

# Agricultural Income and Finance Annual Lender Issue

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This report is the annual lender issue in the AIS series. It contains a comprehensive analysis of the performance of the four major categories of institutional lenders serving the farm sector—commercial banks, Farm Credit System (FCS), Farm Service Agency (FSA), and life insurance companies—and their interaction with the farm sector, credit demand and supply, farm debt trends, interest rates, and related topics.

## Farm Credit Use Expansion To Continue

Net cash farm income is forecast to rise 10.8 percent in 2003. Despite lower farm income in 2002 and weather problems in some regions, widespread effects on farm lenders have yet to materialize. All major lender groups, including the FSA, the government lender with a portfolio of higher-risk loans, continue to show low levels of delinquencies and other loan problems. The stability of their farm loan portfolios is benefiting from large government payments and sizable amounts of off-farm income. Farmers received an annual average of \$8.8 billion in direct payments during 1990-97, but this increased to an annual average of \$15.1 billion for 1998-2003, helping reduce demand for credit and maintain farmland values.

Total farm business debt at yearend 2002 is estimated at \$201.9 billion, up 5.1 percent after increasing 4.3 percent in 2001. The expected moderate growth of 3.9 percent in 2003 will be the 11th consecutive annual increase. It last decreased in 1992 and jumped 45.2 percent through 2002. ERS analysis indicates that overall farmer use of debt repayment capacity is projected to fall to 68.7 percent in 2003, down from 72.7 in 2002. This measure stood at 58 percent in 2001 and 60.3 percent in 2000.

Agricultural banks remained very profitable through the middle of 2002. An annualized mid-2002 rate of return on assets (ROA) of 1.3 percent is a bit higher than it has typically been since 1992. Two agricultural banks failed in 2002, and only five failed during 1994-2001.

The FCS financial condition was solid going into 2003. Loan volume grew briskly again in 2002, with overall volume up 6 percent in the first 9 months of 2002. Loan quality remains high, but some weakening appeared for certain loan types. Profits and at-risk capital continued to grow, fueled by strong portfolio quality and loan growth.

Demand for FSA farm ownership loan guarantees rose 29 percent and farm operating loan guarantees rose 6 percent in fiscal 2002. Despite widespread weather-related disasters in 2001 and 2002, demand for emergency loans dropped close to a near 30-year low. The quality of direct loans continued to improve, but some deterioration in guaranteed loan portfolio quality occurred.

Contents  
Summary  
General Economy  
Lender Overview  
Debt Repayment Capacity  
Agricultural Interest Rates  
Agricultural Banks  
Farm Credit System  
Life Insurance Companies  
Farm Service Agency  
Farmer Mac  
Farm Debt  
Off-Farm Income  
List of Tables  
Appendix Tables

### Contacts

Briefing Room  
Lenders and financial markets

Approved by the  
World Agricultural  
Outlook Board.

### ***Demand for Farm Credit Increases, But Supply Remains Adequate***

Financial institutions serving agriculture met the financial challenge presented by lower farm income in 2002 and are expected to make gains in 2003 as farm income rebounds. Total farm business debt at yearend 2002 is estimated at \$201.9 billion, up 5.1 percent from a year earlier, and exceeds the previous 1984 nominal peak by 4.2 percent. Farm loan volume held by commercial banks grew 2.3 percent while the Farm Credit System (FCS) portfolio expanded 12.5 percent. Commercial banks and the FCS accounted for 18 and 69 percent, respectively, of the estimated \$9.9-billion increase in farm lending in 2002. Commercial banks have gained farm debt market share in 4 of the past 8 years and now hold 39.4 percent of the market. FCS market share grew in 7 of the last 8 years to 30.3 percent at yearend 2002.

Total farm business debt is expected to rise about 3.9 percent in 2003, with nonreal and real estate loans increasing about 2.6 percent and 4.9 percent, respectively. This compares with respective gains of 2.3 percent and 7.6 percent the previous year. Commercial bank loans are projected to increase about 2.7 percent, compared with an anticipated 6.9-percent rise in FCS debt. Creditworthy farmers are expected to have adequate access to loans, mostly from the largest suppliers—commercial banks, the FCS, and trade credit (merchants and dealers).

Interest rates on new farm loans made in 2002 achieved their lowest levels in decades. The largest declines took place in the shorter-term loans. Interest rates on nonreal estate loans declined 100-200 basis points from 2001 to 2002. Interest rates on real estate loans declined 50-100 basis points. Interest rates are expected to rise somewhat during 2003. Nonreal estate rates are expected to increase 10-20 basis points above their fourth-quarter averages. Rates on real estate loans are expected to rise 25-50 basis points over the same period.

Agricultural banks had another profitable year in 2002. An annualized mid-2002 rate of return on assets (ROA) of 1.3 percent is a bit higher than it has typically been since 1992. At 12 percent, return on equity (ROE) was back up from 11.3 percent the prior June to the range prevailing over the last decade. Loans in

nonperforming status at midyear were 1.2 percent of total loans, modestly higher than agricultural bank values in recent years. Net charge-offs of farm production loans totaled \$162 million on an annualized basis at all commercial banks in the first 6 months of 2002, down from \$226 million in the first half of 2001. Loan loss provisions were only 0.4 percent of outstanding loans for agricultural banks, and their strong capital positions will provide a cushion if unexpected problems develop. Only two of the over 2,600 agricultural banks failed in 2002 and only five failed in the prior 8 years.

While farm loans outstanding at nonagricultural banks had been increasing fairly steadily through the 1990s, a \$0.9-billion decline in farm loans for nonagricultural banks left nonagricultural banks with 47.6 percent of commercial bank farm loans, down from 49 percent the previous year. Further, the drop in outstanding farm loans was even higher (\$1.4 billion) at nonagricultural banks with assets exceeding \$500 million. It is too soon to determine the correct explanation, but some large banks may be consciously reducing their exposure to the farm sector or losing business to the FCS or smaller bank competitors.

The financial condition of the FCS was solid going into 2003. Loan volume grew at a fast pace again in 2002, with long term real estate volume up 13 percent and short- and intermediate-term loan volume up 9 percent from September 30, 2001, to September 30, 2002. Loan quality remains high, but some weakening appeared, especially for lending to cooperatives. Profits and at-risk capital continued to grow, fueled by strong portfolio quality and loan growth. Net interest spreads increased relative to the previous year as yields on funds used to finance FCS lending fell faster than rates charged on loans. FCS lending rates fell sharply during the year as short-term interest rates in the economy fell to 40-year lows.

Demand for Farm Service Agency (FSA) farm ownership loan guarantees rose 29 percent and farm operating loan guarantees rose 6 percent in fiscal 2002. Greater demand for farm ownership guarantees was aided by low borrowing rates and greater loan restructuring activity. New direct lending volume changed little from the previous year. Despite widespread weather-related disasters, demand for emergency loans dropped to a near 30-year low.

The quality of FSA direct loans continued to improve, but some deterioration in guaranteed loan quality occurred, and significant regional differences were evident in both program areas. Greater lending to targeted groups was evident in fiscal 2002 for both guaranteed and direct lending programs. FSA borrowers benefited from lower borrowing rates in 2002, with direct operating loan rates falling to just 3.25 percent at yearend.

The volume of loans purchased or guaranteed by Farmer Mac reached a record of \$2.1 billion in 2002. Much of the new volume came through the sale of long-term standby purchase commitments (LTSPC), which totaled \$1.2 billion during the year. Through its use of the LTSPC program, the FCS again accounted for much of Farmer Mac's total loan guarantee volume in 2002. Total outstanding guarantee volume grew to over \$5.5 billion at the end of 2002, of which \$4.9 billion was associated with the Farmer Mac I program. Farmer Mac II (USDA guaranteed loans) purchases fell again in 2002.

Farmer Mac I delinquent loan volume rose to \$74 million, but due to the large increase in new loan and guarantee volume, the share of total loan volume that is delinquent fell to 1.5 percent at yearend, a rate slightly above that of retail farm lenders. Farmer Mac profits rose sharply in 2002, with net profits climbing to \$21.3 million from \$16.3 million in 2001. The rise in net income was driven by increases in net interest income, guarantee fee income, and yield maintenance payments.

U.S. agriculture is expected to benefit from stronger U.S. growth in the second half of 2003 and into 2004. Stronger U.S. growth will raise the domestic demand for agricultural goods, but more importantly, foreign growth will as well. Agriculture will also benefit from an expected overall weaker dollar in 2003 and 2004 as well as from continued low domestic inflation and interest rates. Given the current expected weak growth in Europe and Japan in 2003, the U.S. remains the engine for overall stronger world economic growth.

### ***Agriculture Expected to Benefit as U.S. and World Growth Picks Up in the Second Half of 2003 and 2004***

U.S. agriculture is strongly affected by domestic and world economic conditions. In 2002, overall growth in the demand for U.S. agricultural goods was held down by moderate U.S. growth, slow foreign growth, and the current and lagged impacts of a continued strong dollar. Stronger U.S. growth in the second half of 2003 and 2004 will raise the domestic demand for agricultural goods, but more importantly foreign growth will raise foreign demand for U.S. agricultural goods as well. Agriculture will benefit from an expected overall weaker dollar in 2003 and 2004 as well as from continued low domestic inflation and low interest rates. Given the current expected weak growth in Europe and Japan in 2003, the U.S. remains the engine for overall stronger world economic growth.

### ***GDP Grew 2.4 Percent in 2002 but Slowed Sharply in Fourth-Quarter 2002***

After growing 3.1 percent (on a seasonally adjusted annualized basis) in the first half of the year, GDP grew more slowly, registering at 2.7 percent growth in the second half of 2002 and 1.4 percent growth in 2002Q4 (fig. 1). Large quarterly swings in consumer spending on durable goods, especially autos, and changes in business inventories were the major contributors to substantial quarterly volatility in gross domestic product (GDP) growth. Overall in 2002, GDP growth was boosted by strong growth in consumer spending on durables, residential housing, and Federal government spending, while growth was held down by lower business capital spending and exports.

Despite showing substantial quarterly volatility, overall business inventories were little changed for the year as a whole. Therefore, inventory levels entering 2003 are lean relative to sales for most sectors of the economy. In 2002, overall real Federal government spending increased 7.5 percent, led by a 9.3-percent increase in defense spending. Nonfarm labor productivity grew a very strong 4.7 percent for the year while nonfarm payroll employment fell by 0.9 percent. Labor productivity growth is expected to remain strong in 2003 and 2004.

Consumer spending was strengthened by strong gains in personal disposable income, low interest rates, and

cut rate financing and rebate arrangements on new automobile purchases. Residential construction was also boosted by low interest rates, substantial consumer income gains, and large gains in residential home prices in recent years. Housing prices have increased an average of 16.0 percent per year since 2000, partially offsetting the negative impact of falling equity prices on household wealth. However, overall household wealth has fallen an estimated 6.3 percent since 2000. In response to lower household wealth, overall low consumer confidence, high consumer debt burdens, and weak labor markets, the personal savings rate rose from its all time historical low of 2.3 percent in 2001 to 3.9 percent in 2002. The consumer savings rate is expected to rise modestly in 2003 as consumers increase their savings rate to further increase their overall liquidity.

