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# ◆ Regional Outlook ◆

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FEDERAL DEPOSIT INSURANCE CORPORATION

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## FDIC MEMPHIS REGION



## DIVISION OF INSURANCE

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## In Focus This Quarter

◆ ***Gain-on-Sale Accounting Can Result in Unstable Capital Ratios and Volatile Earnings***—The accounting for transferring and servicing financial assets causes asset sellers, particularly high-growth lenders, to recognize significant noncash income related to retained economic interests in the sold assets. This is true whether a company securitizes its own assets or sells its assets as a conduit to another securitizer. Values are often driven by management assumptions about future performance of the sold assets. Major writedowns of gain-on-sale assets by some finance and mortgage companies underscore the importance of careful scrutiny of these assumptions by banks and their supervisors. *See page 3.*

*By Allen Puwalski*

◆ ***How Will the Expansion End?***—Analysts are now focusing on when and how the current expansion will end. Although no one can accurately predict when a recession will begin, two possible scenarios have emerged. Each scenario has important implications for lenders as they prepare for the possibility of slower economic growth or recession. *See page 7.*

*By Paul C. Bishop*

◆ ***Trends Affecting the Allowance for Loan and Lease Losses***—In today's environment, in which loan availability is abundant, growth is strong, and competition is fierce, some industry leaders and regulators have expressed concern about the loosening of underwriting standards and greater risk in bank loan portfolios. At the same time, the allowance for loan and lease losses (ALLL) relative to total loans at many insured institutions is declining. As the economic expansion reaches an advanced age, an important question for insured institutions is whether their ALLLs adequately reflect the risks associated with changing industry practices. *See page 11.*

*By Andrea Bazemore*

## Regular Features

◆ ***Regional Economy***—Revised employment data show growth in the Memphis Region to be stronger than previously reported in 1997, with the states performing more uniformly...the agricultural price outlook is weaker for 1998 as a result of the downturn in Asia and large Latin American harvests...Louisiana's exposure to oil prices is lower than in the early 1980s but is still significant...technology has reduced the price at which oil-related activity can remain profitable, but companies may move quickly if this threshold is breached. *See page 16.*

*By David T. Griffiths, Gary L. Beasley*

◆ ***Regional Banking***—Banks and thrifts reported strong performance in 1997...a flattening yield curve may place downward pressure on margins and earnings this year...agricultural lenders posted strong performance as farmers completed a second year under FAIR, although this year may pose new challenges from lower projected commodity prices...banks in oil- and gas-producing areas appear well positioned to withstand fluctuating energy prices. *See page 20.*

*By Gary L. Beasley, Robert L. Burns*

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## ***Gain-on-Sale Accounting Can Result in Unstable Capital Ratios and Volatile Earnings***

- **Gains generated from asset sales under SFAS 125 rely on management assumptions about the lifetime performance of the assets sold and may not materialize in cash if the assumptions prove incorrect.**
- **Gain-on-sale accounting has been most significant to securitizers, but nonsecuritizers can and do retain economic interests that give rise to significant gain-on-sale assets.**
- **Finance companies seeking to shift attention from gain-on-sale assumptions may find willing bank correspondents.**
- **The rating services have modified capital and earnings analysis in order to lessen what they consider distortions caused by SFAS 125.**

*Statement of Financial Accounting Standards No. 125 (SFAS 125), Accounting for Transfers and Servicing of Financial Assets and Extinguishing of Liabilities*, causes asset sellers, particularly high-growth lenders, to recognize significant noncash income. Applying SFAS 125, which became effective on January 1, 1997, can give rise to significant noncash gains and related assets if an economic interest is retained in assets sold. The value of retained interests in assets sold is quantified on the basis of management's assumptions about future charge-off rates, repayment rates, and the rate used to discount the expected cash flows from the loans sold. Because the value of these assets changes when actual performance deviates from the assumptions, the quality of earnings, capital, and liquidity for a lender that relies significantly on gains on sale must be considered carefully.

The recent writedowns of interest-only (IO) assets by a few major finance companies have led to a higher level of scrutiny of companies whose financial statements are influenced significantly by gain-on-sale accounting. The Securities and Exchange Commission has recently increased its scrutiny of publicly traded companies that use gain-on-sale accounting, and it may soon require assumptions regarding defaults, prepayments, and discount rates to be disclosed in financial statements. The same companies that enjoyed soaring stock perfor-

mance thanks to high earnings growth caused by gain-on-sale accounting have seen their stock values tumble as they have had to write down their gain-on-sale-related assets.

Several major credit rating companies have recognized the significant effect of gain-on-sale accounting under SFAS 125 on interpreting financial statements. These companies have issued comments or reports dealing with SFAS 125's effect on the quality of earnings and capital of the companies they rate and how they adjust their analysis as a result. The consensus of these papers is that gain-on-sale accounting for companies that securitize often results in significantly higher reported earnings and equity compared to balance sheet lenders—without, in many cases, materially changing the underlying economics or credit risk to the originator of the assets.<sup>1</sup> Generally, the rating services have modified capital and earnings analysis in order to lessen what they consider distortions caused by SFAS 125.

### ***There Are Risks Associated with Gain-on-Sale Accounting***

The asset booked in connection with an SFAS 125 loan sale is an IO strip that represents the present value of future excess spread cash flows generated by the transferred assets. Generally, asset-backed securitizations, including some classified as mortgage-backed securities, are structured so that each month the expected cash flows from the underlying assets will be sufficient to pay the investor coupon, the trust expenses, the servicing fee, and net charge-offs. The cash flow that the underlying assets will generate each month cannot be known with certainty because the underlying asset may allow for variable principal payments (e.g., credit card accounts), or the borrowers may default. Securitizations are structured so that there is enough cushion between the *expected* cash flows and the required payments and

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<sup>1</sup> Duff & Phelps Credit Rating Company, "Securitization and Corporate Credit Risk." *Special Report Financial Services Industry*, July 1997; T. E. Foley and M. R. Foley, "Alternative Financial Ratios for the Effects of Securitization Tools for Analysis." *Moody's Special Comment*, September 1997; H. L. Moehlman, R. W. Merritt, and N. E. Stroker, "Capital Implications of Securitization and Effect of SFAS 125." *Fitch Research*, September 16, 1997.

expected charge-offs to absorb fluctuations in actual cash flows and actual charge-offs. This cushion is excess spread. As actual cash flows vary from projections, so does the excess spread generated.

According to SFAS 125, when a company sells assets and retains the right to future excess spread cash flows, the calculation of the gain on the sale includes the capitalization of this right. In many transactions, the gain on sale consists entirely of the fair value of the IO strip that represents this right—none of which is necessarily received in cash. In addition, with many transactions, cash receipt is further delayed while cash flows go to fund the spread account, which is analogous to an internal loan loss reserve.

SFAS 125 states that quoted market prices in active markets are the best evidence of fair value and should be used whenever available. Although there have been some sales of these IO strips, the number of sales is not yet sufficient to constitute an active market. When market prices are not available, SFAS 125 states that the estimate of fair value should be based on the best information available. In practice, fair value of the excess spread is determined by present valuing the expected cash flows using a discounted cash flow model.

The value of the right to future cash flows is determined on the basis of management's assumptions about the charge-off rate, the average life of loans, and the rate used to discount the cash flows. *These input assumptions drive the model results and, therefore, the magnitude of the gain.* The stability of the value of the IO will depend greatly on the extent to which the input assumptions accurately describe the pool performance over the life of the transferred assets. Changes in economic or market conditions that were not anticipated in the initial cash-flow assumptions will likely cause the pool of loans to perform differently than initially projected.

*Gain-on-sale accounting is significant to securitizers.* To illustrate the significance of the IO account to a securitizer's reported income, consider one major subprime lender. During fiscal year 1997, this company's IO asset grew by over \$141 million. Despite a \$28 million writedown of the IO asset, the net growth of the asset constituted over half of total revenue and over eight times net income. The revaluation of the IO was necessitated by higher-than-expected prepayment rates.

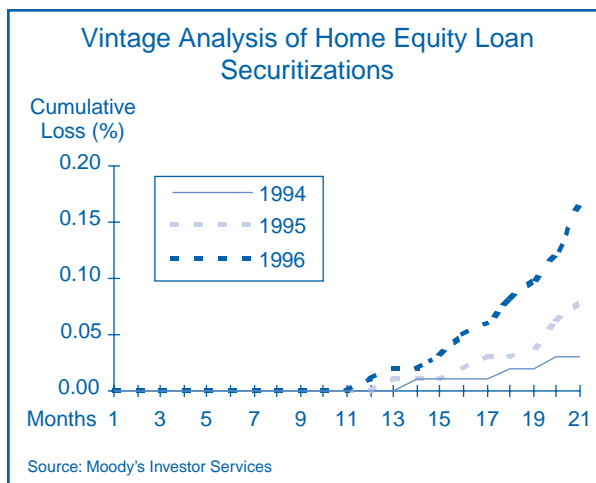
*Current market conditions were not anticipated by many companies that benefited from high earnings*

*related to gain-on-sale accounting.* Several other major securitizers have reduced the carrying value of their IO assets in the face of either rising charge-off rates or higher prepayment rates. Writing down an IO strip largely represents a company's admission that it will not generate on a cash basis income that was booked previously.

Chart 1 displays the cumulative charge-off rates by vintage for **Moody's** index of home equity loan securitizations. The index consists mostly of prime mortgages, so the loss rates are still low. However, the rising trend in losses is noteworthy and reflects the growing influence of subprime securitizations on the index and the related decline in underwriting standards as competition has increased in this market. Loans originated in 1995 and 1996 are causing progressively larger and earlier losses. After 21 months of seasoning, the cumulative loss rate on loans originated in 1996 is .17 percent—almost six times the loss rate experienced by the 1994-originated cohort at the same age. Despite the continued low loss rates for the home equity market in general, subprime lenders are experiencing accelerated loss rates that are eroding the value of their interests in excess spreads.

There may be a tendency for management to base assumptions about expected loss rates on loans sold solely on past experience with similar loans. Such an approach may not capture changes in market conditions and trends. For example, the Moody's data demonstrate that loss rates on home equity loans, including first liens, have been trending upward rapidly. This trend implies that when estimating loss rates, management should consider the potential for changes in market con-

CHART 1



ditions over the life of the sold assets as well as the past performance of similar assets.

