, thrift after-tax earnings declined dramatically in the 1980s. During the 1970s, annual profits for the S&L industry averaged $2.2 billion. Except for 1985, annual profits thus far in the 1980s are well below the average in the 1970s. In 1988, S&Ls lost $13.4 billion and through September of last year had already recorded losses of $9.2 billion.

These losses have led to large numbers of thrift failures and shrinking reserves that insured deposit accounts up to $100,000. Figure 2 shows the rapid increase in the number of insolvent S&Ls during the 1980s. In 1980, only 43 S&Ls were declared insolvent based upon generally accepted accounting principles (GAAP). In 1987, the number rose to 520. By the following year, measures were in place to resolve or restructure these insolvent institutions so that by year-end 1988 insolvencies totaled 372. The closing or restructuring of these institutions placed an enormous financial burden on the Federal Savings & Loan Insurance Fund (FSLIC). By the end of 1988, the fund's liabilities exceeded its assets by $75 billion, up from a $13.7 billion deficit in 1987 and significantly larger than the $6.3 billion deficit in 1986. As a result, the U.S. government is now burdened with billions of dollars of losses, repossessed real estate and bad debts it must recover to ensure the safety of depositors' assets. Clearly something had to be done. The legislative response was the Financial Institutions Reform, Recovery and Enforcement Act of 1989 (FIRREA). Cost estimates of this legislation over the next 10 years range from the $166 billion used by the drafters of FIRREA to more than $500 billion by some private sector analysts. The $166 billion estimate represents $50 billion to close the savings institutions that are now insolvent, $40 billion to cover the costs of rescues undertaken in 1988, $33 billion to cover future failures and $43 billion in interest payments. Over 30 years, including interest, the cost is estimated at nearly $300 billion, with taxpayers paying about $225 billion and the healthy portion of the S&L industry paying the balance.

A Look at FIRREA

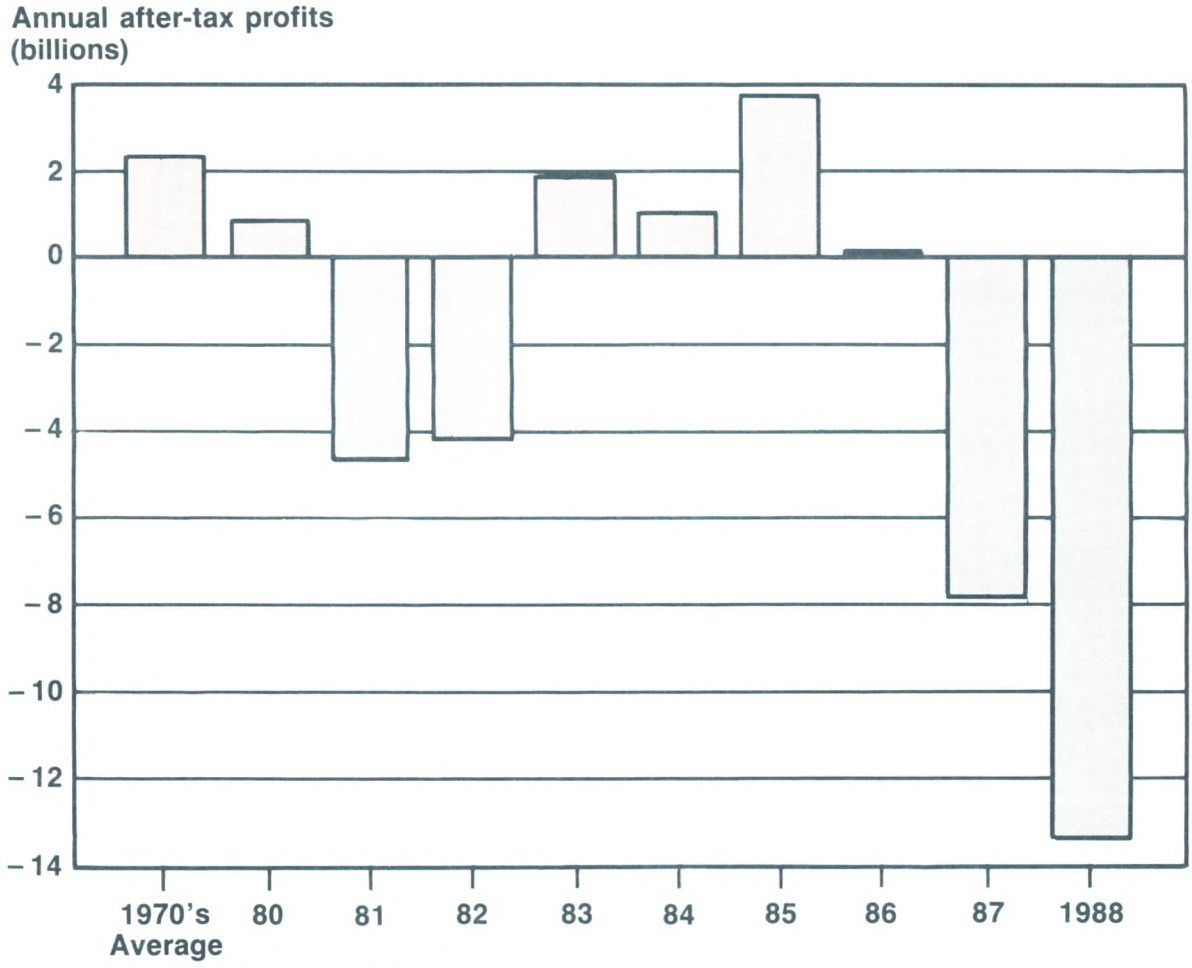
FIRREA not only changes who regulates what, but adds new agencies to its hierarchy. As shown in figure 3, the supervisory and regulation function, the deposit insurance function and the credit function are now three separate bodies, each with distinct responsibilities and reporting structures. The new law divides the Federal Home Loan Bank System into three separate parts: 1) the Office of Thrift Supervision, under the general oversight of the secretary of the Treasury; 2) the Savings Association Insurance Fund, an agency of the Federal Deposit Insurance Corporation; and 3) the Federal Housing Finance Board which oversees the credit function activities of the 12 district Home Loan Banks.