### ***Overhang From Spending Boom In Mid-1990s To 2000 Still Slowing Near-Term Outlook***

The U.S. short-term economic outlook still reflects the efforts of consumers and businesses to adjust to the aftermath of the mid-1990s through 2000 spending boom by consumers and businesses. Existing high debt burdens for consumers and businesses, low personal savings rates, excess capacity, and low returns to existing capital in many industries will constrain U.S. growth in 2003 and to a lesser extent 2004. Moreover, these underlying problems will likely reduce the expansionary impact of monetary and fiscal policy in 2003. Slow growth abroad as well as the sharp run up in energy prices since early 2002 are additional factors constraining growth in the first half of 2003. As these underlying problems moderate, U.S. growth will pick up in the second half of 2003 and 2004.

The business capital spending boom of the 1993 to 2000 period produced much greater production, capacity, and debt burdens for U.S. firms. Over this period, real nonfinancial business fixed investment and debt grew at 9.9 and 8.1 percent annualized rates, respectively, while capacity in manufacturing grew an average of 5.5 percent per year. Easy access to debt and equity markets further aided the capital spending boom. However, the capital spending boom required strong future economic growth to fund the sharply higher business debt burdens.

The prolonged slowdown in growth beginning in the second half of 2000 substantially increased the debt

burden for firms and, along with sharply lower equity prices, reduced the capacity of firms to issue new debt. By the end of 2002Q3, the debt to net worth ratio for nonfinancial corporate firms reached a historical high of 57.2 percent while 38.2 percent of net cash flows available to bond and equity holders were being used to make interest payments. The current level of corporate interest payments relative to cash flow is high by historical standards, especially in light of the current low real interest rate environment. The combination of high corporate debt burdens and relatively high risk aversion on the part of lenders has produced wide interest rate spreads for corporate borrowers of varying credit worthiness (fig. 2). Wide credit spreads for corporate borrowers reduces the availability and raises the cost of funds for riskier business borrowers, further impeding growth in business investment.

### ***Business Capital Spending To Grow More Strongly in the Second Half of 2003 and 2004***

Given the 2003 outlook for only moderate growth in consumer spending and overall slow growth abroad, improving growth in business capital spending coupled with expansionary monetary and government tax and spending policies are the primary drivers supporting expected stronger U.S. economic growth in the second half of 2003 and 2004. Although business capital spending fell 5.7 percent for 2002 overall, business capital spending exhibited slight positive growth in the second half of 2002. While business spending on structures declined sharply in the second half of 2002, business spending on equipment and software grew at a 6.6-percent annual rate over the period.

Although growth in business capital spending is expected to increase over the course of 2003 and especially 2004, growth in business capital spending likely will be weak in the first half of 2003. Nondefense capital goods orders fell in 2002Q4, indicating likely declines in business equipment investment spending in 2003Q1. Continued low levels of manufacturing capacity utilization and very high business office vacancy rates point toward continued contraction in business spending on structures in the first half of 2003.

### ***Inflation and Interest Rates To Rise Mildly in 2003***

Inflation in 2002 has been held down by several factors, including relatively slow foreign economic growth, strong productivity growth, slack labor

markets, and continued large amounts of excess manufacturing capacity. Other than energy prices, which have increased rapidly since 2002Q1, broad-based inflation measures have been extremely low. For example in 2002, inflation as measured by the GDP deflator and the consumer price index (CPI) rose only 1.1 and 1.6 percent respectively, while the producer price index (PPI) for finished goods fell 1.3 percent (fig 3). Low inflation has kept both short and long-term inflationary expectations low, thus encouraging low interest rates overall. Given U.S. and world excess capacity, firms have been hesitant to raise prices, but price pressures will rise somewhat as economic growth picks up and, if as expected, the U.S. dollar continues to depreciate.

Monetary policy tightening will likely be postponed until late 2003 due to continued low inflation, moderate growth both domestically and abroad, excess capacity in labor and capital markets, continued high risk premiums in private credit and equity markets, and the likely continued moderate fall in the dollar (figs. 3 and 4). Real short-term interest rates will gradually rise over the second half of 2003 as economic growth picks up and as Federal Reserve policy moves closer toward actual tightening. Real long-term interest rates are likely to rise mildly to moderately in 2003. For further details, see the Agricultural Interest Rates section below.

### ***Agriculture Will Benefit From an Expected Continued Decline in the Dollar in 2003 and 2004***

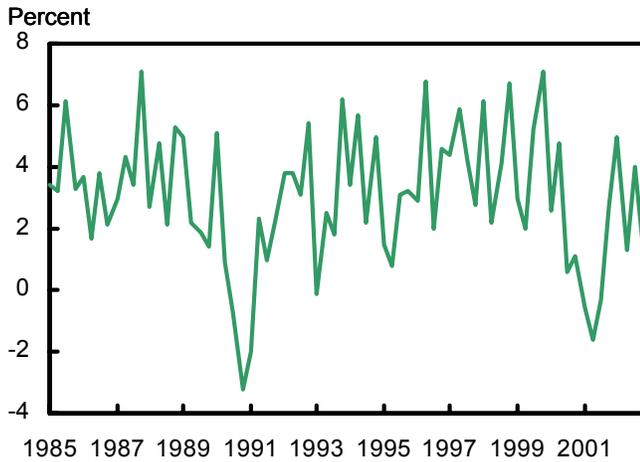
The real trade weighted value of the dollar both on an agricultural export basis and on a total exports goods basis peaked in 2002Q1 (fig. 4). By the end of 2002Q4, the total trade weighted dollar and the agriculture trade weighted index fell 2.0 and 3.7 percent, respectively, from their 2002Q1 peaks. The greater fall in the agricultural trade weighted index reflects the larger fall in the dollar in developing countries and Asia, which are weighted more heavily in the agricultural trade index. The total trade weighted export goods index weights trade with the rest of North America and Europe more heavily than the agricultural trade index. Agricultural trade is generally more sensitive to movements in the dollar, given the greater substitutability of agricultural goods across countries relative to most nonagriculture U.S. exports.

The fall in the dollar reflects both heightened global tensions and economic fundamentals. The U.S. trade deficit grew 17.2 percent in 2002 due to stronger U.S.

growth relative to most of its trading partners and the lagged impacts of a sharply higher dollar since 1999. The sharply higher U.S. trade deficit was financed by foreigners purchasing increasing amounts of U.S. assets in times of a weak U.S. stock market and higher available returns on debt securities abroad. The

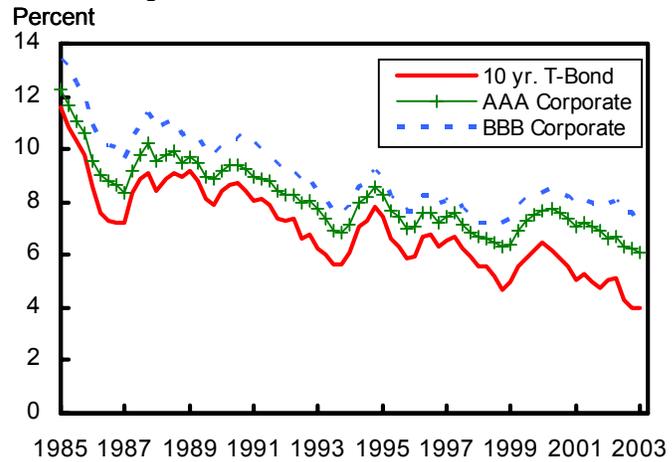
combination of likely continued low overall rates of private U.S. savings and rising Federal government deficits will further increase the need to attract capital from abroad and likely place further downward pressure on the dollar in 2003 and 2004.

**Figure 1**  
**Real GDP growth was moderate but volatile in 2002**



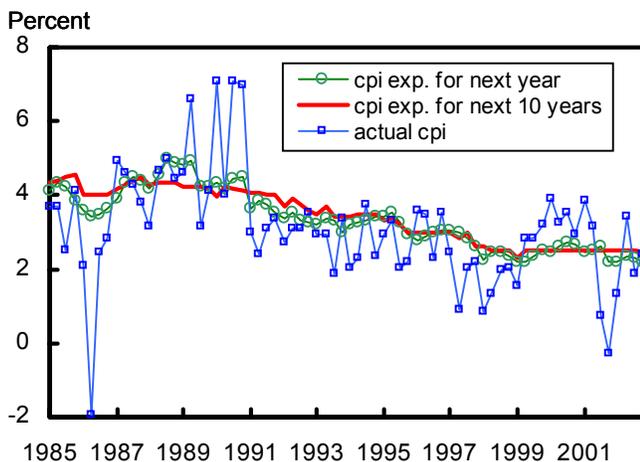
Source: Bureau of Economic Analysis, National Income and Product Accounts.

**Figure 2**  
**Wide interest rate spreads are slowing economic growth**



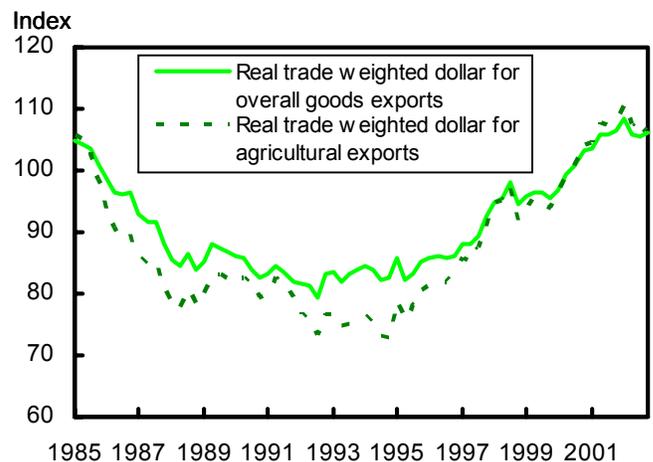
Source: Federal Reserve Board of Governors, 10-Year Constant Maturity Bond Yields and Moody's Investor Services, Seasoned Corporate Bond Interest Rates.

**Figure 3**  
**Inflation and inflationary expectations have remained low**



Source: Bureau of Labor Statistics and the Survey of Professional Forecasters, Federal Reserve Bank of Philadelphia.

**Figure 4**  
**Dollar remains high despite some weakening in 2002**



Source: <http://www.ers.usda.gov/data/exchangerates/>.

### **Lenders Will Benefit From The Expected 2003 Rebound In Farm Sector Income**

The financial condition of agricultural lenders was stable in 2002, and no major problems are expected in 2003. These lenders serve a farm sector whose aggregate financial indicators continued to show strength in 2002 (figs. 5-10). For additional details, see [http://www.ers.usda.gov/Briefing/FarmIncome/data/nf\\_t2.htm](http://www.ers.usda.gov/Briefing/FarmIncome/data/nf_t2.htm) and [http://www.ers.usda.gov/Briefing/FarmIncome/data/bs\\_t6.htm](http://www.ers.usda.gov/Briefing/FarmIncome/data/bs_t6.htm). Each of the four major institutional farm lender categories—commercial banks, the Farm Credit System (FCS), the Farm Service Agency (FSA), and life insurance companies—continue to experience few problems with their farm loan portfolios by historical standards. Together these four classes of lenders accounted for 79.3 percent of all farm loans outstanding in 2002. The remaining share of farm credit comes from individuals and from nontraditional lenders, primarily input suppliers, cooperatives, and processors.