Like loss rates, prepayment rates have risen substantially in the subprime mortgage market. Several factors have contributed to the rise. One factor is the trend toward higher loan-to-value (LTV) loans in the mortgage market, which has allowed borrowers to obtain additional cash from their homes without waiting to pay down principal. Mortgage bankers report the tendency of some subprime borrowers, often debt consolidators, to maintain outstanding balances at the highest possible LTV. With maximum LTV ceilings rising, debt consolidators can refinance home equity loans without having to amortize existing debt.

Another important factor contributing to rising prepayment rates is competition among lenders for volume growth. To continue to grow volume, lenders have been sacrificing margins on loans to offer a better rate to borrowers. When estimating prepayment rates for subprime borrowers, it has been normal to expect that they would need to improve their credit rating, or “credit cure,” before they would find it economical to refinance. Stiff competition for volume has allowed borrowers to find better rates without credit curing and has stimulated them to refinance prior to the time estimated at origination. Falling interest rates and a relatively flat yield curve are likely to increase prepayment rates.

In standard finance theory, uncertainty about the future level of losses and prepayment rates is compensated for by discounting the cash flows at a higher rate. Some analysts advocate using a discount rate similar to the required rate of return for equity investments. Faced with changing conditions, one large finance company that specializes in high LTV lending announced in December 1997 that it was increasing the discount rate it uses to value new IO strips from 12.5 percent to 33 percent.

### ***The IO Strip Asset Is Growing at Insured Depository Institutions***

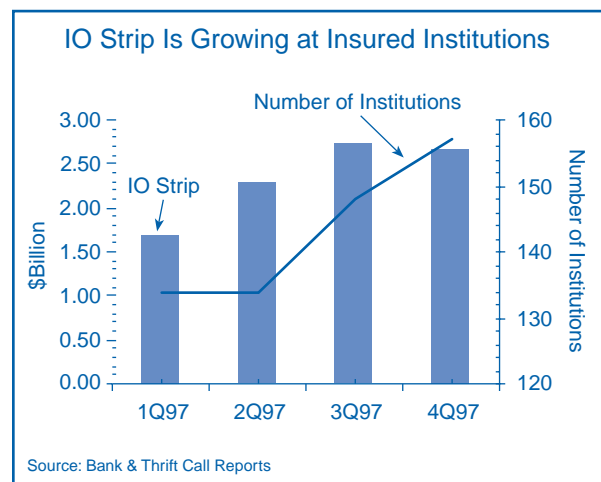
As of December 31, 1997, only 30 institutions reported this IO asset at more than 5 percent of tier 1 capital. However, some institutions have booked gains that should have given rise to a call-reportable IO strip but did not properly report the assets. Therefore, the current reporting may understate the prevalence of the asset.

Furthermore, the recent attention to gain-on-sale accounting from the public equity markets has at least a few large finance and mortgage companies seeking business strategies that shed IO strip-related volatility from their financial statements. One such strategy already in use is to leave the economic interest in excess spread with the correspondents that originate the loans. This is done as follows: The correspondent originates loans for purchase by a finance company. The finance company pays par for the loans, and instead of being paid an origination fee or a premium for the loans, the *seller* retains the right to excess spread generated over the life of the loan. The seller books a gain and an IO asset that capitalizes this right to receive future cash flows. The nature of the IO asset is exactly the same whether it arises directly from a securitization or from a sale of loans to a securitizer. *If this strategy is used widely by finance and mortgage companies, then IO strips are likely to grow among institutions that originate loans for sale to these companies* (see Chart 2).

*For insured depository institutions, the capital effects of SFAS 125 need to be evaluated carefully.* Analysis of the financial statements and leverage ratios of insured institutions should consider fully issues related to the quality of earnings and the stability of capital posed by the volatility of the IO strip. Insured institutions that engage in significant asset sales while retaining economic interests that give rise to SFAS 125-related assets are subject to distortions similar to those of nonbank financial companies.

The activity of originating and selling loans and booking associated gains can lead to capital ratios that

**CHART 2**





appear high by traditional bank standards. For several reasons, the leverage ratio can appear particularly high. First, although the asset may be more volatile than mortgage serving rights, there is no limit to the amount of IO strip that a bank can include in tier 1 capital. Second, the amount of IO strip booked increases capital by a gain on the net of the tax effect. The extent to which the amount remains in capital depends, of course, on the institution's dividend policy. Third, the denominator of the leverage ratio is reduced by the sale because the loans are no longer assets of the bank. The cumulative result can be a significant boost to the leverage ratio.

Several insured institutions report an IO strip at greater than 25 percent of tier 1 capital. For an institution whose primary line of business is originating and selling subprime mortgages, the asset can quickly reach a level exceeding tier 1 capital. In a little more than a year of originating and selling subprime mortgages to a major securitizer, one institution has amassed IO assets that it has valued at more than 150 percent of tier 1 capital.

The institutions that have concentrations of 25 percent or more of tier 1 capital in IO assets have a median

leverage ratio of about 11 percent. In contrast, the median equity capital ratio for nonbank mortgage securitizers tracked by *SNL DataSource* is about 30 percent. Public debt markets or banks that lend to these finance companies appear to require significantly higher capital levels than regulatory minimums required for banks.

The potential for growth of the IO strip asset at insured institutions seems strong. In some circumstances, minimum capital standards for banks may require significantly less capital for IO asset exposure than the public equity markets. Perhaps more important, the quick rise of the significance of gain-on-sale accounting to the mortgage and consumer credit markets exemplifies the speed with which exposure to risk can be acquired through the securitization market. Strong demand for asset-backed securities coupled with changing accounting emphases, which in this case favor asset sellers, can lead quickly to substantial exposures.



*Allen Puwalski, Senior Financial Analyst*

### ***Risk-Based Capital (RBC) Treatment of the Gain-on-Sale–Related IO Asset***

If the IO asset derives from excess spread that absorbs charge-offs from the sold assets, then the IO strip constitutes recourse from the sold assets for RBC purposes. RBC standards require capital to be held against this exposure. In general, the capital requirement for this exposure is the amount of capital that would have been required for the assets had they not been sold. If the sold assets are one- to four-family residential mortgages, they may receive a 50 percent risk weighting. Subprime mortgages are not necessarily precluded from receiving this weighting.

In order to apply the 50 percent risk weighting, the capital standards require that one- to four-family residential mortgages be fully secured and prudently underwritten. The “fully secured” requirement precludes high-LTV loans with LTV ratios of greater than 100 percent from receiving reduced capital requirements, but the language of the RBC regula-

tions does not necessarily preclude subprime mortgages in general from receiving the reduced risk weighting. Although the capital standards require that mortgages be prudently underwritten to qualify for the 50 percent risk weighting, it is not entirely clear how the term “prudently underwritten” applies to subprime mortgages. A higher expected loss rate alone may be insufficient cause for presuming that the mortgages are not prudently underwritten.

The rationale for reducing the capital requirement for traditional one- to four-family mortgage lending is related to the maturity of the market and consistently low loss rates. As noted above, the subprime mortgage market is changing rapidly, and loss rates can be much higher than in traditional mortgage lending. Accordingly, bank managements need to be aware of the potential volatility and risks associated with gain-on-sale assets associated with subprime mortgages.

## *How Will the Expansion End?*

- **Despite a very low unemployment rate and high industry capacity utilization, inflation has been unusually subdued during this expansion, with price declines in some sectors.**
- **After seven years of expansion, most analysts expect the economy's growth to slow in the coming months.**
- **The last seven expansions have ended with an inflation-driven increase in short-term interest rates; in contrast, some analysts believe that the next recession will be caused by a period of falling prices for commodities, finished goods, and perhaps wages.**
- **Insured institutions that base lending and strategic decisions on assumptions of continued robust economic growth should scrutinize and test those decisions against possible adverse change in economic conditions.**

The current economic expansion is the third longest on record since World War II. Since mid-1991, when the expansion began, more than 15 million new jobs have been created and inflation-adjusted gross domestic product (GDP) has increased by nearly 20 percent. In fact, the unemployment rate reached a 24-year low when it fell to 4.6 percent in November 1997 and again in February 1998. At the same time, inflation has remained unusually low, at only 2.3 percent during 1997.

Analysts are now focusing on when and under what circumstances the current expansion will end. While no one can accurately predict *when* the expansion will end, two related but competing theories about *how* it will end have emerged in recent months. The first and more familiar scenario occurs when the Federal Reserve increases short-term interest rates to prevent a rapid increase in inflation caused by an overheating economy. The second scenario, a deflation-induced contraction, is less familiar in the context of recent recessions. This scenario posits a period of falling prices for commodities, finished goods, and, under the most severe circumstances, even wages.

Whatever the cause of the next downturn, its effects are likely to be important for the performance of lenders.

During the 1990–91 recession, for example, the widespread deterioration of economic conditions was reflected in a number of indicators: Inflation-adjusted GDP fell by 2 percent; the number of business failures rose by nearly 40 percent; unemployment increased by more than 40 percent to 9.8 million; the unemployment rate peaked at more than 7 percent; single-family housing starts fell by almost 22 percent; and the bank card delinquency rate increased from 2.4 percent to 3.3 percent. This experience suggests that no matter what triggers the next downturn, dramatic adverse changes in the drivers of bank performance will likely result.

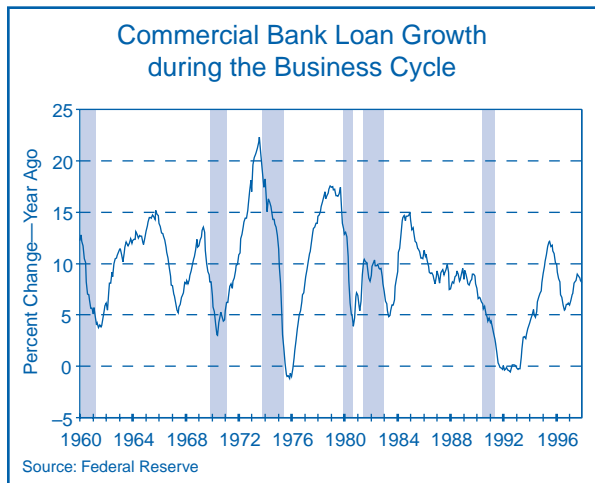
### *How Have Economic Expansions Usually Ended?*

Although to some extent each business cycle is unique, virtually all of the post–World War II expansions have shown a similar characteristic: Toward the end of the expansion, inflation has accelerated. As the economy expands, the prices of inputs, including the wages of workers, are bid up as firms compete for resources to meet demand. The overall inflation rate will rise if prices increase across a large number of industries. Left unchecked, an increase in the overall price level may itself feed back into the labor market through demands for higher wages.