Office of Thrift Supervision

In a radical break from past legislation affecting thrifts, FIRREA overhauls the industry's regu-

Figure 1

Savings and Loan Industry Profits



SOURCE: United States League of Savings Institutions

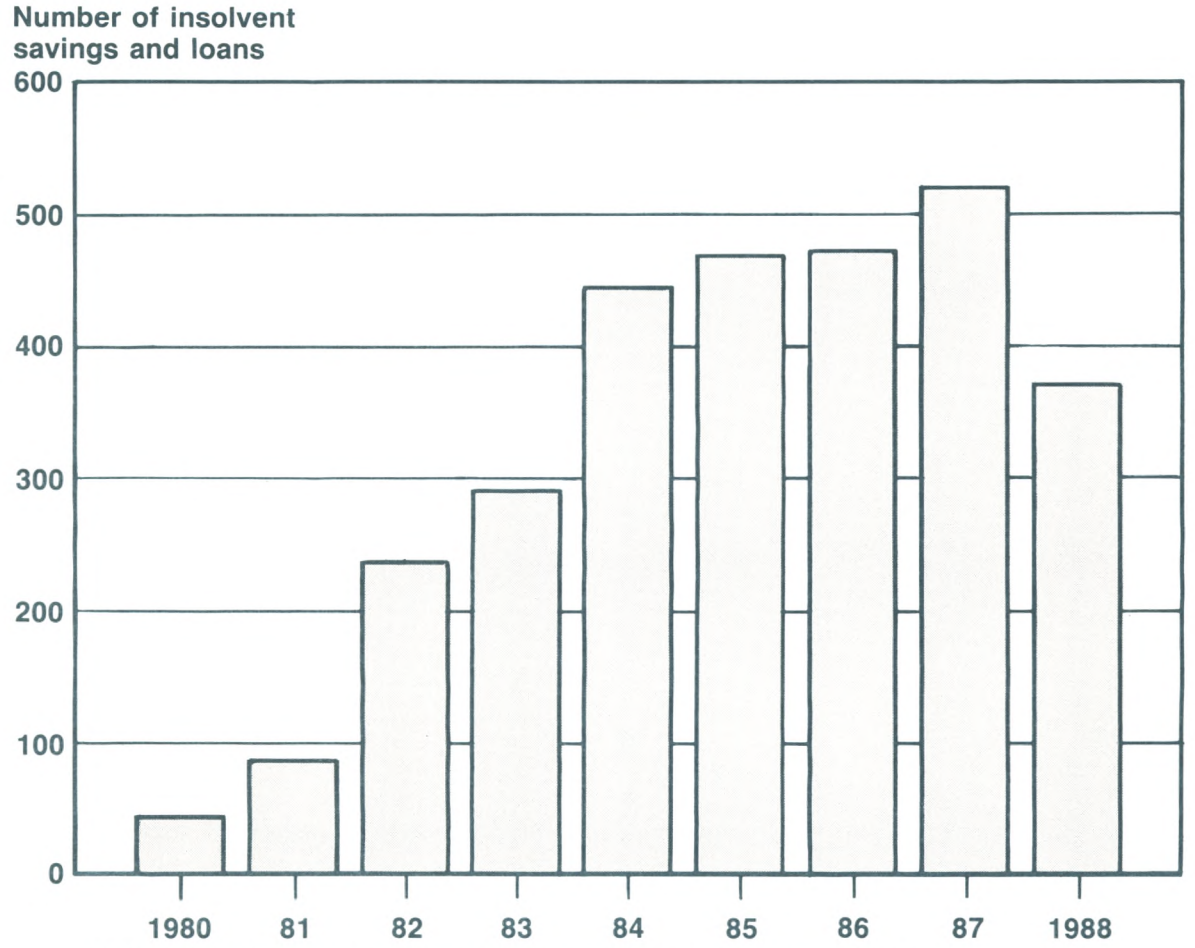
latory system. It abolished the Federal Home Loan Bank Board (FHLBB) as the primary regulator of the thrift industry and established the Office of Thrift Supervision (OTS). The office is within the Treasury Department and is responsible for the examination and supervision of all S&Ls. The new legislation outlines numerous changes to the supervision and regulation of S&Ls. For example, FIRREA encourages S&Ls to do more home mortgage lending and prohibits risky investments like speculative commercial real estate and junk bonds. The new law severely restrains an institution's portfolio investment mix through the use of a qualified-thrift-lender test. Effective July 1, 1991, for an institution to qualify as a thrift, it must hold 70 percent of its assets in "qualified" thrift investments, essentially, residential loans and mortgage securities. This is up from the current 60 percent requirement. Thrifts that fail the test will be converted into commercial banks and denied the branching rights unique to thrifts, thrift powers and access to Federal Home Loan Bank advances.

The law also limits nonresidential real estate lending by savings institutions to four times capital. In addition, FIRREA limits loans to one borrower to 15 percent of capital, the limit applied to national banks.

Under FIRREA, thrifts are subject to new capital requirements that will require them to hold tangible net worth equal to 1.5 percent of assets by June 1, 1990, and 3 percent by the beginning of 1995. Both savings institutions and banks that do not meet minimum capital standards are prohibited from accepting funds, directly or indirectly, through a deposit broker. The FDIC can waive the prohibition on a case-by-case basis upon determi-