Generally favorable conditions experienced by the farm economy over the 1990-98 period contributed to the strengthening financial condition of farm lenders. But beginning in the latter half of 1998, declining farm commodity prices left farmers, and by extension their lenders, heavily dependent on Federal assistance. For example, crop sales fell from an annual average of \$105.1 billion during 1995-98 to \$95 billion in 1999-2002. Net cash farm income, which measures cash available from sales after paying cash operating costs, was \$59.1 billion in 2001, and is forecast to be \$46.3 billion in 2002. Loss of farm income in 2002 was due largely to significant reductions in livestock receipts, government payments, and to weather related problems in many areas of the Nation. Existing legislation, which does not contain emergency supplemental assistance, leaves 2003 net cash income at \$51.3 billion, some \$4.6 billion below the 1993-2002 average, but up \$5 billion over 2002. The 2003 increase will result from increases in crop and livestock receipts, government payments, and manageable production expenses. The projected increase in farm sector net cash income for 2003 will not be equally distributed over all farm operations, but will vary greatly among businesses and regions of the country.

Net farm income, which assesses the net value of calendar-year production, including the portion placed in storage, is forecast to decrease from \$45.7 billion in

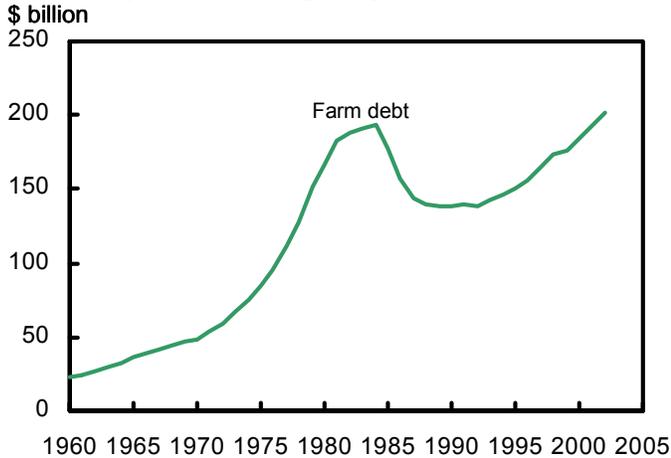
2001 to \$32.4 billion in 2002 (emergency assistance payments declined \$8.3 billion in 2002), but is forecast to increase by 38.6 percent to \$44.9 billion for 2003. This would put net farm income for 2003 near the previous 10-year average of \$45.4 billion. Direct payments in 2003 are forecast to increase \$4.4 billion over 2002 under the terms of the 2002 Farm Act. Yet, this net farm income forecast for 2003, if realized, would still be the second lowest since 1995. The pace of implementation of the 2002 Farm Act is having a major impact on farm income in both 2002 and 2003. Earlier expectations of rapid program implementation were not realized in 2002, as signups have been much slower than anticipated. The result is that farmers will receive much of the 2002 direct and counter-cyclical payments in calendar year 2003.

Cash receipts from sales of farm commodities in 2002 totaled \$193.5 billion, down \$9.3 billion from 2001, with crop sales increasing \$1.2 billion and livestock sales dropping \$10.5 billion. Cash receipts from farm marketings averaged \$192.8 billion for 1993-2002 and are forecast at \$200.5 billion in 2003. The total value of farm cash sales forecast for 2003 was exceeded only in 1997, when a confluence of favorable harvests, prices, and exports occurred, and in 2001. After 4 consecutive years of substantial increases and exceeding crop receipts during 1999-2001, livestock receipts fell \$1.7 billion below crop receipts in 2002. They are forecast to rebound to \$98.9 billion in 2003, but will trail forecast crop receipts by \$2.7 billion. Crop sales averaged \$98.1 billion in 1993-2002, compared with the 2003 forecast of \$101.6 billion. Livestock receipts averaged \$94.7 billion in 1993-2002 and are forecast at \$98.9 billion in 2003. For 2003, prospects differ among the choice of crop and livestock enterprises, payments as a source of farm revenue, and the relative importance of expense items. Overall income gains are likely to be greatest for wheat, soybean, and mixed grain operations. Livestock operations, other than dairy, will also see improved income prospects, but to a lesser extent than most crop farms.

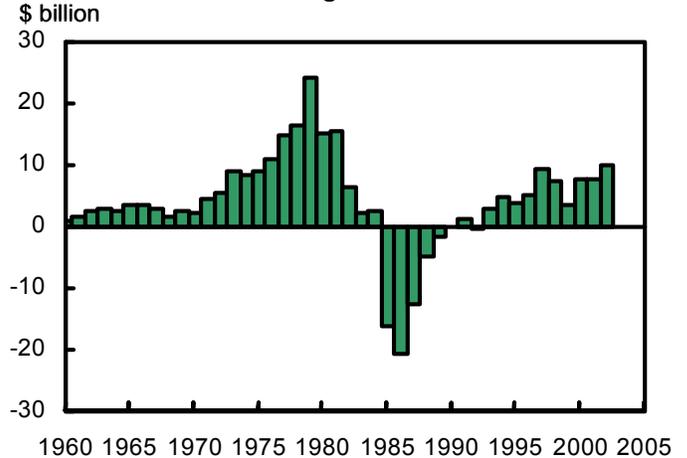
With the recent variability in net farm income, much of the financial viability of the farm economy continues to rest on its sound balance sheet. The value of farm assets increased 77.8 percent from the recent historical low in 1986 to \$1.29 trillion in 2002. Farm equity increased 91.4 percent during the same period and was \$1.09 trillion at the end of 2002. Farm-sector equity is

The farm sector's aggregate indicators were mixed in 2002. Weather problems negatively influenced large regions, but the effects were mitigated by sizable government payments together with crop and revenue insurance. Total farm business debt increased \$62.8 billion or 45.2 percent during 1992-2002, and this growth increased from 3.1 percent annually 1992-96 to 4.9 percent annually 1996-2002. Total farm assets exceeded \$1.29 trillion in 2002 as farm equity (assets minus debt) increased for the 16th straight year to \$1.09 trillion (up 91.4 percent during the span). The sector debt load relative to net cash income is growing, but the debt-to-asset ratio is steady. The total rate of return on assets has been in the 4-6 percent range since 1992.

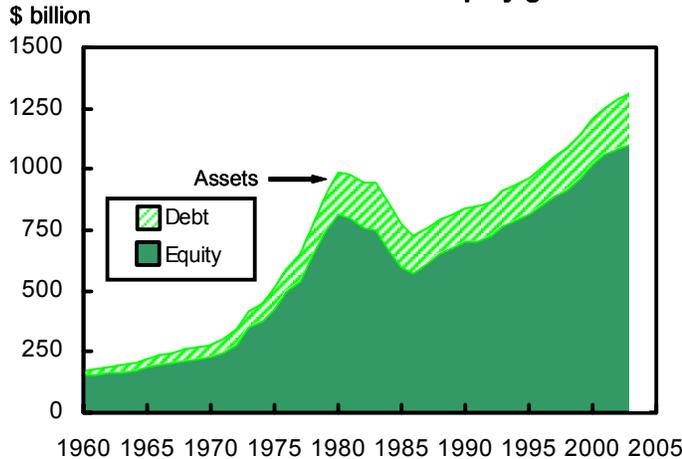
**Figure 5**  
**Total farm business debt in 2002 exceeds the previous peak in 1984 by 4.2 percent**



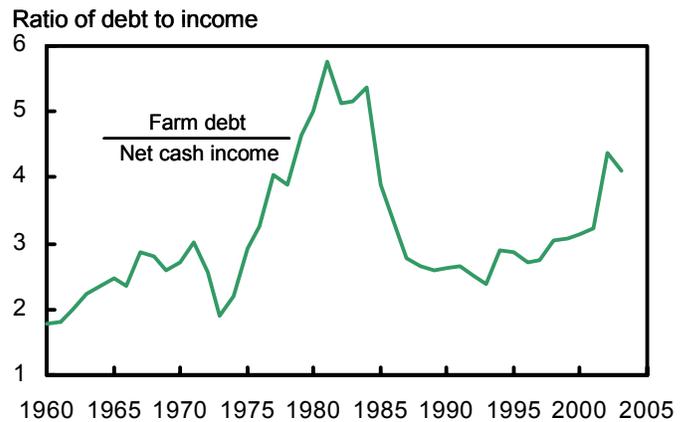
**Figure 6**  
**Annual change in farm debt positive since 1993 and in 2002 it was the highest since 1981**



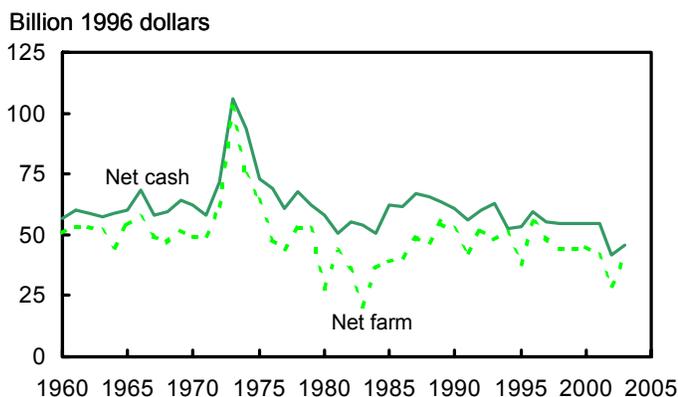
**Figure 7**  
**Farm sector balance sheet shows equity growth**



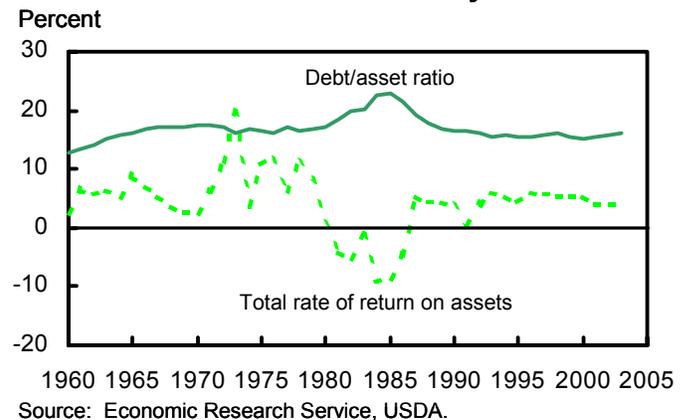
**Figure 8**  
**Farmers' debt load relative to their net cash income has increased**



**Figure 9**  
**Real net farm and real net cash incomes are forecast to rebound in 2003**



**Figure 10**  
**Farm sector total rate of return on assets remains normal and debt/asset ratio is steady**



Source: Economic Research Service, USDA.

expected to increase in 2003 for the 17th consecutive year (by about 1 percent). Farm debt increased 5.1 percent in 2002 and is forecast to grow at a 3.9-percent rate in 2003.

Farm households receive a large share of their earnings, on average, from off-farm sources. These earnings significantly reduce the impact of farm-sector performance on the well-being of farm households and add repayment capacity for farm loans. By combining income from farm and nonfarm sources, operators averaged \$64,500 in household income in 2001 (representing the latest available data), slightly above the \$58,500 average for all U.S. households. On average, 91 percent of farm operators' household income came from off-farm sources in 2001. Reliance on off-farm income varied widely among different types of farm households. Farmers' net worth, however, consists largely of their farms, regardless of the type of farm. Thus, collateral used to back loans will often be farm assets, largely real estate. But, lenders can assume that most small farm operators will pay off their loans with off-farm income. For details on the importance of off-farm income sources, see the Off-Farm Income section below.