By raising short-term interest rates, the Federal Reserve can limit what might otherwise lead to a rapid increase in both wages and prices. Higher interest rates will reduce sales of capital goods, housing, and consumer durables, the demand for which is very sensitive to the level of interest rates. One reflection of this sensitivity is the changing pattern of loan growth over the business cycle. During periods of expansion, the demand for loans grows rapidly as businesses and households borrow to finance purchases of capital goods and consumer durables. If short-term interest rates are increased in response to inflationary pressures, loan growth will slow as businesses and consumers reduce their demand for loans. If interest rates continue to increase, loan growth may decline as it has done before and during each recession. The cyclical movement of loan growth (with vertical bars indicating periods of recession) is shown in Chart 1 (next page).

Looking more closely at short-term interest rates, Chart 2 (next page) illustrates the federal funds rate during the

**CHART 1**



last seven business cycles. While an increase in short-term interest rates has preceded each recession, it should be noted that an increase in rates is not sufficient to induce a recession. An increase in rates in 1984 was followed by a period of rapid growth that lasted until 1990. More recently, the increase in rates during 1994 was accompanied by a slowdown in the economy, but not a recession.

***What Is Different about Inflation during This Expansion?***

With history as a guide, one would expect inflation to rise as the current expansion matures. Chart 3 illustrates consumer price inflation during the four longest postwar expansions, including the current one. The chart shows the inflation rate at various points after the

expansion began. During the expansion between 1975 and 1980, for example, the inflation rate was nearly 12 percent at the start of the expansion but fell to just over 6 percent after four quarters. Inflation remained at approximately 6 percent until the twelfth quarter of the expansion, after which it accelerated to more than 12 percent by the end of the 20-quarter expansion.

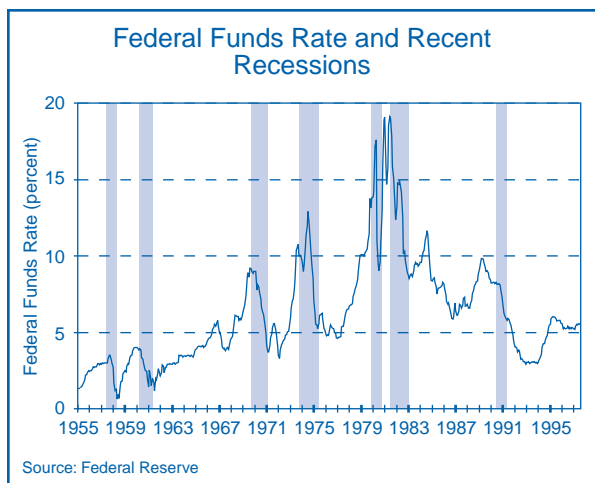
The current inflation trend differs from previous expansions in two ways. First, by the later stages of previous expansions, inflation was accelerating (see Chart 3). In contrast, there are few signs of accelerating consumer price inflation during the current expansion. In fact, it appears that the rate of inflation is declining; the United States has experienced disinflation.<sup>1</sup> Second, among expansions that have lasted more than 20 quarters, the current rate of inflation is one of the lowest since World War II. Consumer inflation is both decreasing and low by historical standards.

***What Are the Two Views about Future Inflation?***

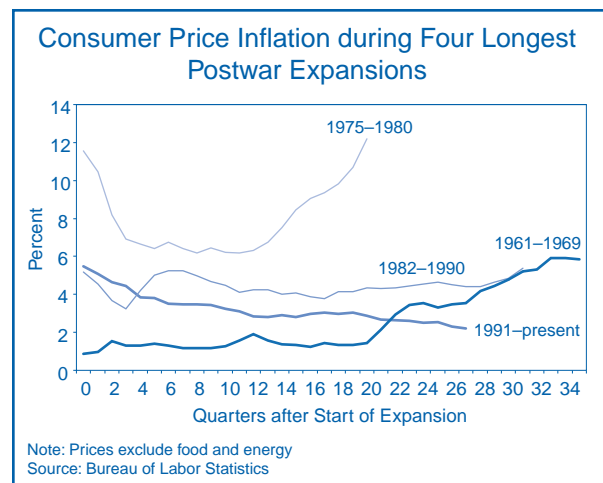
Two views have developed about how the current expansion will end. The debate, couched in terms of the expected rate of future inflation, is of more than academic concern. The Federal Reserve's decision about

<sup>1</sup> In popular discussions of inflation rates and the price level, terminology is sometimes used loosely. To clarify, a declining rate of inflation, properly described as disinflation, means that prices are increasing at a progressively slower rate over time. Deflation is defined as a generally falling price level or, equivalently, a negative inflation rate.

**CHART 2**



**CHART 3**





whether to change short-term interest rates may be influenced by arguments on either side of the debate.

### **The Traditional View**

Although inflation has been tame during this expansion, adherents of the traditional view believe that impending inflation still poses a danger to the longevity of the expansion. Evidence cited to support this view includes a very low unemployment rate and rising inflation-adjusted wages. The reasons for the low inflation rate include low energy prices, inexpensive imports, and brisk domestic and international competition. These factors have delayed the onset of inflationary pressures, but they will not remain favorable indefinitely. The underlying dynamics have not changed significantly from those that led to rising inflation during every other recent economic expansion. This is also the view of the Federal Reserve Open Market Committee, as stated in the minutes of its November 12, 1997, meeting:

*The reasons for the relative quiescence of inflation were not fully understood, but they undoubtedly included a number of special factors...the risks remained in the direction of rising price inflation though the extent and timing of that outcome were subject to considerable debate.*

—*Federal Reserve Bulletin, February 1998, p. 104*

### **The Deflation View**

Alternatively, some analysts suggest that a recession may be brought about by a period of deflation. Advocates of this scenario base their view on the unusually low and falling inflation rate in the United States, even after seven years of economic expansion. They also suggest that the national economy of the 1990s is markedly different from that of the 1970s and 1980s. Intense global competition is now the norm and not the exception. Worker productivity growth is believed to be higher than the official data show, meaning that wage growth will not translate as readily as before into price increases. The U.S. economy is more prone to a period of falling prices than at any time in the recent past, especially in view of decreasing rates of inflation and deflationary forces originating from the ongoing Asian financial crisis.

### ***What Does the Evidence Show?***

Because determining economic policy is necessarily a forward-looking process, policymakers look at many

indicators to determine the likely future course of inflation. A brief review of some of the more popular indicators reveals contradictory readings that can support either the inflation or deflation scenario.

### **Wage Growth**

The national unemployment rate is currently very low, signaling that labor markets are near capacity in terms of their ability to create new jobs. The nation's unemployment rate was below 5 percent for nine months during 1997. This rate has been well below what many analysts thought possible without a sharp rise in inflation. As labor market conditions have tightened, wage growth has increased. Since 1993 the rate of growth has been on a steady upward trend, from a low of just over 2 percent to about 4 percent in the first quarter of 1998.

### **Capacity Utilization**

Capacity utilization, the percentage of industrial capacity that is currently in use, has risen since early 1997. Utilization has been around 83 percent since mid-1997, a threshold rate that has traditionally signaled impending inflationary pressures at factories, mines, and utilities.

### **Commodity Prices**

Many commodities, such as metals, crude oil, and unprocessed food products, have exhibited weak prices during the past several months. Between mid-1996 and early 1998, the *Knight-Ridder Commodity Research Board Price Index* fell by more than 15 percent. Key to the decline was a 35 percent decrease in crude oil prices.

### **Finished Goods Prices**

Since the data show that both labor and physical capital are at high rates of utilization, the traditional inflation scenario suggests that there will be increasing price pressures. In the manufacturing sector, such price pressures would likely show up first in the prices of goods as they leave the factory. The price of finished goods rose by only 0.4 percent during 1997, however. On a monthly basis, prices declined during eight months in 1997.

### **Service Sector Prices**

The service sector accounts for a growing portion of all output and employment in the U.S. economy. Labor costs generally account for a much higher percentage of input costs in the service sector than in the manufactur-

ing industries. Additionally, many service industries operate in local markets and are insulated from national or global competition. Consequently, inflation rates in the service sector are generally higher than in the goods sector. Service sector inflation has, however, been on a downward trend, falling from 5.5 percent in 1990 to 3.1 percent in 1997.

### **Import Prices**

Since early 1996, import prices have fallen precipitously. The decline is due in part to the rising value of the dollar, which has reduced the cost of imports. Non-petroleum import prices have fallen by 5 percent since early 1996. Within that group, capital goods prices have decreased by 12 percent over the same period.

One factor that will continue to put downward pressure on prices is the turmoil in Asian markets. Asian exporters are now much more competitive with the rest of the world, following the drop in the value of their currencies. Consequently, U.S. firms that compete with Asian producers will be under greater pressure to cut prices. At the same time, reduced Asian demand for U.S. exports could lead to a ballooning trade deficit and a softening of export prices. In January 1998, for example, the United States reported a record-breaking trade deficit of \$12 billion, caused in part by slower export growth.

From this brief review, it is apparent that signs of impending inflation are at best mixed. Clearly, U.S. labor markets are at or near full effective capacity, and the utilization of factories and physical capital is also very high. There is little evidence that these factors are causing an increase in prices at either the producer or consumer levels.

### ***How Will the Expansion End?***

Although no one can accurately determine when the expansion will end, most analysts are predicting slower economic growth in the second half of 1998. Indicators such as the unemployment rate suggest that growth will be limited by the availability of labor needed to produce an increasing supply of goods and services. Weak or declining output prices in some sectors could act as a further constraint on economic growth.

Among economists, the traditional view that the expansion will end following a rise in inflation and an increase in short-term interest rates appears to be the more prevalent view. Nevertheless, the possibility that the next economic downturn might be triggered by the ripple effects of declining output prices should not be dismissed, especially in light of the potentially adverse and less familiar risks associated with deflation. What is clear for insured institutions is that at this stage of the economic expansion, lending and strategic decisions predicated on an assumption of continued robust economic growth should be carefully scrutinized and considered in light of a possible deterioration of economic conditions.

*Paul C. Bishop, Economist*

### ***Why Might Deflation Be a Concern?***

The most significant difference between the inflation and deflation scenarios is reflected in the response of financial markets. One of the consequences of inflation is that a dollar in the future is of less value than today's dollar. In a deflationary environment, the opposite is true—a dollar in the future will buy more goods and services than a dollar today.