Figure 2

Savings and Loan Insolvencies



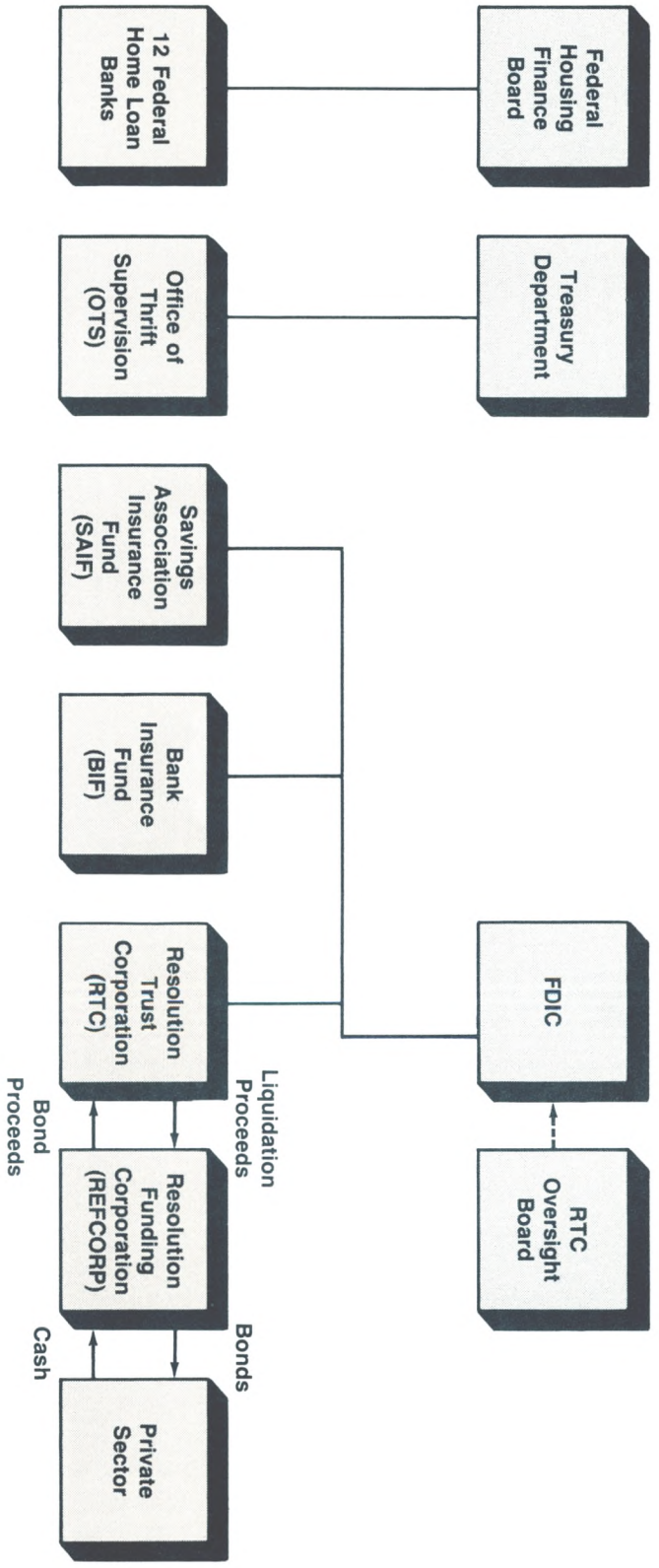
NOTE: Number of insolvencies based on generally accepted accounting principles (GAAP)
SOURCE: Office of Thrift Supervision

nation that the acceptance of a brokered deposit does not constitute an unsafe or unsound practice. Institutions not meeting minimum capital requirements are also prohibited from offering interest rates significantly higher than prevailing rates offered by similar institutions in the same market area. To curtail excessive risk-taking, thrifts are barred from investing in corporate debt securities that do not carry one of the four highest investment ratings from at least one nationally recognized rating agency.

With a yearly budget of $75 million until 1992, the Justice Department will seek to uncover and prosecute fraud at S&Ls and banks. FIRREA gives federal bank and thrift regulators greater enforcement powers and the ability to impose stiffer civil and criminal penalties, including fines against individuals. In the past, most fines in civil cases were assessed only against institutions, not individuals. For criminal offenses, jail terms were increased to 20 years for most crimes, up from two to five years. Fines can range from $1 million a day up to a total of $5 billion per violation. The new law empowers federal prosecutors to seek penalties against a wider circle of individuals employed by federally-insured financial institutions, including attorneys, accountants, appraisers and consultants, for allowing violations to continue unchecked. FIRREA also eliminates those state laws exempting officers and directors of financial institutions from liability resulting from breach of duty or gross negligence.

Figure 3

New Structure of the Federal Home Loan Bank System



Savings Association Insurance Fund

FIRREA also restructures the deposit insurance fund. It creates a new deposit insurance fund for thrifts, known as the Savings Association Insurance Fund (SAIF), an agency of the Federal Deposit Insurance Fund (FDIC). The law also creates an insurance fund for commercial banks, the Bank Insurance Fund (BIF) which receives insurance payments previously directed to the FDIC. FIRREA raises the premiums for this deposit insurance for both S&Ls and commercial banks. SAIF will have a new logo and a statement that insured deposits are protected to $100,000 and backed by the full faith and credit of the U.S. government.