### **Legislation Bolsters Farm Sector and Its Lenders**

Farm sector income can be enhanced and the risk reduced through the use of government payments, and such payments have been especially important in recent years. Under the 1996 Farm Act (P.L. 104-127), the farm sector received a combined total of \$16.1 billion in production flexibility payments in the three calendar years 1998-2000, then \$4 billion in calendar 2001, and \$3 billion in calendar 2002. In addition, Congress elected to address low farm prices and weather problems affecting selected commodities with additional financial support in 1998 through 2001. It enacted five pieces of emergency assistance legislation in October 1998, October 1999, June and October 2000, and August 2001 that increased farm program spending. For details regarding emergency and supplemental farm sector assistance, see <http://www.ers.usda.gov/Briefing/FarmPolicy/1996emerge.htm>.

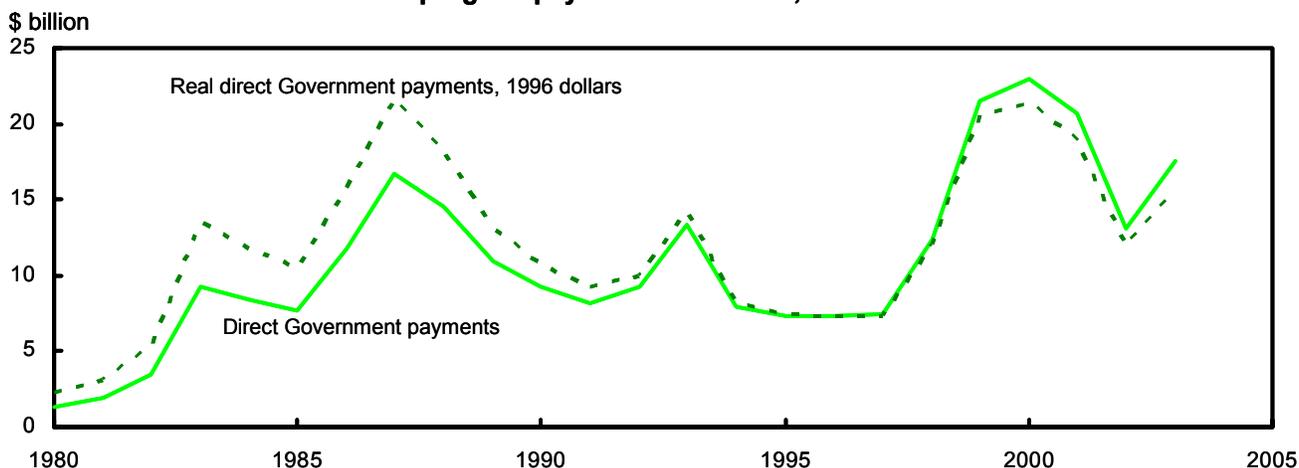
In addition to the above legislation, the Fiscal 2000 Consolidated Appropriations Act (P.L. 106-113), enacted in November 1999, added \$186 million in production loss payments and \$10 million for livestock producers, and the omnibus U.S. Department of Agriculture (USDA) appropriations act (P.L. 107-76) enacted in November 2001 contained \$75 million in

emergency assistance for apple producers. The Farm Security and Rural Investment Act (P.L. 107-171, the 2002 Farm Act), signed into law on May 13, 2002, provides for the continuation of agricultural programs through fiscal 2007. It governs Federal farm programs during that span by altering the farm payment program and enhancing counter-cyclical farm income support. Over the life of the bill, direct payments are expected to continue at the level of support farmers realized from production flexibility contracts. The pace of implementation of the new Farm Act has resulted in much of the expected benefits to the 2002 crop from the new farm programs to roll over into calendar year 2003. For details concerning the 2002 Farm Act, see <http://www.ers.usda.gov/Features/FarmBill/>.

Government assistance is important in stabilizing farm income. During 1998-2001, with additional emergency assistance, government payments were sufficient to maintain net farm income near or above the 1990-97 average. When added to previous legislative authorities, the 2000 and 2001 legislation brought total direct farm payments to \$22.9 billion in 2000, \$20.7 billion in 2001, and \$13.1 billion in 2002. Direct payments are forecast to increase to \$17.6 billion in 2003, up 33.7 percent from 2002. The 1998-2003 total direct payment of \$90.6 billion is helping to both bolster agricultural credit quality and maintain farmland values. Farmers received an annual average of \$8.8 billion in direct payments for the 1990-97 period, jumping to \$15.1 billion per year for 1998-2003. In real terms (based on a gross domestic product chain-type index), the direct payments received by farmers in 2000 (\$21.4 billion) were the second highest annual payout on record, with 1987 (\$21.6 billion) being the highest (fig. 11). (Throughout this report all real values are deflated from nominal values using the GDP chain-type index where 1996 equals 100.)

Federal assistance flowing through farm crop and revenue insurance also has been an increasingly important stabilizing factor for farmers and their lenders. Since the mid-1990s, enhanced crop and revenue insurance has emerged as a major Federal program addressing farmers' crop yield and revenue risks. In 1994, the Crop Insurance Reform Act (P.L. 103-354) introduced a number of changes including the introduction of catastrophic coverage (CAT), increasing premium subsidies for coverage levels above CAT, and establishing the Non-insured Assistance Program (NAP) for crops not covered by insurance. Farmers were able to choose from a variety of subsidized insurance plans that pay indemnities if actual yields or revenues at harvest fall below pre-

Figure 11  
**Direct Federal Government farm program payments to farmers, 1980-2003**



Source: Economic Research Service, USDA ([www.ers.usda.gov/Data/FarmIncome/finfidmu.htm](http://www.ers.usda.gov/Data/FarmIncome/finfidmu.htm)).

planting expectations. Farmer participation has grown as new types of insurance have been included and premium subsidies have been increased. During 1995-98, USDA's Risk Management Agency (RMA), which administers programs of the Federal Crop Insurance Corporation, spent about \$1.2 billion per year, on average, for premium subsidies and net underwriting losses.

In 2000, Congress passed the Agricultural Risk Protection Act (ARPA) of 2000 (P.L. 106-224). It increased subsidy rates and increased government funding of premium subsidies for 2001-05, moved to more equalized subsidy rates for yield and revenue insurance, and authorized pilot programs for new forms of insurance. Since the enactment of ARPA, premium subsidies, the largest program cost item, have averaged \$1.7-\$1.8 billion per year. A number of private insurance companies deliver crop and revenue insurance through a network of crop insurance agents. Total coverage has been about \$37 billion in 2001 and 2002. Producers have been moving to higher coverage levels since ARPA increased premium subsidies at higher coverage levels. According to RMA, about 53 percent of 2002 insured acres were at coverage levels of 70 percent or higher. Prior to ARPA, insured acreage coverage levels averaged about 10 percent.

Federal farm commodity and crop insurance legislation not only helps support farm income flows, but also buoys farmland values, an important consideration for agricultural lenders. At yearend 2002 some 54.9 percent of the \$201.9 billion in outstanding farm debt was backed by real estate as collateral. At the same date, 80.6 percent of all farm assets were held in the form of real estate. So recent increases in farmland

values help farm lenders and strengthen farm business balance sheets. The value of farmland as shown by USDA's farm sector balance sheet has increased for 17 straight years during yearend 1986-2002 (since the last decline during calendar 1986) and grew 36.2 percent from 1995 to 2002. Farmland values are forecast to increase 1.5 percent in 2003, a slower rate than the 4 percent registered in 2002.

### **Commercial Banks Lead In Terms of Market Share**

The distribution of the farm sector's estimated \$201.9 billion in farm business debt among the six lender categories on December 31, 2002, is summarized in [table 1](#). Commercial banks account for 39.4 percent of all farm debt outstanding, making them the leading agricultural lender, followed by the FCS, a government-sponsored enterprise, with 30.3 percent. Individuals and others (merchant and dealer credit, land purchase credit contracts) held an estimated 20.7 percent, with the remaining categories holding lesser market shares.

Total farm debt outstanding at the end of 2002 represented an increase of \$62.8 billion, or 45.2 percent, from its low in 1989 ([app. table 1](#)). At yearend 2002, the value of \$201.9 billion total farm debt outstanding was 4.2 percent or \$8.1 billion in nominal dollars above the previous all-time high recorded in 1984.

*Total farm real estate debt* outstanding in 2002, at \$110.8 billion is 3.9 percent or \$4.1 billion above the nominal peak of \$106.7 billion recorded in 1984 ([app. table 2](#)). *Total nonreal estate debt* outstanding, at \$91.1

Table 1--Distribution of farm business debt, by lender, December 31, 2002 1/

Lender	Type of debt		Total
	Real estate	Nonreal estate	
	Percentage of total		
Commercial banks	17.6	21.8	39.4
Farm Credit System	20.0	10.3	30.3
Farm Service Agency	1.7	1.8	3.5
Life insurance companies	6.1	---	6.1
Individuals and others	9.6	11.2	20.7
Commodity Credit Corporation	0	---	2/
Total	54.9	45.1	100.0

1/ Preliminary. Due to rounding, subcategories may not add to totals. 2/ This excludes CCC crop loans, which are estimated at \$4.2 billion at the end of calendar 2002.

Sources: American Council of Life Insurers, Investment Bulletin: Mortgage Loan Profile; Board of Governors of the Federal Reserve System, Report of Condition and Report of Income files; Federal Farm Credit Banks Funding Corporation Reports and Farm Credit Administration LARS database; and Farm Service Agency, 616 Direct Borrowers Delinquency Report.

billion in 2002, now exceeds the 1983 high of \$87.9 billion by 3.6 percent or \$13.9 billion ([app. table 3](#)). Details of changes in market share and related issues are given in the Farm Debt section later in this report. Farm business debt by lender for 1960-2002, percent change by year, and market share percentage data are reported in the appendix for total debt ([app. table 1](#)), real estate debt ([app. table 2](#)), and nonreal estate debt ([app. table 3](#)).

### **Lenders' Financial Position Continues Strong**

The position of commercial agricultural lenders in 2002 reflected the generally healthy state of farmers' finances in recent years. To date, borrowers from agricultural lenders have generally been able to withstand the low commodity prices and weather-related problems due to their strong financial positions that were enhanced by increased payments received from the Federal Government beginning in 1998 and by off-farm earnings. As a result, commercial farm lending institutions have been able to continue to build capital and maintain favorable credit quality levels in their loan portfolios.

All major institutional lender groups continued to experience historically low levels of delinquencies, foreclosures, and net loan chargeoffs. Information on delinquent farm loans by lender during 1980 to 2002 is presented in [table 2](#). FSA had the highest delinquency rates in both dollars and share of the portfolio, which is expected in its role as the government lender with a portfolio of higher-risk loans. The total value of delinquent loans peaked for commercial banks in 1985 and for the FCS and life insurance companies in 1986 ([tables 2 and 3](#)). Delinquencies as a percentage of outstanding farm loans peaked in 1986 for all lenders

except FSA which peaked in 1988. The delinquency rates have been low for all institutional farm lenders during 1990-2002. Even the FSA direct farm loan portfolio has shown constant improvement during the last decade and stood at \$1.6 billion in delinquent loans at the end of fiscal 2002, down from \$8.1 billion in 1990 ([table 2](#)).