In a deflation scenario, debtors would see the real value of their financial obligations rise and might therefore be hesitant to borrow. A fixed monthly mortgage payment, for example, would be paid back with increasingly valuable dollars over time. Asset values could fall, especially since the purchase of an asset, such as a house, would require inflation-adjusted debt repayments that increase through time. Likewise, consumer credit debt obligations, such as payments on outstanding credit card balances, would become increasingly onerous. For households already experiencing credit problems, the prospect of a period of sustained deflation would worsen their financial position. At the very least, deterioration in credit quality would be expected, along with an increase in the number of business and personal bankruptcies.

## *Trends Affecting the Allowance for Loan and Lease Losses*

- Allowance for loan and lease loss (ALLL) levels are declining relative to total loans.
- Some industry leaders and regulators have expressed concern about the loosening of underwriting standards and greater risk in bank loan portfolios.
- Significant growth in riskier loan types calls attention to the need to scrutinize closely the adequacy of the allowance.

Weakening underwriting standards and significant growth in riskier loan types have increased the risk exposures of some insured institutions to an economic downturn. Meanwhile, the ALLL relative to total loans has declined in recent years. This article provides information on trends in the ALLL over time and by loan type and discusses the factors analysts consider when evaluating the adequacy of the ALLL. Special attention is given to issues related to the volatility of loan losses and the composition of the loan portfolio.

### *Historical Perspective on the Allowance for Loan and Lease Losses*

The nation is currently witnessing one of the longest economic expansions since World War II. It is to be expected that some institutions will reduce their ALLL

coverage during periods of improved economic conditions. However, in the current environment—in which loan availability is abundant, growth is strong, and competition is fierce—some industry leaders and regulators have expressed concern about the loosening of underwriting standards and greater risk in bank loan portfolios. At the same time, the ALLL relative to total loans for commercial banks has declined to the lowest point in a decade (see Chart 1). This allowance ratio has diminished because commercial banks' loan loss provisions have not kept pace with new loan growth. In some cases, banks have determined that their allowances are higher than necessary and have taken negative loan loss provisions, which are credited back to income.

This decline in reserve coverage has been broad based, with the exception of credit card specialists. Commercial banks with concentrations in commercial lending and large multinational banks have significantly reduced the level of reserves to total loans in recent years. Table 1 (next page) shows that since 1993, ALLL ratios at both commercial lending banks and multinational banks have declined 31 percent. Moreover, commercial lending banks with assets exceeding \$10 billion have reduced ALLL ratios by slightly over 37 percent, or 98 basis points, over the same period.

The low level of nonperforming and charged-off loans, coupled with prevailing favorable economic conditions, is doubtless a significant factor in the reduction of

CHART 1

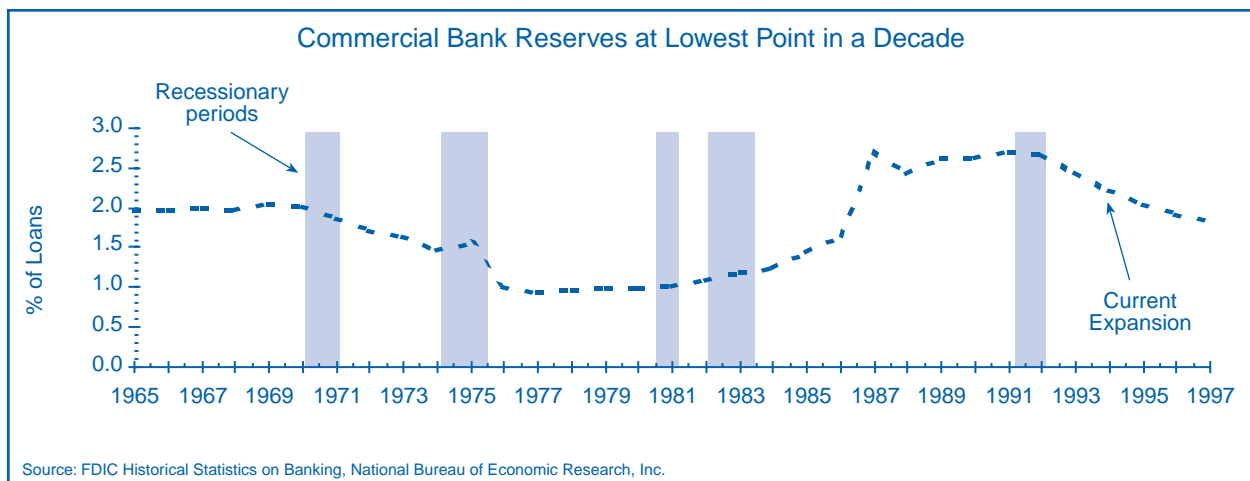


TABLE 1

COMMERCIAL BANK ALLOWANCE FOR LOAN AND LEASE LOSSES TO TOTAL LOANS BY LENDER TYPE							
TYPE OF LENDER	NUMBER OF BANKS	ASSETS (\$BILLIONS)	1997	1996	1995	1994	1993
MULTINATIONAL	11	\$1,383	2.14	2.25	2.55	2.83	3.10
COMMERCIAL	3,207	\$1,915	1.63	1.71	1.90	2.16	2.37
CREDIT CARD	67	\$202	4.21	3.48	3.21	2.89	3.35
MORTGAGE	286	\$120	1.26	1.45	1.45	1.69	1.87
AGRICULTURAL	2,373	\$120	1.53	1.66	1.69	1.75	1.83

DEFINITIONS FOR LENDER TYPES BY ORDER OF PRIORITY: MULTINATIONAL—ASSETS >\$10 BILLION AND FOREIGN ASSETS >25% OF ASSETS; COMMERCIAL—C&I PLUS CRE LOANS >50% OF ASSETS; CREDIT CARD—CREDIT CARD LOANS >50% OF ASSETS; MORTGAGE—1- TO 4-FAMILY MORTGAGES AND MORTGAGE-BACKED SECURITIES >50% OF ASSETS; AGRICULTURAL—AGRICULTURAL PRODUCTION AND AGRICULTURAL REAL-ESTATE LOANS >25% OF TOTAL LOANS.  
SOURCE: BANK CALL REPORTS

ALLL levels. Asset quality indicators such as nonperforming loans and loan loss rates are at historically favorable levels. At year-end 1997, the banking industry's nonperforming loans were just under 1 percent of total loans, the lowest in 13 years. The industry's loan charge-off rates (with the exception of consumer loans) are also at historical lows. (See the *Regional Outlook*, first quarter 1997, for a detailed discussion of consumer loan losses.) However, even with the problems in consumer lending, the banking industry's aggregate loan loss rate is down significantly from levels in the early 1990s (see Chart 2).

As the economic expansion reaches an advanced age, an important question for insured institutions is whether their ALLLs adequately reflect the risks asso-

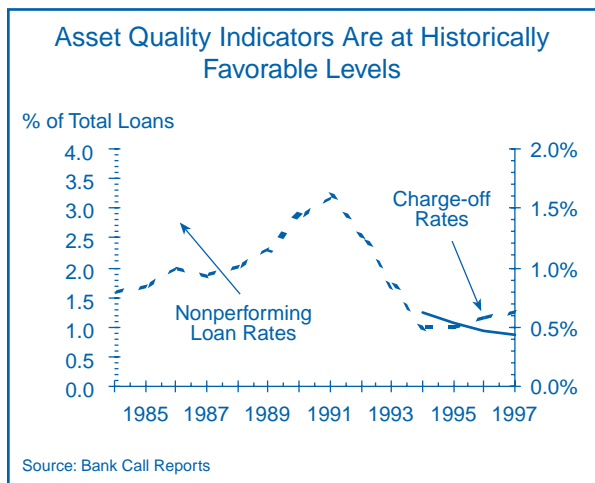
ciated with changing industry practices. Insured institutions could experience strains on profitability and capital if allowance levels are inadequate. Given changing underwriting trends and loan delinquency patterns, a related question is whether reliance on past loss experience in setting the allowance will be an adequate measure for current losses.

***Trends in Underwriting Prompt Regulatory Cautions***

Over the past year, various underwriting and lending practices surveys by the FDIC, the Office of the Comptroller of the Currency (OCC), and the Federal Reserve have noted easing of terms and weakening underwriting standards on loans, especially in commercial loan portfolios. *It is important to note that, in 1997, nearly two-thirds of the commercial banking industry's loan growth was centered in the commercial real estate (CRE) and commercial and industrial (C&I) loan categories* (Chart 3).

In the FDIC's *Report on Underwriting Practices* for April 1997 through September 1997, examiners noted "above-average" risk in current underwriting practices for new loans at almost 10 percent of the 1,233 FDIC-supervised institutions examined. Of the institutions with above-average risk, 12 percent did not adjust pricing for loan risk. Examiners noted that several of the 852 institutions examined that were making business loans had poor underwriting standards, including lack of documentation of the borrower's financial strength

CHART 2



(21 percent) and poor and unpredictable loan repayment sources (14 percent). Also, of the 571 institutions specifically involved in asset-based business lending, 20 percent often failed to monitor collateral. Furthermore, 20 percent of the 398 institutions examined that were actively engaged in construction lending repeatedly failed to consider alternative repayment sources, and 29 percent often funded speculative projects. In contrast, just one year earlier, in the *Report on Underwriting Practices* for April 1996 through September 1996, examiners reported that only 11 percent of the institutions examined that were actively engaged in construction lending often funded speculative projects.

The Federal Reserve's *Senior Loan Officer Opinion Survey* for November 1997 and February 1998 both indicated some easing of commercial business lending terms and standards. Also, the OCC's *1997 Survey of Credit Underwriting Practices* stated that the level of inherent credit risk continues to increase for components of both commercial and consumer loan portfolios. These underwriting trends have resulted in increased risk profiles for some insured institutions, while ALLL ratios at some institutions continue to decline.

In August 1997, the OCC issued an Advisory Letter voicing its concern about declining allowance levels in commercial banks. The OCC cited as primary concerns the apparent increases in credit risk reported by examiners, such as weakening underwriting trends in the syndicated loan market, easing of other commercial underwriting standards, and consumer lending delinquency and charge-off trends. Moreover, the OCC found that some banks were using flawed reserve

methodologies for estimating loan loss rates, including an overreliance on historical loss rates.