Bank premiums will jump from 8 cents per $100 of deposits to 12 cents in 1990 and finally to 15 cents in 1991. Thrift premiums will rise to 23 cents per $100 in 1991, from 20.8 cents and will fall back to 18 cents in 1994 and 15 cents in 1998. The target level for the two insurance funds is 1.25 percent or $1.25 of reserves for each $100 of deposits. Rebates will be denied until the SAIF and the BIF hold reserves equal to the targeted level.

FIRREA also mandates a broad study of the deposit insurance system which must be submitted to Congress by early 1991. The results of this study could become the basis for major legislation in the coming years.

Federal Housing Finance Board

While FIRREA dissolved the FHLBB, it left in place the 12 Federal Home Loan Banks. The Federal Home Loan Bank System, owned by the nation's S&Ls, will be governed by a separate, independent agency, the newly created Federal Housing Finance Board. The five-member Federal Housing Finance Board includes the secretary of the Department of Housing and Urban Development and four others appointed by the President with the advice and consent of the Senate. The primary function of the board is to oversee credit allocation by district banks to member and nonmember institutions.

The 12 Federal Home Loan Banks are no longer responsible for supervising and regulating member institutions. Their purpose is to provide credit in the form of advances for mortgage lending. The law states that the earnings from the Federal Home Loan Banks should be contributed to the government to help cover the cost of taking over insolvent S&Ls.

Resolution Trust Corporation

When President Bush signed FIRREA into law, the FDIC was put in charge of the Resolution Trust Corporation (RTC). This new federal agency is responsible for managing and disposing of bankrupt thrifts and for selling the repossessed real estate, once valued at more than $300 billion, acquired by the FSLIC from its takeovers of bankrupt thrifts. The RTC must liquidate or otherwise dispose of institutions that were once FSLIC-insured and which are placed in conservatorship or receivership in the three-year period beginning January 1, 1989. The RTC is expected to maximize recovery on assets it obtains without depressing existing real estate markets. For example, if the RTC tried to liquidate all its assets immediately, real estate prices, especially in Texas, would drop and healthy institutions would be forced to write down the value of their real estate.

The policymaking powers of the RTC are concentrated in a five-member oversight board, while daily operations are handled by the FDIC. With its new and expanded powers, the FDIC board has been enlarged from three to five members: the Comptroller of the Currency, the director of the Office of Thrift Supervision and three independent members appointed by the President and confirmed by the Senate. The FDIC's work will be overseen by a board consisting of the chairman of the Federal Reserve Board, secretary of the Treasury, secretary of Housing and Urban Development and two other members appointed by President Bush. The RTC Oversight Board will review and have overall responsibility for the RTC's activities, but it will not become involved with specific institutions, specific asset dispositions or day-to-day RTC operations.

The RTC is scheduled to end on December 31, 1996. It will have $50 billion available to fund its operations, of which $30 billion will be raised by the Resolution Funding Corporation (Refcorp). A quasi-private agency created by Congress, Refcorp will sell $30 billion in 30-year bonds during fiscal 1990 and 1991. Zero coupon Treasury bonds will be purchased in an amount sufficient to guarantee $30 billion at maturity.

Conclusion

FIRREA is unlikely to resolve completely the main issues that contributed to the thrift crisis. Still to consider or to reconsider are a host of issues. Among them are capital adequacy, risk-based deposit insurance premiums, market-value accounting for banks and thrifts, the nature of deposit insurance and the qualified-thrift-lender test, which is central to the definition of the S&L industry. Thus, the future course of the thrift industry, to a large degree, remains uncertain.