A key concern of farm lenders is the amount of loan losses they must absorb. Losses for commercial banks, FCS, and FSA for 1982-2002 are shown in [table 3](#). Commercial bank and FCS farm loan chargeoffs have been low since 1989, while FSA levels have been trending down since 1988-89. Even FSA as the government lender working with higher-risk borrowers charged off only \$446 million in farm loans in fiscal 2002 compared with \$3.2 billion in fiscal 1989. During 1985-89, agricultural loan chargeoffs by the three lender categories—commercial banks, FCS, and FSA—totaled \$13.7 billion.

Any farm financial stress must be sustained to make a significant impact on aggregate national farm lender indicators such as loan delinquency rates. A number of agricultural lender performance measures are lagging indicators of farm financial stress. Net cash farm income is forecast to rebound by 10.8 percent over the 2002 level and there is no indication of a problem in the national farm lender performance data to date. The overall performance of farm lenders is vastly superior to that experienced during the farm financial crisis of the 1980s ([app. table 6](#)). In 1986, farm lenders held over \$3.7 billion in property due to loan defaults or foreclosures; in 2002 the amount was only \$218 million.

The agricultural situation currently facing lenders differs from that of the early to mid-1980s in that the problem is widespread low crop prices rather than

overextended farm borrowers. For example, the ratio of farm debt to net cash farm income was only 4.4 in 2002, compared with the high of 5.8 in 1981 (fig. 8). Total farm interest payments were 19.2 percent of net cash income in 2002 compared with 37.7 percent in 1981 (fig. 12). The increase in farm debt in recent years has been restrained compared with the 1970s, with only a 46.3-percent increase during 1990-2002 compared with a 287-percent increase during 1970-82. FSA's direct farm loans outstanding as a share of total farm sector debt have dropped from a high of 16.3 percent in 1987 to 3.5 percent in 2002 as many financially vulnerable farmers retired or otherwise left the sector.

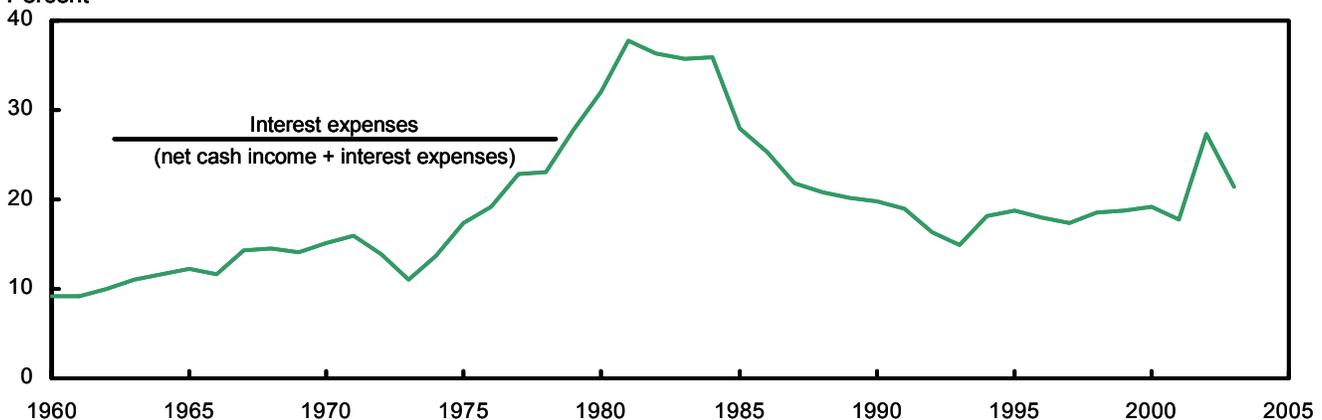
Farm lenders have undergone considerable restructuring and consolidation since 1980, and have thus spread their risk over a more diversified and geographically dispersed borrower clientele. Moreover, some less-than-optimum farm loan portfolios have been moved under the auspices of the FSA loan program. Farm lenders also learned the risks of lending on the basis of collateral in the 1980s and have instituted better loan analysis tools based on cash flow and other criteria. Farm lender regulation is much improved over the 1970s. In a nutshell, most financial problems faced by producers during the 1998-2002 period were caused by a combination of low prices and locally poor weather conditions. Lenders likely will find that these farmers will not gain much relief in the form of higher commodity prices in 2003. With market prices for some key farm commodities depressed, there is evidence that some limited erosion in agriculture's financial foundation is under way. Recent farm assistance packages, which included supplemental aid, disaster assistance, the 2002 Farm Act, and greater subsidies for crop insurance, are enabling farmer loan

repayments to lenders and are shoring up farmland values that provide collateral for many agricultural loans.

### **Farm Lenders Can Supply Adequate Credit Volume**

Agricultural lenders have sufficient loanable funds available in 2003 for qualified farm borrowers with the possible exception of FSA in some loan programs. Overall, adequate funds are available from *commercial banks* for agricultural loans, with few banks reporting a shortage of loanable funds. Farm banks can overcome funding problems by borrowing from correspondent banks, using the Federal Reserve Bank seasonal borrower windows, or by obtaining funds from the Federal Home Loan Bank System. The *FCS* is in excellent financial condition and is thus well-positioned to supply farmers' credit needs in 2003. Government backing allows the *FCS* to access national money markets and provide credit at very competitive rates. *Farm Service Agency* programs serve farmers unable to obtain credit elsewhere. Based on activity of the first six months of fiscal 2003, only the emergency loan program and the unsubsidized guaranteed operating loan program are likely to have sufficient funding to meet expected demand during the remainder of fiscal 2003. A total of \$3.8 billion in authority was available at the start of the fiscal year, compared with \$3.6 billion in actual obligations for all of fiscal 2002. Demand for emergency credit is expected to rise in 2003 due to the occurrence of widespread natural disasters in 2002. For fiscal 2003, no lending authority for emergency lending was allocated, but sufficient carryover lending authority is available to meet any increase in demand. *Life insurance companies* report adequate funds for loans that meet their quality

Figure 12  
**Interest expenses as a share of net cash income, 1960-2003**  
Percent



Source: Economic Research Service, USDA.

standards, and farm lending activity by life insurance companies is forecast up 1.5 percent in 2003 compared with 2.4 percent in 2002.

Farm lenders are expected to have an adequate supply of *short-, intermediate-, and long-term credit* available. Short-term, *nonreal estate business loan volume outstanding* are forecast to increase about 2.6 percent to \$93.4 billion in 2003. Total planted acres for principal field crops in 2003 are forecast to increase and, even with some acreage shifts among crops, total production expenses are forecast to rise modestly. Projections for planted acreage in 2003 for the eight major crops (corn, sorghum, barley, oats, wheat, rice, upland cotton, and soybeans) are for an increase of 0.9 percent to 252.2 million acres. Farmers are expected to spend about \$206 billion as agricultural production expenses in 2003, up \$7.5 billion or 3.8 percent from 2002 for the largest increase since 1997, but similar to

the increase in 2001. The expectations for 2003 suggest a generalized rise of 4-6 percent across a wide range of inputs. Expenditures for seeds, fertilizer, and pesticides, at \$28.2 billion, are forecast to rise from \$26.7 billion in 2002. Farm sector fuel expenses declined from \$7.2 billion in 2001 to \$6.9 billion in 2002. Fuel expenses are expected to increase in 2003 to \$7.2 billion as prices increase because of supply problems in petroleum markets.

*Intermediate farm credit supply needs* will be met and some hints at demand can be illustrated based on the farm machinery sector. Unit sales of farm tractors, combines, and other farm machinery have not recovered from the farm sector's economic slowdown that took effect in 1998. In 2002, sales of large two-wheel drive tractors (100 horsepower and over), four-wheel drive tractors, and combines were down 42, 55, and 51 percent, respectively, from their highs in 1997

Table 2--Delinquent farm loan volume, by lender, 1980-2002

Yearend 1/	Commercial banks 2/ 3/		Farm Credit System 4/		Life insurance companies 5/		Farm Service Agency 6/	
	Billion dollars (Percentage of outstanding loans)							
1980	NA	NA	0.3	(0.5)	0.3	(2.0)	3.6	(18.2)
1981	NA	NA	0.4	(0.5)	0.5	(3.7)	5.8	(24.1)
1982	0.9	(2.4)	0.7	(1.1)	0.8	(6.4)	9.5	(37.9)
1983	1.5	(3.8)	1.3	(1.8)	1.0	(8.3)	11.0	(43.9)
1984	1.2	(3.1)	1.8	(2.5)	1.2	(9.6)	12.1	(45.9)
1985	2.4	(6.6)	5.0	(8.0)	1.7	(15.1)	11.9	(41.5)
1986	2.0	(6.4)	7.0	(13.8)	1.8	(17.0)	12.0	(42.9)
1987	1.5	(5.1)	5.2	(11.8)	1.3	(14.3)	11.8	(45.8)
1988	1.1	(3.5)	3.3	(8.0)	0.8	(8.9)	12.5	(49.8)
1989	0.8	(2.5)	2.5	(6.1)	0.4	(4.7)	11.1	(47.8)
1990	0.7	(2.0)	2.5	(6.1)	0.4	(4.2)	8.1	(41.3)
1991	0.7	(2.0)	2.2	(5.4)	0.4	(3.8)	7.3	(41.7)
1992	0.7	(1.9)	1.9	(4.6)	0.3	(3.3)	6.6	(42.5)
1993	0.6	(1.5)	1.5	(3.6)	0.2	(2.2)	5.8	(41.0)
1994	0.5	(1.2)	1.1	(2.7)	0.2	(2.6)	4.4	(34.8)
1995	0.5	(1.2)	0.8	(1.8)	0.2	(2.7)	4.5	(39.0)
1996	0.6	(1.4)	0.6	(1.3)	0.1	(0.9)	3.5	(32.6)
1997	0.5	(1.2)	0.5	(1.1)	0.1	(1.0)	2.6	(26.8)
1998	0.6	(1.3)	0.8	(1.5)	0.2	(1.4)	2.3	(24.9)
1999	0.7	(1.5)	0.7	(1.3)	0.1	(0.8)	2.0	(22.2)
2000	0.6	(1.4)	0.5	(0.8)	0.2	(1.3)	1.8	(20.2)
2001	0.6	(1.3)	0.6	(1.0)	0.2	(1.5)	1.6	(19.0)
Midyear 2002 7/	0.7	(1.5)	0.7	(1.0)	0.2	(1.8)	1.6	(19.8)

NA=Not available. 1/ End of fiscal year (Sept. 30) for the Farm Service Agency (FSA) and end of the calendar year (Dec. 31) for the other lenders. 2/ Delinquencies were reported by institutions holding most of the farm loans in this lender group. Data shown are computed just for these reporting banks. 3/ Farm nonreal estate loans past due 90 days or more or in nonaccrual status, from the Reports of Condition submitted by insured commercial banks. 4/ Data shown are nonaccrual loans, which include accrued interest receivable and certain non-farm loans, but exclude loans of the Banks for Cooperatives, Agricultural Credit Banks, and affiliated associations. 5/ Loans with interest in arrears more than 90 days. 6/ A loan is delinquent if a payment is more than 30 days past due. Data shown are for September 30; thus, they avoid the yearend seasonal peak in very short-term delinquencies and so are more comparable with those shown for other lenders. The FSA data reflect the total outstanding amount of the direct loans that are delinquent (as do the data shown for other lenders), rather than the smaller amount of delinquent payments that is often reported as FSA "delinquencies." 7/ September 30 for the FSA and the FCS.