***Factors Affecting Adequacy of the ALLL***

In using offsite data to assess allowance adequacy, analysts consider financial ratios such as the allowance to total loans, reserve coverage (allowance to nonperforming loans), loan loss provisions to charge-offs, and loan delinquency levels. These ratios are evaluated against historical benchmarks. At the same time, however, analysts supplement the analysis with consideration of the potential effects of current industry trends. For example, the banking industry is currently witnessing higher than normal losses in consumer lending spurred by increased bankruptcy filings and the migration of loans from current to charged off without intervening delinquencies. An institution that has a sizable consumer loan portfolio may therefore need to attach more weight to recent loan loss data in setting the allowance, since historical trends may not adequately reflect reserving needs.

Insured institutions exhibit different management and portfolio characteristics that significantly influence the level of the allowance. These characteristics include the diversification of a loan portfolio (diversification by borrower, loan type, geography, or industry), the history and recent trends of credit losses, management's practices in the recognition of losses, trends in past-due and nonperforming loans, underwriting practices, and economic conditions.

New techniques continue to be developed to improve the reliability of allowance estimates. Management information systems, which enable the collection of more refined historical data, coupled with the application of statistical techniques, are helping some institutions formulate more statistically reasoned allowance estimates. Loan management tools such as credit scoring systems, risk rating systems, and consideration of economic cycles in the review of historical loss and delinquency data all are aiding bankers in the reserving process. While these new techniques provide more analytically defensible estimates, they do not diminish the role of judgment in assessing ALLL adequacy.

The role of judgment in setting the ALLL is underscored by the volatility of loan losses over time.

**CHART 3**

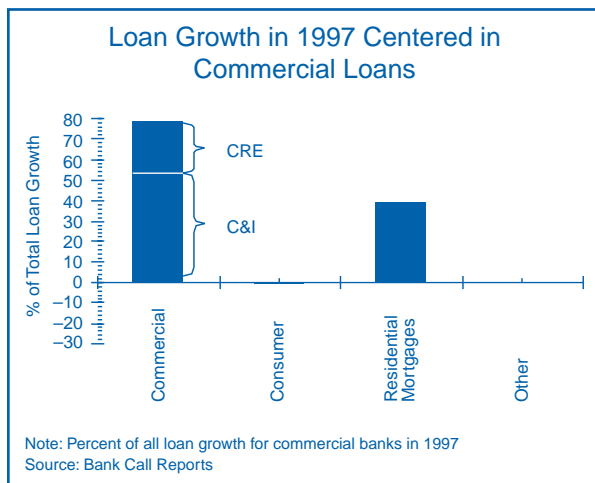
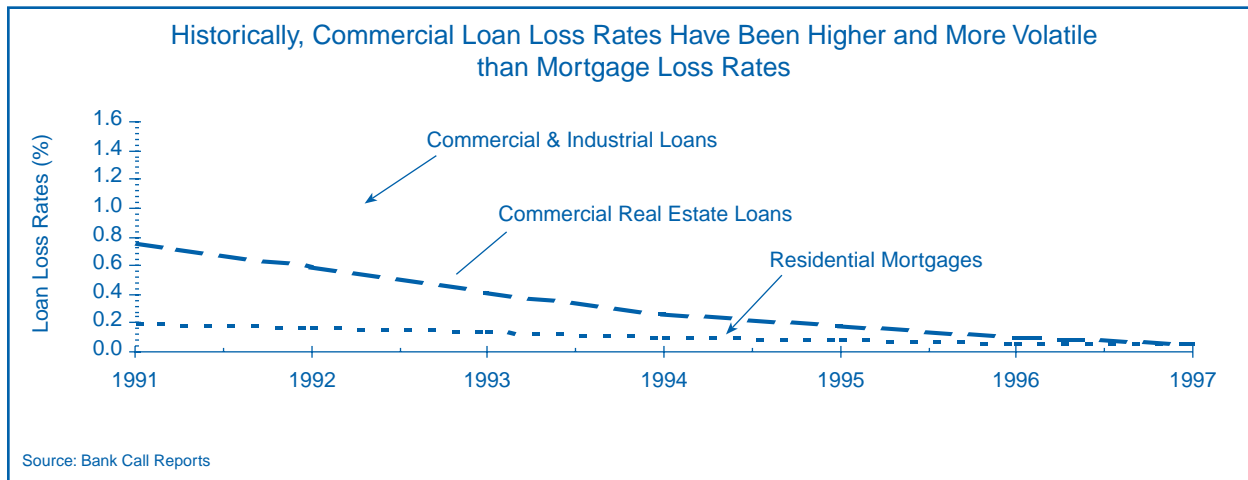




CHART 4



“Volatility” in this context refers to the degree to which loan losses have diverged or might diverge from the long-run averages. Volatility in loan losses can result from changes in the business cycle, local economic events, and major one-time events. For example, a bank relying on a historic average loan loss calculation to derive its reserve level could find itself underreserved if it does not adjust its historical loss rates for deteriorating economic conditions and suddenly incurs greater loan losses than it had anticipated simply on the basis of past performance.

Generally, different types of loans experience varying loan loss rates because of the inherently different risks and varying levels of volatility within each type. Chart 4 shows that commercial loans, such as commercial and industrial loans and commercial real estate, historically have had greater losses than residential loans. Furthermore, the loss rates on commercial loans have not only been higher, they have been more volatile over the years, while average losses on mortgage loans have varied little.

Volatility in loan losses is determined not only by economic events but also by banks’ willingness to take risk. Banks that adopt more liberal underwriting policies and high loan growth objectives may experience greater loan default risk and greater volatility in loan loss rates than suggested by their own past experience. For example, Chart 4 shows that mortgage lending has had low and stable loss rates on average. The recent growth in subprime and high loan-to-value mortgage lending, however, may result in increased volatility and losses for some lenders going forward.

All of these factors suggest that ALLLs would be expected to vary considerably both over time and across loan types. Table 2 shows that this has been the case. The ALLL is reported as a single line item on the Call Report. This makes it difficult to estimate how much of the ALLL is attributable to a particular loan type or to compare allowance levels for banks with significantly different loan portfolios. Table 2 shows the results of a statistical regression estimation of commercial bank allowance allocations across the various loan types for

TABLE 2

ALLL ALLOCATIONS HAVE VARIED OVER TIME AND BY LOAN TYPE (COMMERCIAL BANKS UNDER \$1 BILLION)*							
LOAN TYPE	1997 (%)	1996 (%)	1995 (%)	1994 (%)	1993 (%)	1992 (%)	1991 (%)
C&I	1.71	1.85	1.87	2.06	2.14	2.29	2.45
CRE	1.44	1.54	1.77	1.83	1.97	2.02	1.99
MORTGAGES	0.92	1.00	1.05	1.19	1.22	1.07	0.91
CREDIT CARDS	4.47	4.42	3.32	3.11	3.20	3.29	3.59

\* ESTIMATED REGRESSION RESULTS  
SOURCE: BANK CALL REPORTS

1991 through 1997 for commercial banks with under \$1 billion in assets. Not surprisingly, CRE and C&I loans received relatively higher allowance allocations than residential mortgage loans, indicating that banks saw greater risk in these loan types. Also, credit card loans consistently received higher allocations than the other loan categories, and the allocations have increased in recent years owing to the increased delinquencies and charge-offs in this area.

### ***Conclusions***

The adequacy of the ALLL is measured not only relative to historical loan loss experience but also relative to current conditions that may cause losses to differ from

past experience. Increased losses could result from adverse economic developments, from changes in banks' appetite for taking risk, or both. In this regard, reported weakening in underwriting standards is increasing some banks' risk exposure to an economic downturn. Institutions with high concentrations in riskier loans, significant growth in riskier loans, or weaknesses in underwriting may be most at risk. Especially for such institutions, the adequacy of the ALLL and its methodologies merits close scrutiny.



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## Memphis Region's Growth Recovers but Lags the Nation

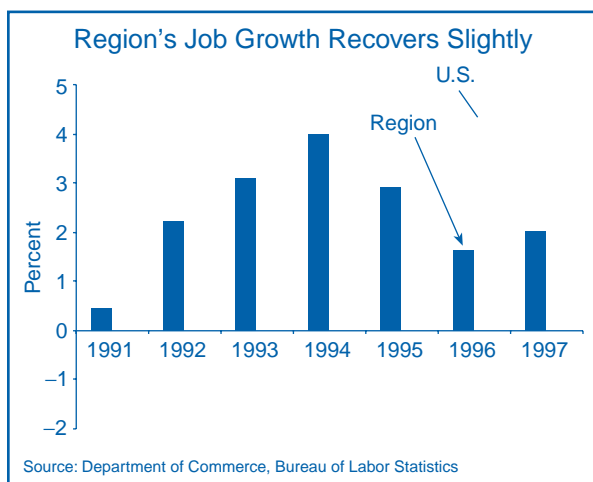
- Growth in the Memphis Region, driven by oil-related activity, picked up in the fourth quarter of 1997.
- The importance of the oil and gas industry to the Region has declined but remains highly concentrated in Louisiana.
- Areas with joint dependence on oil and agriculture are more at risk this year from commodity price movements.

Last year, the Memphis Region's employment growth reflected the national trend, increasing over the prior year despite tight labor markets and slowing population growth. While most analysts project growth, the high concentration of mining (which includes oil and gas extraction) and agricultural production links the Region's economy to the risks associated with commodity prices.

### Regional Roundup

Growth in the Memphis region accelerated in 1997 but remains below the national rate (see Chart 1). Payroll employment grew 2.0 percent in 1997, up from the previous year but still below the 2.6 percent recorded for the nation. Strength in construction, mining, and services was offset by weakness in durable manufacturing, which includes textiles.

CHART 1



Of the Region's 436 counties, 90 had unemployment rates in excess of 7.5 percent, reflecting a difference in performance between urban and rural areas (see Chart 2, next page). The Region's employment reports have been unusually volatile relative to the nation, particularly with regard to construction jobs and housing starts.