Statistics

Eighth District Business

	Level	Compounded Annual Rates of Change			
	III/1989	II/1989-III/1989	III/1988-III/1989	1988[1]	1987[1]
Payroll Employment (thousands)					
United States	108,914.0	2.1%	2.8%	3.3%	2.7%
District	6,626.9	1.2	1.5	2.5	3.5
Arkansas	885.2	1.6	2.9	2.8	2.8
Little Rock	242.6	0.3	2.3	3.2	2.0
Kentucky	1,398.8	3.2	1.8	3.2	4.2
Louisville	455.9	0.4	1.1	3.1	3.9
Missouri	2,264.0	0.3	1.4	1.8	2.6
St. Louis	1,153.8	1.0	1.4	1.5	1.9
Tennessee	2,078.9	0.6	0.7	2.7	4.3
Memphis	440.0	−0.7	1.5	2.7	4.8
Manufacturing Employment (thousands)					
United States	19,616.3	−0.9%	0.9%	2.0%	0.3%
District	1,457.1	−0.6	1.0	2.6	1.7
Arkansas	233.7	−1.0	2.0	4.0	3.7
Kentucky	280.7	−1.4	1.6	4.5	3.4
Missouri	431.6	−1.4	0.6	1.3	−0.1
Tennessee	511.1	0.7	0.6	2.2	1.4
District Nonmanufacturing Employment (thousands)					
Mining	50.0	−5.4%	−4.2%	−4.4%	−4.0%
Construction	276.7	0.7	−1.8	−1.4	3.2
FIRE[2]	338.6	1.4	0.7	0.5	4.1
Transportation[3]	385.8	0.3	1.3	3.5	4.5
Services	1,444.3	0.8	2.9	4.5	5.6
Trades	1,578.0	−0.8	1.1	2.4	4.4
Government	1,095.7	7.0	2.4	1.7	1.9
	II/1989	I/1989-II/1989	II/1988-II/1989	1988[1]	1987[1]
Real Personal Income[4] (billions)					
United States	$3,511.6	2.0%	3.2%	3.4%	3.2%
District	194.2	−1.2	2.5	2.8	3.0
Arkansas	25.7	−7.4	2.4	2.9	1.3
Kentucky	41.4	−2.8	3.0	2.8	2.6
Missouri	68.5	0.6	2.1	2.1	2.2
Tennessee	58.6	0.7	2.6	3.6	4.9
		Levels			
	III/1989	II/1989	1988	1987	1986
Unemployment Rate					
United States	5.2%	5.3%	5.5%	6.2%	7.0%
District	5.4	6.0	6.5	7.2	7.8
Arkansas	6.6	8.3	7.6	8.1	8.8
Little Rock	5.9	7.3	6.4	7.2	6.9
Kentucky	6.2	6.7	7.8	8.7	9.3
Louisville	6.1	5.9	6.3	6.9	7.1
Missouri	5.3	5.2	5.7	6.3	6.1
St. Louis	5.2	5.2	6.0	6.5	7.0
Tennessee	4.5	5.4	5.8	6.6	8.0
Memphis	4.0	5.2	5.1	5.7	6.8

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			
	III/1989	II/1989-III/1989	III/1988-III/1989	1988[1]	1987[1]
Consumer Price Index (1982-84=100)					
Nonfood	124.2	2.9%	4.5%	4.0%	3.6%
Food	125.9	3.6	5.3	4.1	4.1
Prices Received by Farmers (1977=100)					
All Products	144.3	-8.9%	0.7%	8.8%	3.1%
Livestock	159.3	9.6	5.5	2.7	5.6
Crops	128.7	-28.0	-4.9	18.3	-0.8
Prices Paid by Farmers (1977=100)					
Production items	165.0	0.0%	3.8%	6.9%	1.9%
Other items[2]	178.0	2.3	3.5	4.4	1.9

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 June 30, 1989 *(by Asset Size)*

	Less than $100 million	$100 million - $300 million	$300 million - $1 billion	More than $1 billion
SELECTED ASSETS				
Securities	-3.6%	11.4%	9.7%	11.4%
U.S. Treasury & agency securities	-0.5	18.8	17.4	16.7
Other securities	-13.9	-32.2	-37.1	-28.6
Loans & Leases	-1.2	15.2	20.0	5.8
Real estate	-0.5	17.6	33.9	18.1
Commercial[1]	63.9	5.6	17.4	3.3
Consumer	-0.3	19.1	7.6	1.2
Agriculture	-4.2	37.8	6.9	-4.9
Loan loss reserve	-3.5	23.0	34.5	16.8
Total Assets	-3.4	12.8	17.3	8.3
SELECTED LIABILITIES				
Deposits	-3.7%	12.6%	17.2%	6.9%
Nontransaction accounts	-2.1	14.8	20.0	10.5
MMDAs	-23.7	-10.7	6.3	2.2
$100,000 CDs	6.7	19.4	24.0	-0.2
Demand deposits	-6.7	5.0	10.7	0.7
Other transaction accounts[2]	-9.4	8.9	11.3	-0.9
Total Liabilities	-3.6	12.8	17.3	9.8
Total Equity Capital	-1.1	12.6	17.6	9.3

Note: All figures are simple rates of change comparing year-to-year data. Data are not seasonally adjusted.