Sources: American Council of Life Insurers, Investment Bulletin: Mortgage Loan Profile; Board of Governors of the Federal Reserve System, Report of Condition and Report of Income files; Federal Farm Credit Banks Funding Corporation Reports and Farm Credit Administration LARS database; and Farm Service Agency, 616 Direct Borrowers Delinquency Report.

(large two-wheel drive and four-wheel drive tractors) and 1998 (combines). Overall total farm tractor sales in 2002 compared with 2001 were up 0.8 percent to 166,847 units. But even sales of 40-100 horsepower tractors declined 0.9 percent in 2002, leaving the under-40 horsepower category with sales up 6.3 percent as the only growth category. For 2003, the Association of Equipment Manufacturers (AEM) projects a 0.2-percent increase for two-wheel drive tractors, a 7.6-percent increase for four-wheel drive tractors, and a 14.4-percent jump for self-propelled combines. AEM projects year-2003 increases for 8 of the 13 equipment categories other than tractors and combines.

On balance, sluggish sales for "big ticket items" such as tractors and combines are likely to overshadow or at least mitigate sales strength for other machinery lines in 2003 and moderate demand for short- and intermediate-term farm loans to some extent. A larger percentage share of this demand for big ticket items is now met by finance companies owned by machinery companies rather than by the more traditional institutional lenders.

Farm lenders will be able to fund *long-term* credit needs, such as farm mortgage loans, in 2003. *Farm real estate loan volume outstanding*—loans secured by farm real estate—is forecast to increase 4.9 percent to \$116.3 billion in 2003. Mortgage loan volume growth

is generally affected by the rate of farmland sales transactions and changes in farmland values. Reports from several Federal Reserve Banks, selected land-grant university surveys, and farmland brokers indicate that an active farmland market with rising values exists. Total U.S. farmland values as reported in USDA's farm sector balance sheet increased an estimated 4 percent in 2002 and are expected to advance about 1.5 percent in 2003—the 17th (1987-2003 inclusive) consecutive annual increase. Farmland value growth rates have been buoyed by Government payments, off-farm employment, and urban influences in many areas. The outlook for 2003 is tempered by uncertainty arising from weather problems in some regions.

It remains unclear if recent gains in farmland value have led to corresponding increases in demand for farm mortgage credit. A significant portion of the price gain was driven by nonfarm investors and not by farmers. Moreover, many of the nonoperator farmland buyers were able to pay wholly or in large part with cash and not as much via borrowing. For midsize to smaller farms, strong off-farm earnings in recent years have allowed farmers to bid higher on farmland tracts than agricultural-use values would indicate. Today, wide areas are subject to urban pressures that tend to outweigh the component of farmland value that is driven primarily by the land's value for agricultural use.

Table 3--Farm loan losses (net charge-offs), by lender, 1980-2002

Year	Commercial banks 1/		Farm Credit System 2/			Farm Service Agency 3/		Exhibit: Life insurance company foreclosures 4/	
Million dollars (Percentage of loans outstanding at end of period) 5/									
1980	NA	NA	-0.8	(-0.0)	6/	13	(0.1)	18	(0.1)
1981	NA	NA	13	(0.0)	6/	7	(0.0)	56	(0.4)
1982	NA	NA	13	(0.0)	6/	25	(0.1)	170	(1.3)
1983	NA	NA	8	(0.0)	6/	65	(0.3)	347	(1.9)
1984	901	(2.2)	428	(0.5)		117	(0.5)	289	(2.5)
1985	1,366	(3.8)	1,105	(1.6)		234	(0.8)	530	(4.8)
1986	1,257	(4.0)	1,321	(2.3)		379	(1.4)	827	(7.9)
1987	540	(1.8)	488	(0.9)		1,119	(4.3)	692	(7.5)
1988	142	(0.5)	413	(0.8)		2,022	(8.1)	364	(4.0)
1989	98	(0.3)	-5	(-0.0)	6/	3,228	(13.9)	204	(2.3)
1990	56	(0.2)	21	(0.0)	6/	3,142	(16.1)	85	(0.9)
1991	138	(0.4)	47	(0.1)		2,237	(12.8)	95	(1.0)
1992	92	(0.3)	19	(0.0)	6/	1,824	(11.7)	148	(1.8)
1993	60	(0.2)	-2	(-0.0)	6/	1,702	(12.4)	96	(1.1)
1994	74	(0.2)	-26	(-0.1)		1,300	(10.3)	42	(0.5)
1995	63	(0.2)	-5	(-0.0)	6/	1,003	(8.7)	73	(0.8)
1996	109	(0.3)	48	(0.1)		1,298	(12.3)	82	(0.8)
1997	78	(0.2)	27	(0.0)	6/	756	(7.7)	16	(0.2)
1998	100	(0.2)	68	(0.1)		674	(7.4)	27	(0.2)
1999	144	(0.3)	172	(0.2)		522	(5.8)	9	(0.1)
2000	120	(0.3)	121	(0.2)		478	(5.5)	35	(0.3)
2001	272	(0.6)	68	(0.1)		333	(3.9)	62	(0.5)
2002 7/	162	(0.3)	110	(0.1)		446	(5.6)	35	(0.3)

NA=Not available. 1/ Calendar year data for nonreal estate loans, computed for those banks that must report this data. Beginning in December 1987, charge-offs do not include losses qualified for the loan deferred loan loss program. 2/ Calendar year data. 3/ Fiscal year data beginning October 1. Include data on the insured (direct) farm loan programs. FSA data are not directly comparable with commercial lenders because of some accounting differences. 4/ Loan charge-off data are not available for life insurance companies. 5/ Loan loss data rounded to nearest million dollars. 6/ Less than 0.05 percent. 7/ Commercial bank data through June 30, 2002, and Farm Credit System and life insurance company data through September 30, 2002.

Sources: American Council of Life Insurers, Investment Bulletin: Mortgage Loan Profile; Board of Governors of the Federal Reserve System, Report of Condition and Report of Income files; Federal Farm Credit Banks Funding Corporation Reports and Farm Credit Administration LARS database; and Farm Service Agency, 616 Direct Borrowers Delinquency Report.

## Government Payments Help Farmers Service Debt

Direct government farm payments are expected to be about \$13.1 billion in 2002 and \$17.6 billion in 2003, with payments being down in both years from the \$21.9 billion average for 1999-2001. Slower than expected sign-up by farmers has delayed some payments from 2002 to 2003. Driven by improving commodity prices and higher government payments, net cash income is projected to rise from \$46.3 billion in 2002 to \$51.3 billion in 2003. As a result, many farmers will face lower near-term cash flow constraints in 2003.

Farm business debt is projected to rise about 4 percent in 2003, following a 5.1-percent increase in 2002. At anticipated 2003 price and income levels, farmers are expected to have less difficulty in meeting their debt service obligations in 2003. Given the relatively low commodity prices of the last few years, farmers are expected to use improved cash flow to manage debt loads and become more restrained in taking on new debt. As total debt levels rise above previous highs, lenders are anticipated to be more cautious in extending credit.

## Farmers' Use of Repayment Capacity Remains High

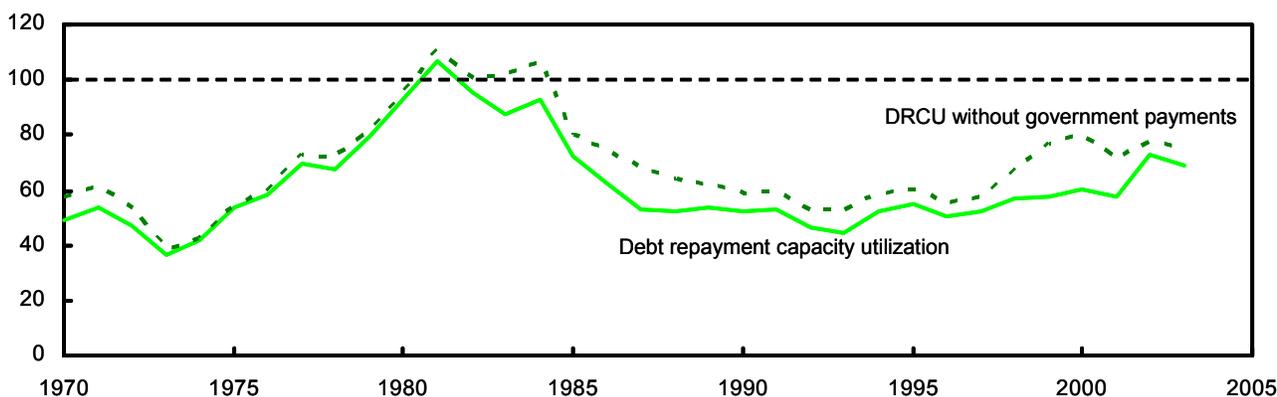
Debt management is crucial during periods of potentially decreasing farm incomes. Net cash income, which measures the amount of funds available to meet expenses as they come due during the year, is forecast

## Government payments and the farm balance sheet

The rise in farm business debt has been facilitated by substantial recent government assistance to farmers. Government payments not only contribute to farm income, but also impact both asset and debt components of the farm balance sheet. The value of agricultural land depends largely on its expected future earnings, and a rise in available cash can affect the overall amount and composition of debt. Direct government payments are generally attached to the land, and accrue primarily to landowners, supporting farmland real estate values. Rising real estate values support higher mortgage loan levels. Payments also provide funds to facilitate the purchase of machinery, equipment, livestock, and other farm production assets, while also reducing the amount of debt needed to finance the purchase of capital assets.

Government payments further affect farm debt, since, depending on the timing of receipt of payments, farmers may require less credit to meet their seasonal production financing needs. More importantly, the generally counter-cyclical nature of government payments tends to stabilize income, minimizing the impact of catastrophic market losses, and reduces the risk faced by both farm operators and the lenders providing them credit. In some instances, the additional funds from government payments can be used to pay down or eliminate existing debt commitments.

Figure 13  
**Government payments have helped farm operators meet debt service payments, 1970-2003F**  
 Percent



Values for 2002 and 2003 are forecasts.  
 Source: Economic Research Service, USDA.

at \$51.3 billion for 2003. While this represents a \$5 billion rise from 2002, net cash income would still be \$4.6 billion below its 1993-2002 average. The improvement in farm operator income translates into a potential improvement in ability to meet debt payments for most farmers in 2003.

Farm debt repayment capacity utilization (**DRCU—actual debt expressed as a percentage of maximum debt that could be repaid from current annual income**) measures the extent to which farmers are using their available lines of credit. DRCU is expected to decline from about 73 percent in 2002 to less than 69 percent in 2003. While this is a modest improvement, 2003 DRCU is substantially higher than its level during 1999-2001, when it ranged between 57 and 60 percent (**fig. 13**). The relatively high DRCU suggests that some farmers may place greater reliance on available credit lines in 2003, and these farm operators may still have a difficult time meeting interest and principal payments on their outstanding debt.

Government payments have provided many farmers with the resources to meet repayment obligations that could have otherwise presented severe cash flow problems during the last few years. Without government payments, farm operators' DRCU could have theoretically reached about 80 percent in both 1999 and 2000. In the absence of government payments, DRCU could have declined to 72 percent in 2001, then increased to 78 percent in 2002. In 2003, it could drop modestly to about 76 percent. This suggests that, while Government payments have assisted many farmers in meeting principal and interest obligations, improved market returns since 2000 have reduced farmers' reliance on government payments for debt service.