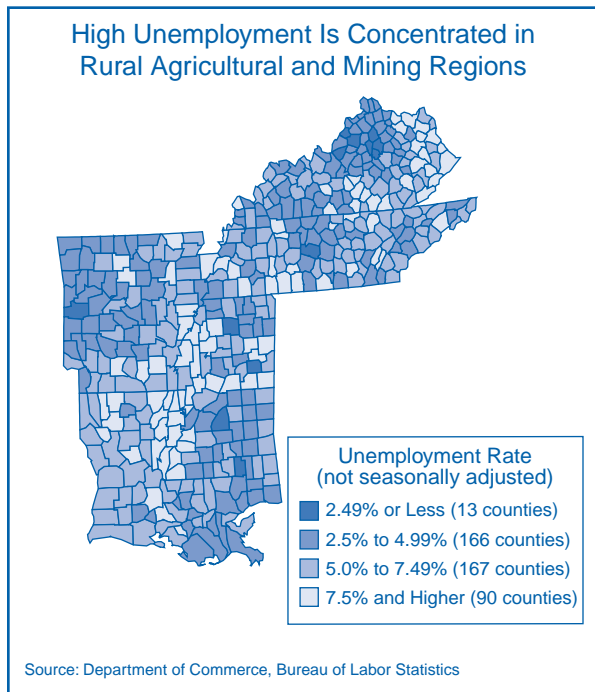
### Weaker Agricultural Conditions Anticipated in 1998

The agricultural outlook for the Region is being affected by both short- and long-term factors. In the short term, the combined impacts of weaker Asian demand and competition from strong harvests in South America have weakened prices of some commodities this year (e.g., soybeans). Moreover, agricultural exports projected at \$56 billion this year are down 2 percent from 1997, and this is the second year of decline since the record level set in 1996.<sup>1</sup> As a result, cash receipts to U.S. farmers are projected at \$198 billion in 1998, down from \$201.5 billion in 1997. The decline would have been bigger if USDA had not provided \$2.1 billion in export credit guarantees for the distressed Asian countries.

In the longer term, the phaseout of agricultural price supports by 2002 mandated by the Federal Agriculture Improvement and Reform Act (FAIR) of 1996 may increase the volatility of agricultural prices and change the allocation of crops planted.

<sup>1</sup> All agricultural projections are from the U.S. Department of Agriculture (USDA), Agricultural Outlook Forum held February 1998 in Washington, D.C.

CHART 2



**Crops Affected**

This is the third year of decline in **cotton** acreage and, because current market prices are less than the break-even point of \$.70 per pound for many producers, most mid-south cotton farmers are planting only their best fields this spring. (In **Mississippi**, last year was the first time in 13 years that growers did not plant more than a million acres of cotton.) This situation is compounded by FAIR, which reduces subsidies and allows more flexibility in planting.

More fields are likely to be planted with **corn** as a consequence of greater planting flexibility. As a result, USDA expects further softening of corn prices. **Soybean** prices are projected by USDA to decline 10 to 15 percent compared with year-ago levels, while stocks may double as a result of increased competition from South America.

In **Kentucky**, there is concern among burley **tobacco** farmers about eventual tobacco legislation. FAIR excluded tobacco, but Congress may end the federal program that imposes quotas on tobacco producers and creates a floor price. Kentucky farmers produce 71 percent of the Region's burley tobacco crop, and tobacco is by far the most profitable use of their land. Legislation would add pressure to an industry that has been experiencing a 2 percent annual decline in U.S. tobacco con-

sumption since 1981 and would likely result in a significant reduction in the number of farmers, most of whom harvest five or fewer acres of tobacco in addition to other crops.

**Livestock Affected**

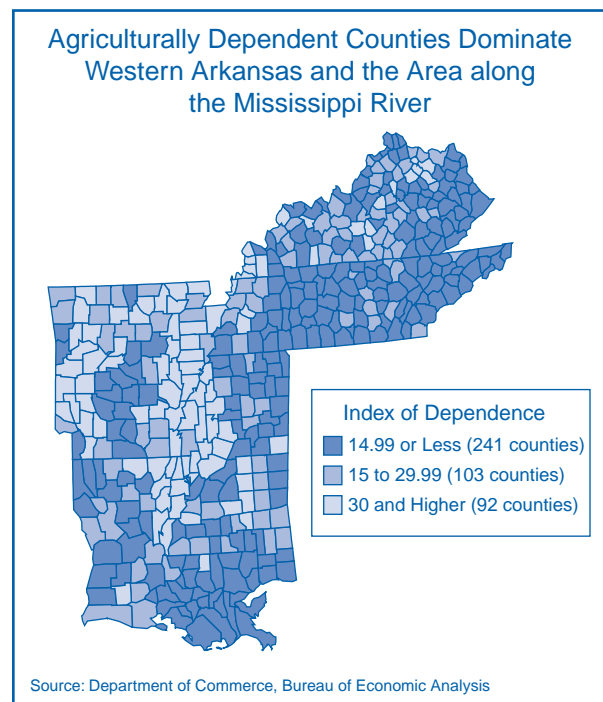
Livestock is less important to the Region than to the nation as a whole. However, the impact of expected hog price reductions of as much as 23 percent and broiler price reductions of 5 percent likely will contribute to lower farm cash receipts.

**Areas Most Affected**

By state, agriculture accounted for 4 percent of gross state product (GSP) in **Arkansas** in 1994 (the most recent comprehensive data), making Arkansas by far the most agriculture-dependent state in the Region. In 1997, the state crop harvest was valued at \$2.53 billion, with rice, cotton, soybeans, and wheat accounting for 87 percent of the total value of state production.

By agricultural region, the area along the Mississippi and central western Arkansas have the heaviest concentrations of agriculture. An index that calculates farm cash receipts as a proportion of wages and salaries for the region is shown in Chart 3. The impact of the

CHART 3



increased flexibility in crop selection on farm income will be felt by many businesses, particularly those in areas with the highest reliance on agriculture.

**Implications:** FAIR ends transition payments in 2002, and although flexibility in planting may tend in the longer run to smooth some short-term price volatility, there still may be more price risk associated with agriculture. According to *Farm Futures Magazine*, only 10 to 15 percent of grain farmers use futures strategies. The incentives to use these strategies are likely to increase as farmers become more exposed to market prices, and sellers of hedging devices may find a novice audience for their products. Moreover, any government compensation for the loss in value of tobacco quotas would be a one-time payment, not reflected in the capitalized value of the land used in growing once the payment is made. This situation may pose some additional risk to farm loans, as the value of land used as collateral may be compromised.

### *Oil Remains a Highly Significant but Declining Influence on the Region's Economy*

Oil price weakness in the first quarter of 1998 is a reminder of the Region's dependence on international markets, and in particular on the ability of the Organization of Petroleum Exporting Countries (OPEC) to affect prices through production quotas. The recent weakness in oil prices has been attributed to a combination of the following:

- The Asian crisis—about half the recent growth in world oil demand has been from Asia.
- Iraq's resumption of crude oil exports (the United Nations oil for food program).
- Milder than usual winter temperatures in the United States, limiting demand for heating oil.
- Overproduction by the 11-nation OPEC cartel. (In December 1997, OPEC increased its quotas 10 percent to 27.5 billion barrels a day, just as the news of the Asian crisis was breaking.)

The Memphis Region accounts for 7 percent of national crude oil production. The bulk (5.7 percent) is produced in **Louisiana**, which ranks fifth nationally. The state ranks second nationally in natural gas production,

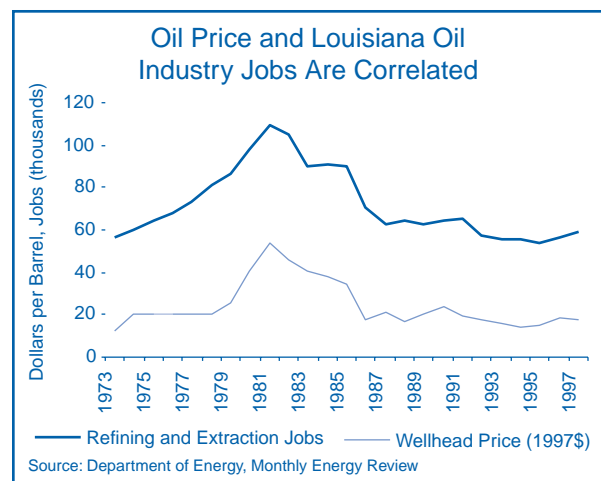
most of it offshore. As depicted in Chart 4, the number of oil and gas workers peaked at 113.7 thousand in 1981 before falling below 60 thousand in 1995. There were 61.7 thousand employed in 1997. The 1981 peak represented 5.4 percent of employment and 34 percent of GSP. In 1994 (the most recent value data available), it accounted for only 12.7 percent of GSP.

Nevertheless, oil and gas remain an important component of the Louisiana economy. In fact, jobs in this sector tend to have an above-average multiplier effect on the local economy, because weekly wages exceed the average manufacturing wage. Refining jobs, for example, pay 63 percent more than the average manufacturing job. Moreover, the oil and gas industry pays over \$840 million in direct taxes, fees, and royalties to the state, accounting for 14 percent of state revenues. Parish severance taxes were \$389.5 million in 1996–97, up 13.1 percent from the previous year. In terms of sensitivity, it has been estimated that a \$1 drop in the price costs the state of Louisiana about \$22 million in lower tax payments.

### **Refining Capacity Far Exceeds Local Production**

The 19 Louisiana oil refineries rank second in national refining capacity and account for 15 percent of the national total refined output. There is significant capacity in excess of local production: If restricted to Louisiana crude, the refineries could operate for only two months of the year. Employment in this sector, which accounts for about one-sixth of the state's energy jobs, is less variable than drilling, because of flexibility to purchase supplies from many sources. Activity is concentrated in Calcasieu, East Baton Rouge, St. John the Baptist, and Orleans parishes.

**CHART 4**





### Production Is Concentrated in the South

State crude oil production is split into three reporting areas: north (17 percent), south onshore (60 percent), and south offshore (23 percent). In addition, condensate (liquid hydrocarbons recovered by surface separators from natural gas) and natural gas production are concentrated in the south Louisiana onshore area. Because of stable production, condensate and natural gas are rising in relative importance as crude declines. An indication of the level of activity for the parishes in Louisiana can be obtained from the severance tax receipts derived from oil and gas, as shown in Chart 5. The tax on oil is 12.5 percent of value; the tax on natural gas (adjusted annually) was recently 10.1 cents per thousand cubic feet.

At least 54 of Louisiana's 64 parishes have energy-related jobs; Lafayette Parish has over 11,000 workers employed in the energy sector. Significant income in Jefferson and Lafayette parishes derives from offshore operations beyond the three-mile limit (not subject to severance and royalty payments). Statewide, vendors that support these operations account for 4.3 percent of all Louisiana business establishments.