[1]Includes banker's acceptances and nonfinancial commercial paper

[2]Includes NOW, ATS and telephone and preauthorized transfers

Performance Ratios (by Asset Size)

	Eighth District			United States		
	II/89	II/88	II/87	II/89	II/88	II/87
EARNINGS AND RETURNS						
Annualized Return on Average Assets						
Less than $100 million	1.14%	1.06%	1.00%	.88%	.71%	.65%
$100 million - $300 million	1.08	1.04	.97	.99	.85	.78
$300 million - $1 billion	1.03	1.04	.97	.91	.65	.58
$1 billion - $10 billion	.74	.84	.45	.85	.69	.46
More than $10 billion	—	—	—	.91	.64	−2.03
Agricultural banks	1.23	1.14	.91	1.14	1.00	.76
Annualized Return on Average Equity						
Less than $100 million	12.23%	11.66%	11.27%	9.62%	8.05%	7.53%
$100 million - $300 million	13.06	12.66	12.08	12.41	10.89	10.25
$300 million - $1 billion	13.05	13.13	12.36	12.64	9.45	8.08
$1 billion - $10 billion	11.24	12.74	6.94	13.08	10.87	7.35
More than $10 billion	—	—	—	17.57	14.03	−48.88
Agricultural banks	12.45	11.85	9.69	11.71	10.57	8.25
Net Interest Margin[1]						
Less than $100 million	4.04%	3.92%	4.02%	4.37%	4.22%	4.31%
$100 million - $300 million	4.06	3.92	3.97	4.54	4.20	4.24
$300 million - $1 billion	4.13	3.98	4.11	4.47	4.13	4.21
$1 billion - $10 billion	3.66	3.67	3.70	4.20	4.03	4.00
More than $10 billion	—	—	—	3.41	3.34	3.29
Agricultural banks	3.95	3.83	3.86	4.17	4.03	4.01
ASSET QUALITY[2]						
Nonperforming Loans[3]						
Less than $100 million	1.66%	1.99%	2.49%	2.16%	2.48%	3.05%
$100 million - $300 million	1.76	1.78	2.12	1.95	2.07	2.47
$300 million - $1 billion	1.49	1.48	2.10	2.29	2.28	2.51
$1 billion - $10 billion	2.19	2.29	2.46	2.06	2.23	2.53
More than $10 billion	—	—	—	4.80	5.12	5.69
Agricultural banks	1.87	2.26	3.29	2.29	2.85	4.13
Loan Loss Reserves						
Less than $100 million	1.45%	1.50%	1.49%	1.56%	1.63%	1.62%
$100 million - $300 million	1.45	1.33	1.37	1.47	1.51	1.53
$300 million - $1 billion	1.47	1.32	1.41	1.63	1.63	1.66
$1 billion - $10 billion	1.72	1.93	1.96	1.73	1.79	1.89
More than $10 billion	—	—	—	3.34	4.25	4.33
Agricultural banks	1.82	1.81	1.83	2.08	2.09	2.09
Net Loan Losses[4]						
Less than $100 million	.14%	.18%	.29%	.29%	.36%	.47%
$100 million - $300 million	.21	.18	.31	.27	.31	.36
$300 million - $1 billion	.17	.19	.32	.32	.39	.41
$1 billion - $10 billion	.33	.56	.30	.41	.56	.34
More than $10 billion	—	—	—	.53	.54	.41
Agricultural banks	.12	.16	.42	.22	.32	.58

Note: Agricultural banks are defined as those with 25 percent or more of their total loan portfolio in agriculture 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, nonaccrual, and restructured loans.
[4]Loan losses are adjusted for recoveries.