### ***Debt repayment capacity utilization (DRCU)***

In applying a debt coverage ratio of, say, 1.25, lenders would effectively require that no more than 80 (1/1.25) percent of a loan applicant's available income be used for repayment of principal and interest. For farm operators, this income available for debt service (measured as net cash income plus interest) determines the maximum loan payment the farmer could make. Given current market interest rates and a predetermined repayment period, the maximum debt that the farmer could carry with this loan payment can be determined. Using current bank interest rates and a 7-year repayment period, maximum feasible debt conceptually measures the line of credit that could be available to farmers. Debt repayment capacity utilization is a measure of actual debt relative to this theoretical maximum feasible debt. For a more complete discussion of DRCU, including the equations used in its calculation, see: [http://www.ers.usda.gov/Briefing/FarmIncome/Glossary/def\\_drcu.htm](http://www.ers.usda.gov/Briefing/FarmIncome/Glossary/def_drcu.htm).

## Interest Rates on Agricultural Loans Fell Sharply in 2002

Interest rates on farm loans have continued their downward trend since inflation drove them to double-digit levels in 1981 (fig. 14). By the end of 2002, interest rates on new farm loans have fallen to levels not seen in the agricultural sector in many years. By the fourth quarter of 2002 the rates on large bank loans and direct FSA operating loans were less than the minimum interest rate allowed (5.0 percent) on the Farm Service Agency's (FSA's) loans for limited resource farmers (app. tables 4 and 5). These historically low interest rates were observed across all farm institutional lenders: commercial banks, the Farm Credit System (FCS), life insurance companies, and the U.S. Department of Agriculture's FSA. The FCS and large banks tend to serve larger, more financially secure commercial farmers. Other banks tend to serve smaller farmers while the Farm Service Agency serves average to below-average size farmers who cannot obtain credit at reasonable terms and rates from the institutional lenders.

Interest rates on "outstanding loans" in 2002, which include both new loans made in 2002 and loans made in previous years, also fell to lows not observed in the agricultural sector since the 1960's. Interest rates on the older fixed rate loans made prior to 2002 are affected by 2002 interest rate declines when the loans are refinanced. Interest rates on the older variable rate loans follow 2002 rate trends with a lag when they are adjusted to reflect the new levels in their respective indexes, such as the prime rate. The interest rate series for "outstanding loans" include loans made by both institutional and noninstitutional lenders; i.e., merchants and dealers as well as individuals and others.

In 2001, the Federal Reserve reduced its Federal Funds target rate 11 times for a total decrease of 475 basis points. In 2002, the Fed used a one-time-only, 50-basis-point nudge downward in its Federal Funds rate target. The decline in interest rates in 2002 was primarily due to a sharp decline in the demand of investment credit by the nonfarm business sector. Expectations of continued low inflation continue to put downward pressure on interest rates.

An *interest rate spread* is the difference between the interest rates for two related financial securities. While interest rates in the general economy have declined to

the lowest levels observed in decades, interest rate spreads between commercial debt and U.S. Treasuries are the largest in decades. For example, while Aaa-rated corporate bond yields in 2001-2002 were at their lowest levels since 1976, the spread between Aaa bond yields and yields on 10-Year Treasury Bonds in 2001-2002 was the highest it has been since 1976.

The table below shows interest rate spreads calculated for nonreal estate loans made by commercial banks to farmers with respect to two related short-term, interest-bearing financial securities: the annual Bank Prime rate (a popular base rate used by banks for their short-term loans) and the annual yield on 1-year Treasury bills (1YTb). Spreads are calculated for three different periods. The first period represents the beginning of the most recent recession (March 2001) through the end of 2002. The third period represents the previous recessionary interval (July 1990 through March 1991) while the second period (April 1991 through February 2001) represents the intervening expansionary interval.

Bank Nonreal Estate Farm Spreads

Month/Year	Prime rate	1YTb
3/2001 - 12/2002	1.10	4.10
4/1991 - 2/2001	0.85	3.60
7/1990 - 3/1991	1.25	3.90

The current short-term spread (3/2001 – 12/2002) has increased to a level similar to the one in the earlier recession (7/1990 – 3/1991). The increased spread may reflect increased risk in farm nonreal estate lending as well as an increase in general risk aversion on the part of farm lenders.

Similarly, the spread between the interest rate on real estate loans to farmers made by commercial banks and the yield on the 10-Year Constant Maturity Treasury Bond (10TB) is shown in the following table:

Bank Real Estate Farm Spreads (%)

Month/Year	10TB
3/2001 - 12/2002	2.90
4/1991 - 2/2001	3.00
7/1990 - 3/1991	3.20

Here, the interest spread for real estate loans has declined versus its 1991-2001 average. The recent decline in this spread with respect to the previous two periods may reflect the increase in the slope of the Treasury yield curve and the fall in the loan-to-value ratio of the collateral underlying real estate loans in the farm sector.

The fixed-rate premium is the difference between fixed interest rates and variable interest rates offered on similar loans. Farmers prefer fixed-rate loans if they believe interest rates will rise in the future. Lenders prefer variable rate loans if they anticipate an upward trend. When rates are expected to increase, lenders offer borrowers a smaller initial rate to encourage the farmer to assume the riskier variable rate loan. The stronger their belief and the larger the expected rate increase, the larger the fixed-rate premium. Below are the fixed-rate premiums for three commercial bank agricultural loan series for the upper Midwestern U.S.: real estate loans (REL), short-term operating loans (SOL), and farm machinery and equipment loans (FME):

Bank fixed rate premiums (basis points)

Year	REL	SOL	FME
2002	60	43	57
1991-2001	19	18	22

The increase in the fixed-rate premiums in 2002 suggest bankers expected rising interest rates in 2002-2003.

Stronger domestic and foreign economic growth in the second half of 2003 and into 2004, a weaker dollar, and continued low inflation will probably lead to a mild-to-moderate increase in interest rates during 2003. Any

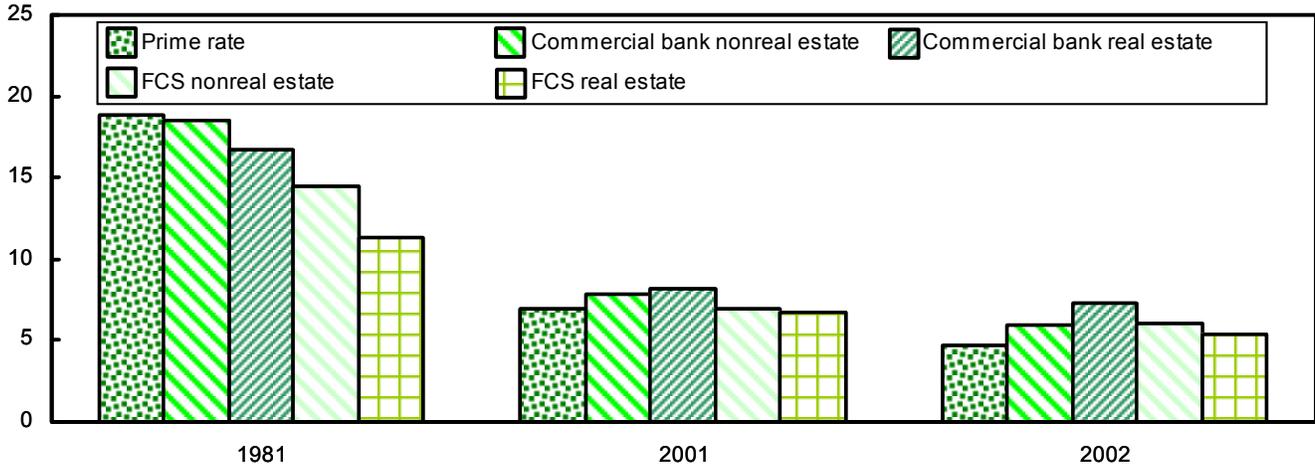
future increase in the risk to farm lending will be partially offset through higher collateral requirements and requiring increased farmer use of risk management tools (crop insurance, contracts, and hedging). Rising farmland values have reduced loan-to-value ratios, increasing farmer creditworthiness, thereby reducing the default risk premium added to rates on real estate loans. Interest rates on new nonreal estate farm loans by the end of 2003 are expected to be about 20 basis points above their fourth quarter 2002 levels. Interest rates on new real estate farm loans are expected to rise about 25 to 50 basis points over the same period.

Nominal and real farm sector interest expenses for 1960-2002 are given in [fig. 15](#). It is important to consider how the ongoing *interest rate changes* will translate into *changes in total farm sector interest expenses* in 2003. Recent interest rate reductions by the Federal Reserve Bank suggest that a favorable interest rate environment for farm borrowers developed in 2001-02 and will continue in 2003. Interest rates have reached lower levels in recent years at the same time that total farm debt has been increasing. Farm debt is estimated to have grown \$9.9 billion in 2002 and is forecast to expand another \$7.8 billion in 2003. Interest paid on outstanding debt and rates on existing loans will not immediately be affected by any changes in current market rates because a sizable portion consists of longer term loans. While three-fourths of bank nonreal estate loans made in 2002 were variable rate loans, these loans adjust at regularly scheduled dates and lag Federal Reserve rate changes. Refinancing plays an important role in this process as shown in the [Farm Debt section](#) later in this report. Thus, total farm sector interest expenses (excluding households) decreased 4.8 percent in 2002 to \$12.2 billion. In 2003, total sector interest expenses are forecast to increase about 1 percent to \$12.3 billion.

Figure 14

**Selected interest rates, selected years**

Percent

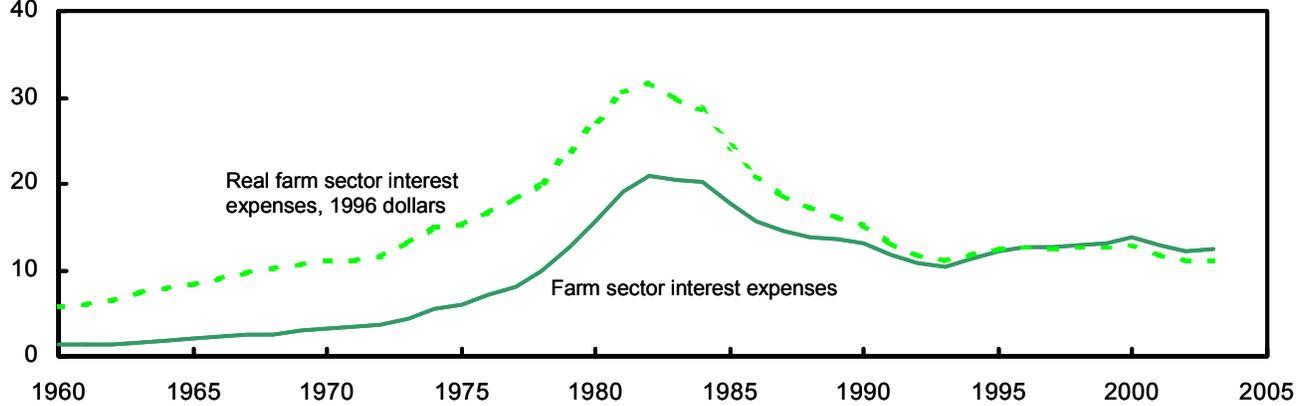


Source: Board of Governors of the Federal Reserve System, Agricultural Finance Databook, and data collected directly from various Farm Credit District Banks.