### Technology Reduces the Incidence of Dry Wells

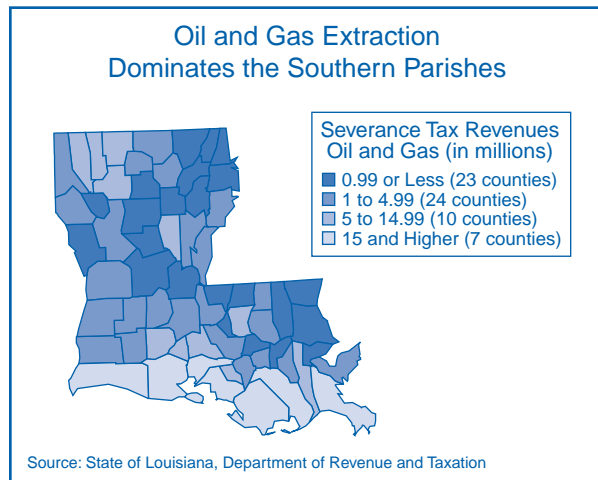
Technology has reduced the number of exploration wells needed in the Gulf of Mexico. Only one in ten drillings used to be productive, but this number, according to industry sources, has increased. Also, better horizontal drilling methods mean that fewer wells are required to exploit a productive zone. Moreover, because the major drilling companies have concentrated on bigger finds in the Gulf and overseas and sold their seismic records from the 1960s and 1970s, opportunities exist for smaller companies to use new computer technology to enhance and exploit those records.

### Outlook

Most independent oil companies have a break-even point in the \$14- to \$16-per-barrel range. The larger, better financed companies may operate longer at a loss, provided they cover a portion of their variable costs of production. It is important to note that the peak in employment and drilling activity occurred more than a year after oil prices declined in 1982. By 1986, the one-year lag between crude prices and oil-rig count and employment had disappeared.

This fact leads to the inference that drilling response to crude prices may now be reduced to a matter of months. The shorter response time is likely to ripple through to

CHART 5



businesses, including insured institutions, in the form of quick changes in the demand for goods, services, and loans, as well as changes in the financial capacity of customers.

In the 1973 to 1997 period, domestic wellhead prices had a median value of \$20.08 a barrel *in 1997 dollars*, meaning that prices have exceeded this level only half of the time. If this period is a guide (price controls over much of this period muddy the view), persistence of the current mid-teen-per-barrel prices could lead to an uncertain future for companies that have structured their operations around prices averaging \$20 a barrel.

**Implications:** Today, a smaller proportion of the economy would be affected by significant reversals in the oil industry than in 1981. However, the extractive sector is still a large portion of the economy and remains highly concentrated in the coastal parishes. In addition, the dependence of parish finances on oil and gas severance tax payments is still significant. Combining the information on oil, gas, and agriculture indicates that the risk outlook for parishes that depend on these industries is significant. Moreover, insured institutions may have both direct lending exposure to these sectors and indirect exposure arising from the ripple effects these sectors have on local economies. As indicated in *Current Regional Banking Conditions*, this issue, there is some evidence that banks with significant ties to oil-dependent parishes have tended to have a more defensive posture in the form of higher reserve ratios than typical institutions in Louisiana.

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## Current Regional Banking Conditions

- Banks and thrifts in the Memphis Region reported strong aggregate results for 1997.
- Lower rates and a flat yield curve could complicate interest rate risk management and pressure net interest margins, particularly for mortgage lenders.
- The Region's agricultural lenders are generally well positioned to deal with potential declines in crop prices in 1998.
- Insured institutions in oil- and gas-producing areas could see local economic slowdowns if low oil prices persist.

### Overview for 1997

In aggregate, Memphis Region bank and thrifts continued to be favorably influenced by the generally positive economic conditions in the Region during 1997, as described in *Memphis Region's Growth Recovers but Lags the Nation*, in this issue. While the Region's economy lagged the nation in some areas, overall conditions helped maintain strong financial performance in the banking industry. During the year, Memphis Region institutions:

- increased aggregate leverage capital to 8.9 percent of average assets;
- maintained low levels of nonperforming assets;
- improved the aggregate return on assets to 1.29 percent; and
- increased the aggregate net interest margin to 4.40 percent.

While the aggregate net interest margin improved, this increase was primarily driven by the results of larger institutions. The average net interest margin for the Region's banks and thrifts was unchanged for the year at 4.47 percent. One possible reason for the apparent flatness in average bank and thrift net interest margins is the changing shape of the yield curve discussed below.

One bank in **Louisiana** failed during the fourth quarter of 1997, the first failure in the Region since 1992 and the first in the nation since August 1996. While this bank was an agricultural lender, factors other than local

agricultural conditions contributed to its failure. The financial condition of other banks specializing in agriculture remains strong. The performance of the Region's agricultural lenders and current lending trends are discussed later in this article.

### Interest Rate Changes May Affect Mortgage Lenders

The term structure of U.S. Treasury security yields, commonly referred to as the yield curve, flattened during 1997. As shown in Chart 1, rates pivoted at approximately the 2-year maturity, with longer maturity rates falling and shorter ones rising. The spread between the 3-month U.S. Treasury bill and 30-year U.S. Treasury bond compressed from 151 basis points at year-end 1996 to 69 basis points by year-end 1997. In addition to important economic implications, lower long-term rates

CHART 1

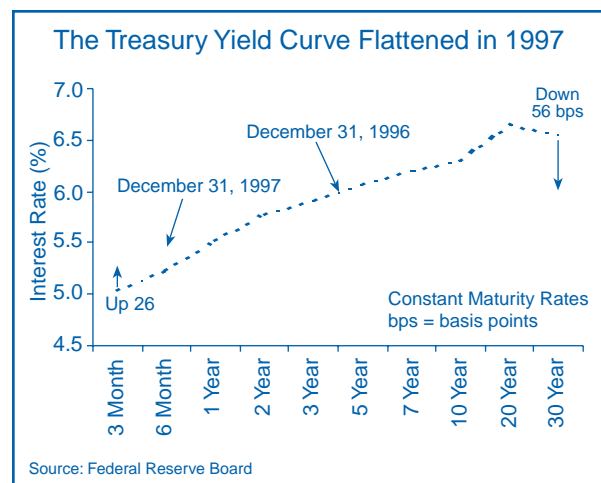


CHART 2

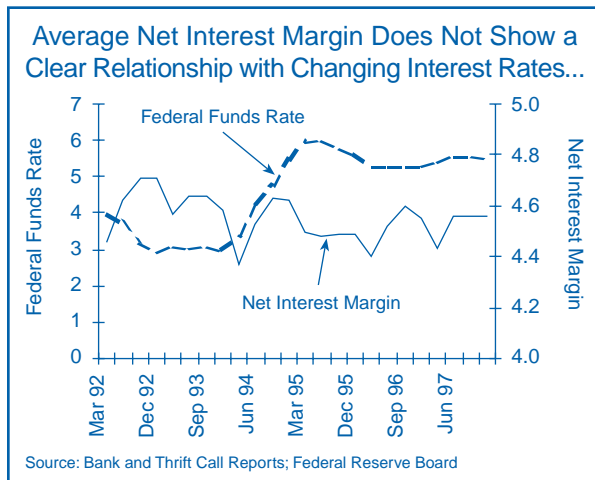
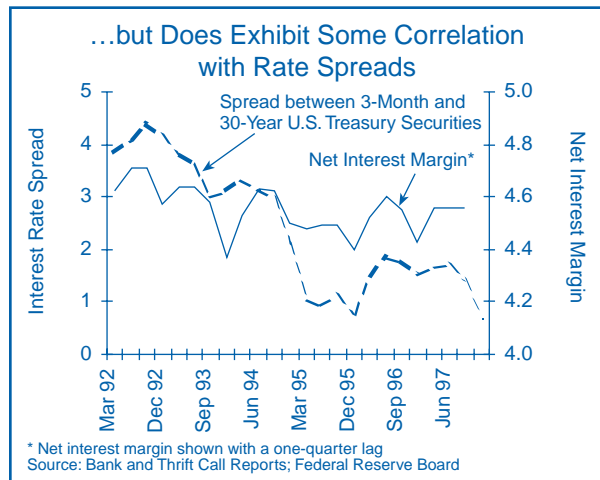


CHART 3



and a flat yield curve may have more direct consequences for banks and thrifts.

While declining interest rates are generally viewed as having a positive effect on bank and thrift industry earnings, many institutions may feel pressure on their net interest margins in the current rate environment. Adverse consequences of the current rate environment could range from reinvesting assets at lower yields, such as refinanced mortgage loans or callable securities, to replacing entire segments of the balance sheet, such as adjustable rate mortgages (ARMs) should demand for the product continue to decline.

Institutions most likely to experience these consequences are those with substantial mortgage-related assets.<sup>1</sup> The decline in long-term interest rates has led to increased prepayments on outstanding mortgages. Banks with substantial mortgage-related assets may see a flood of prepayments, which they will reinvest at lower rates of return, assuming they reinvest in similar product types. Also, the few banks and thrifts in the Region that service mortgage loans have seen the value of their servicing rights erode as prepayments have accelerated.

The level of exposure of Regional banks to prepayment risks is little changed in recent years. While banks have seen considerable growth in residential lending, decreases in mortgage-backed securities have largely offset this growth. The average ratio of mortgage-relat-

ed assets to total assets for the Region's banks has increased modestly from 24.3 percent in 1995 to 25 percent at year-end 1997. Traditionally, bank and thrift residential loan portfolios have been perceived to exhibit a lower level of prepayment volatility than most mortgage-backed security products, since institution portfolios often include a high proportion of short-term balloon notes and adjustable rate loans. As discussed below, the perceived lower volatility associated with balloon notes and ARMs may be somewhat misleading in the current rate environment.

In addition to any potential effects from a general decline in interest rates, a flattening of the yield curve generally is not considered conducive to financial intermediaries as the spread between short-maturity liabilities, often the primary funding sources for institutions, and longer-maturity loans and securities is reduced. Also, the shape of the curve may have a pronounced effect on certain investment products such as structured notes and mismatched floating-rate mortgage derivatives or on customer demand for certain types of products such as ARMs.

As shown in Charts 2 and 3, average net interest margins for the Region's banks and thrifts do not seem to be as closely related to the level of interest rates (represented in Chart 2 by the Federal Funds rate) as to the spread between short- and long-term rates.<sup>2</sup> If the pattern shown in Chart 3 continues, net interest margins would be expected to contract in response to the sharp

<sup>1</sup> For purposes of this article, mortgage-related assets are considered to be first-lien one- to four-family residential real estate loans, mortgage-backed securities, and mortgage servicing rights.

<sup>2</sup> The interest rate spread shown in Chart 2 is the difference between rates on the 30-year U.S. Treasury bond and the three-month U.S. Treasury bill.

declines in spreads in the second half of 1997. In addition to interest rate changes, many other factors affected bank and thrift net interest margins during the period shown, including increased capital levels, higher volumes of earning assets, an asset mix with heavier weighting in loans, and increased competitive pressures.

Beyond the potential impact of narrowing interest rate spreads on net interest margins, the flatness of the yield curve could have an additional effect on institution risk profiles. With the current low level of interest rates and flat yield curve, fewer new and existing borrowers are choosing ARMs and balloon mortgages. Federal Home Loan Mortgage Corporation data show that 92 percent of former ARM holders refinanced their conventional mortgages with long-term fixed-rate mortgages during the fourth quarter of 1997, compared with 57 percent during the refinancing wave in 1993. Similarly, the share of former balloon mortgage holders transitioning into long-term fixed-rate loans is up dramatically.

Many banks and thrifts have traditionally relied on ARMs and balloon notes as a way to participate in the residential loan market while limiting timing mismatches between loans and deposits. As the Region's loan portfolios have grown in recent years, so have residential loan volumes and ARMs. As of December 31, 1997, adjustable mortgages represented an average of 11.9 percent of total loans at Memphis Region banks. By comparison, the average share of ARM loans among banks nationwide was 8.3 percent. As shown in Table 1, **Kentucky** and **Tennessee** banks reported significantly higher ARM holdings than the rest of the Region and most of the nation.

ARM balances averaged almost 12 percent of total loans among Memphis Region banks, but many institutions reported significantly higher levels. At year-end 1997, 174 banks (slightly less than 18 percent of banks in the Region) held ARM loans equivalent to 25 percent or more of total loans. Total assets in the group were in excess of \$21 billion (9 percent of total banking assets in the Region) as of December 31, 1997. These banks are heavily concentrated in Kentucky (95 banks, or 35 percent of banks in the state) and Tennessee (45 banks, or 19 percent of banks in the state). Other geographic pockets of banks with high ARM levels were reported in northwest **Arkansas** and south central Louisiana.

Although the mortgage industry nationwide has already begun to see considerable reductions in the demand for ARMs, Memphis Region banks have seen only a limited reduction in this loan type compared with overall residential lending. The aggregate share of ARMs to first-lien, one- to four-family residential real estate loans was down slightly, from 35.0 percent on June 30, 1997, to 34.6 percent on December 31, 1997.

**Implications:** While certain types of refinanced mortgages may be replaced by new product origination, banks and thrifts could see ARM portfolios shrink as rising prepayments overwhelm limited current production. Soon, institutions could face the prospect of replacing ARMs with commercial or consumer loans, which traditionally have involved higher credit risk, or longer term fixed-rate residential loans, which have greater interest rate risk.

Bankers and examiners should consider the significance of an institution's ARM and balloon note holdings and the potential for such mortgages to be refinanced. This potential may be affected by numerous factors, including the age and coupon rates of the mortgages, the sophistication of the borrowers, and the competition in the area. Also, funding strategies may need to be reviewed to ensure that any potential structural changes related to increased asset prepayment levels are considered adequately.

One major determinant of risks posed by the current interest rate environment will be its duration. The longer low and flat interest rates persist, the more assets will reset to lower rates and the more borrowers will shift out of adjustable rate products. The potential for more serious margin contraction during any subsequent period of rising interest rates increases with the duration of the current environment. Even if the flatness of the curve is

**TABLE 1**

AVERAGE ADJUSTABLE RATE MORTGAGE HOLDINGS OF BANKS VARY BY STATE IN THE REGION		
STATE	% OF TOTAL LOANS	STATE RANK
ARKANSAS	7.2	24
KENTUCKY	19.9	6
LOUISIANA	6.5	28
MISSISSIPPI	5.7	34
TENNESSEE	13.7	13

SOURCE: BANK CALL REPORTS

TABLE 2

AGRICULTURAL LOAN TOTALS IN MEMPHIS REGION ARE RISING, BUT CONCENTRATIONS ARE DOWN			
	SEP-95	SEP-96	SEP-97
<b>ALL BANKS</b>			
AG LOANS (BILLIONS)	\$5.7	\$5.9	\$6.6
% OF TOTAL LOANS	4.7	4.3	4.1
<b>BANKS WITH AG CONCENTRATIONS</b>			
NUMBER OF BANKS	173	148	135
AG LOANS AS % OF TOTAL LOANS	38.7	37.7	36.8
SOURCE: BANK CALL REPORTS			

of short duration, bankers and examiners could take the opportunity to consider the effectiveness of policies, procedures, and planning in addressing risks posed by nonparallel interest rate changes.

### *Mixed Signals Are Present in Agricultural Lending*

The Region's agricultural lenders have performed well since the passage of the 1996 Federal Agricultural Improvement and Reform Act (FAIR). While the share of agricultural loans to total loans has declined during this time, many rural economies and banks remain highly dependent on the sector. With lower commodity prices projected and weather always uncertain, mid-south farmers and agricultural lenders could face a tougher year in 1998 than in the two previous years.

The volume of agricultural loans has continued to increase among banks headquartered in the Memphis Region, rising from \$5.7 billion as of September 30, 1995, to \$6.6 billion as of September 30, 1997. (Third-quarter loan totals rather than year-end totals were used, since this reporting period more closely corresponds to peak seasonal borrowings.) Despite the increased loan volume, the agricultural sector's share of total loans in the Region has declined, as shown in Table 2.

The number of banks with loan concentrations in agriculture<sup>3</sup> and the level of agricultural loan holdings in these banks have declined as well. The declining concentrations in agricultural credits can be attributed to

<sup>3</sup> Agricultural concentration is defined in this article as 25 percent of total loans in agricultural production and agricultural real estate loans.

overall growth in other loan categories, competition for loans with equipment financing companies and the Farm Credit System, and the acquisition of agriculturally dependent banks by more diversified institutions. Between September 1995 and September 1997, 14 of the original 173 banks with a concentration in agriculture were acquired by other institutions. Total assets of banks in the group were \$8.7 billion, or 3.7 percent of the Region's total banking assets, as of December 31, 1997.

Banks with direct concentrations in agricultural lending as of September 30, 1997, are clustered along the Mississippi River. Agricultural credits of banks in these areas are predominately crop production and farm equipment loans. In other areas, such as Kentucky, loans on farmland make up a larger share of the agriculture portfolio.

For the Region, loans on farmland grew faster than production and equipment loans over the past two years and made up the largest share of agricultural loans in 1997. One factor in this shift in loan type has been the relatively strong performance of many farmers in the Region. Crop producers have needed less annual funding thanks to higher cash receipts from strong production levels and high prices.

However, among banks showing agricultural loan concentrations, production and equipment loans are still predominant and growing at 61 percent of total agricultural loans. By comparison, banks actively making agricultural loans, but with less than 25 percent of total loans in such credits, report farmland loans as a dominant and increasing share. This pattern may indicate that crop production lending is becoming even more specialized.



Since the passage of FAIR, the overall financial condition of agricultural lenders has become somewhat stronger, as shown in Table 3. In 1997, almost two-thirds of the group had returns on assets (ROAs) above the Region's aggregate ROA, and three-fourths of the group had leverage capital ratios above the Region's aggregate level. Only three banks in the group reported losses in 1997.

The generally positive performance of agricultural-concentrated lenders is not surprising, given the favorable conditions affecting most of the Region's farmers over the past two years. During this time, many crop producers benefited from high crop prices, strong production, and increased government payments.

FAIR eliminated the traditional system of deficiency payments targeted to minimum price levels and provided for a system of fixed transition payments, which are reduced annually and expire in 2002. These transition payments were decoupled from current production to encourage farmers to become more responsive to market conditions. The recent shift by many of the Region's farmers from planting cotton to more profitable crops such as soybeans provides an example of this increased responsiveness to prices.

**FDIC Reports on Underwriting Practices** prepared during 1997 cited examiner concern over transition payments more often than any other issue. However, only a limited number of respondents in the Memphis Region reported any direct underwriting concerns. A few respondents in each state reported concern over loans based on unrealistic cash flows. Only Louisiana and Tennessee had any responses exhibiting concern over unrealistic or escalating land values, and the number of such responses was limited.

**Implications:** The strong performance by farmers and agricultural lenders over the past two years may have given a false picture of how well producers have adjusted to FAIR's provisions. Short-term risks resulting from increased worldwide production of many crops coupled with reduced Asian demand, as well as long-term competitive risks facing the agricultural sector, point to lower prices for many of the Region's commodities in 1998. Farmers' performance under a scenario of lower commodity prices could provide better insight into the change in agricultural lending risks resulting from FAIR.

### **Banks Operating in Oil and Gas Areas**

Low prices for crude oil in the fourth quarter of 1997 and first quarter of 1998 raise some concern for the oil and gas sector in Louisiana. While the degree of direct lending by area banks to oil and gas producers may be limited, many local economies depend on the oil and gas sector, and any employment downturn in the sector could affect financial institutions adversely. Some banks in south-central Louisiana already are experiencing distressed local economic conditions resulting from textile industry job losses, although the effects have been somewhat muted by previously strong energy sector and construction employment growth in the area.

Banks headquartered in major oil- and gas-producing areas of Louisiana<sup>4</sup> have shown generally strong performance in recent years. There are 46 banks in these areas, with total assets of \$6.9 billion, or 2.9 percent of the Region's total banking assets as of December 31,

<sup>4</sup> Major producing areas are defined here as parishes with severance tax revenue of \$5 million or more in 1996.

TABLE 3

MEMPHIS REGION BANKS WITH AGRICULTURAL CONCENTRATIONS GENERALLY EXHIBIT STRONG FINANCIAL CONDITION (AS OF DECEMBER 31 EACH YEAR)			
	1995	1996	1997
LEVERAGE CAPITAL	10.78	10.98	11.40
RETURN ON ASSETS	1.23	1.27	1.23
ALLOWANCE/TOTAL LOANS	1.76	1.79	1.66
NONCURRENT AG LOANS/AG LOANS	0.61	0.68	0.40
AG LOANS LOSSES/LOANS	0.24	0.40	0.30

SOURCE: BANK CALL REPORTS

1997. The group posted earnings in line with the state and Region, with a 1.24 percent ROA in 1997, and maintained high leverage capital and allowance for loan loss levels at 11.6 and 1.9 percent, respectively, as of December 31, 1997. These higher capital and allowance levels appear appropriate, given the higher employment variability shown in Chart 2 of *Memphis Region's Growth Recovers but Lags the Nation*. While these

banks have shown positive trends in noncurrent loan levels and loan loss rates in recent years, they still report higher levels for both asset quality indicators than state or Regional aggregate levels.

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