Figure 15

**Farm sector interest expenses (excluding households), 1960-2003**

\$ billion



Source: Economic Research Service, USDA.

### **Agricultural Banks Hold a Slim Majority of Farm Loans Made by Commercial Banks**

Agricultural banks reported a \$1.4-billion increase to \$44.2 billion in the total value of their farm lending portfolios during June 2001-June 2002, compared with a \$1-billion increase the previous year (table 4). The increase in farm loans outstanding at agricultural banks is consistent with prior reports of increased carryover debt (loans not paid off after a growing season that are carried over as loans in the next growing season) due to low commodity prices. But it may also reflect new loans by bankers who believe that continued Federal support payments in times of low prices will enable most farmers to remain current on their loans.

While farm loans outstanding at nonagricultural banks had been increasing fairly steadily since at least 1991, a \$0.9-billion decline in farm loans for nonagricultural banks during June 2001-June 2002 left them with 47.6 percent of commercial bank farm loans, down from 49 percent the previous year. In all but two years over the past decade, the absolute amount of the increase in farm debt held by nonagricultural banks was larger than that for agricultural banks. The June 2002 drop in outstanding farm loans was even greater (\$1.4 billion) at nonagricultural banks with assets exceeding \$500 million. It is too soon to detect a trend or determine the cause of last year's decline, but several interesting hypotheses can be posed. Some large banks may be consciously reducing their exposure to the farm sector, losing business to Farm Credit System or smaller bank competitors, or replacing long-term farm real estate loans by other farm loans that do not stay on a bank's books for many years.

While large firms dominate most aggregate statistics in the commercial banking industry, the farm sector is somewhat different. Nonagricultural banks with assets over \$500 million do have a 72-percent share of commercial bank farm debt held by all nonfarm banks (table 4). But few farm banks reach this size, and as a group those with assets below \$500 million hold more farm loans in their portfolios than the large nonagricultural banks.

### **Agricultural Banks Remain Highly Profitable**

Aggregate data for agricultural banks indicate that this group of lenders remained very profitable through the middle of 2002. Low loan loss provisions and large

### **What is an Agricultural Bank?**

The Board of Governors of the Federal Reserve System (FRB) classifies a bank as agricultural if its ratio of farm loans to total loans exceeds the unweighted average of the ratio at all banks on a given date—14.97 percent on June 30, 2002, (table 7). The Federal Deposit Insurance Corporation (FDIC) criterion is a constant 25-percent ratio of agricultural loans to total loans. Unless otherwise indicated, the FRB definition is used throughout this report. Most agricultural banks (farm banks) retain much larger agricultural shares in their loan portfolios, and therefore remain sensitive to conditions in the agricultural sector of the economy. Farm loans averaged about 33 percent of total loans at all farm banks in 2002 and are 46 percent for farm banks with below \$25 million in assets (table 4).

The dollar amount of farm loans outstanding typically peaks in the summer and declines the rest of the year as production loans are paid down. Thus, the use of June data rather than end-of-year data in the last column of table 7 distorts recent trends in the number of agricultural banks. For the 6 months ending June 30, 2002, the number of farm banks declined by only 46 to 2,644 using the FRB definition and actually increased by 23 to 1,896 using the FDIC definition. Both definitions show declines when comparing June 2002 to June 2001 (not shown in the table) with 100 fewer FRB farm banks and a drop of 73 in FDIC's count of farm banks. The trend toward fewer farm banks reflects an industry-wide drop in the number of commercial banks over the last decade due mostly to mergers, but also some bank failures.

interest rate spreads supported healthy profits for agricultural lenders. An annualized mid-2002 rate of return on assets (ROA) of 1.3 percent is a bit higher than it has typically been since 1992 (table 5). At 12.0 percent, return on equity was back up from 11.3 percent the prior June to the range prevailing over the last decade. This increase is more impressive given that regulators have been encouraging banks to build up capital levels for many years.

Continued strength in ROA reflects general quality in farm bank loan portfolios. Loans in nonperforming status at midyear were 1.2 percent of total loans,

compared with 0.9 percent for small nonagricultural banks and also higher than agricultural bank values of recent years (table 6). As measured by ROA, return on equity (ROE), and loan quality, agricultural bank performance was similar to that of small nonagricultural banks (tables 5 and 6). Agricultural banks maintained high average capital-to-asset ratios during 2002.

Because large banks lend a greater percentage of their deposit base (table 8), profitability data often show them earning lower rates of return on their assets than do smaller banks. However, in the first part of 2002, the smallest banks registered the lowest ROA and the highest ROA was earned by banks with over \$500 million in assets (table 9). Large banks improved their

profitability in part by continuing to keep real estate loan problems under control. As of June 30, 2002, only 1 percent of big bank real estate loans were nonperforming (app. table 8), though up slightly from a year earlier. Rate of return on equity increased uniformly with bank size (table 9), helped by greater leverage in the larger banks.

The smallest banks, those with \$25 million or less in assets, include 537 agricultural banks and 275 nonagricultural banks (table 4). The smallest agricultural banks accounted for 3 percent of loans to agriculture held in the portfolios of commercial banks. Agricultural banks with less than \$25 million in assets earned an ROA of 1 percent, compared with a loss of -0.4 percent for nonagricultural banks of that size class

Table 4--Agricultural lending from agricultural and nonagricultural banks, by bank size, June 30, 2002 1/

Total assets	Agricultural banks					Nonagricultural banks				
	Banks	Total ag loans	Avg. ag loans	Ag lending share 2/	Ag loans/total loans	Banks	Total ag loans	Avg. ag loans	Ag lending share 2/	Ag loans/total loans
Million dollars	Number	---Million dollars---	-----Percent-----		Number	---Million dollars---	-----Percent-----			
Under 25	537	2,493	4.6	3.0	46.4	275	103	0.4	0.1	3.9
25-50	776	7,146	9.2	8.5	41.6	657	605	0.9	0.7	3.9
50-100	772	12,218	15.8	14.5	36.2	1,312	2,084	1.6	2.5	3.4
100-300	473	14,625	30.9	17.3	31.2	1,846	5,689	3.1	6.7	2.7
300-500	51	3,485	68.3	4.1	27.2	458	2,823	6.2	3.3	2.5
Over 500	35	4,199	120.0	5.0	21.4	705	28,830	40.9	34.2	0.8
Total	2,644	44,165	16.7	52.4	32.6	5,253	40,134	7.6	47.6	1.1

1/ Figures are weighted within size class. 2/ This represents the percentage of total commercial bank agricultural loans held by this size group of banks.

Source: Calculated from the Report of Condition and Report of Income files, Board of Governors of the Federal Reserve System.

Table 5--Selected bank performance measures, by type of bank, 1994-2002 1/

Performance measure	1994	1995	1996	1997	1998	1999	2000	2001	2002 2/	
	Percent									
Rate of return on equity capital										
Agricultural banks	12.0	11.9	11.8	12.1	11.8	11.9	12.4	10.8	12.0	
Nonagricultural small banks	12.8	13.0	12.9	13.1	12.4	12.2	12.2	10.4	11.4	
Rate of return on assets										
Agricultural banks	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.3	
Nonagricultural small banks	1.1	1.2	1.2	1.2	1.2	1.1	1.1	1.0	1.1	
Provisions for loan losses as a percentage of loans										
Agricultural banks	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	
Nonagricultural small banks	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	
Capital as a percentage of assets										
Agricultural banks	10.8	11.3	11.1	11.4	11.2	10.8	11.0	11.1	11.5	
Nonagricultural small banks	10.1	10.6	10.7	10.8	10.8	10.6	10.7	10.7	10.9	

1/ Rate of return on equity is net income after taxes as a percentage of the average of total equity capital at the beginning and end of the year. Rate of return on total assets is net income after taxes as a percentage of total assets on December 31. 2/ 2002 ratios are June 30 data, annualized; all others are December 31.

Source: Calculated from the Report of Condition and Report of Income files, Board of Governors of the Federal Reserve System.

(not shown). These small nonfarm banks may be dominated by new banks which typically lose money their first few years, whereas many established farm banks remain small due to the size of their local markets.

Agricultural banks' loan-to-deposit ratios averaged almost 77 percent in June 2002, compared with 78 percent at small nonagricultural banks and 92 at large nonagricultural banks (fig. 16 and table 8). While loan ratios typically decline between June and December at agricultural banks as farmers repay their loans, 77 percent is high by historical standards. Because this is an average, higher loan ratios at some farm banks may lead their managers to consider slowing lending activity.

Higher loan-to-deposit ratios at large banks may suggest that small commercial banks are more liquid. However, the loan-to-deposit ratio's traditional role as

a liquidity measure has been weakened by nondeposit funding sources and secondary markets for loan sales. Some banks hold more loans, resulting in higher loan-to-deposit ratios. Other banks reduce risk and their loan-to-deposit ratios by selling loans and acquiring securities instead. Large banks use nondeposit sources of loanable funds liberally, as witnessed by their much lower value of deposits as a percentage of liabilities (table 8). This ratio was about 70 percent for the largest banks, but 90 percent or more for all other size categories. However, small banks also have access to nondeposit funds, such as advances from the Federal Home Loan Bank System (FHLBS). This may help to explain why small banks seem comfortable with higher loan-to-deposit ratios in recent years. As of June 2002, 3,965 banks had \$214 billion in FHLBS advances outstanding. Most advances (\$183 billion) were owed by 545 banks with assets above \$500 million, and these advances represented about 58 percent of the category "Other borrowed money" on their quarterly financial

Table 6--Nonperforming loans as a percentage of total loans, by type of bank, 1994-2002 1/

Type of bank	1994	1995	1996	1997	1998	1999	2000	2001	2002 2/
	Percent								
<b>Agricultural</b>									
Total nonperforming 3/	1.0	1.0	1.1	1.0	1.1	1.0	0.9	1.1	1.2
Past due 90 days 4/	0.3	0.3	0.4	0.3	0.4	0.3	0.3	0.4	0.4
Nonaccrual	0.7	0.7	0.7	0.6	0.7	0.6	0.6	0.7	0.8
<b>Small nonagricultural 5/</b>									
Total nonperforming 3/	1.1	1.0	1.0	0.9	0.9	0.8	0.8	0.9	0.9
Past due 90 days 4/	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3
Nonaccrual	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.7	0.7

1/ Data are weighted by bank asset size using June 30th balances. 2/ 2002 figures are for June 30; all others are December 31. 3/ Columns may not equal totals due to rounding. 4/ Still accruing interest. 5/ Banks with less than \$500 million in assets that were not agricultural by the Federal Reserve Board definition.

Source: Calculated from the Report of Condition and Report of Income files, Board of Governors of the Federal Reserve System.

Figure 16  
**Agricultural banks' aggregate loan-to-deposit ratio, June 1961-June 2002**



Source: Board of Governors of the Federal Reserve System, Report of Condition and Report of Income files.

reports. But the \$31 billion in outstanding advances at smaller banks accounted for over 97 percent of other borrowed money at those banks.

Surveys conducted by several Federal Reserve District Banks during the third or fourth quarter of 2002 provide a somewhat mixed picture of the health of farm banks and their ability to obtain sufficient loanable funds. The surveys suggest that in spite of relatively high loan-to-deposit ratios, most agricultural banks do not consider availability of loanable funds a problem. This likely can be attributed in part to a growing ability and willingness of small banks to supplement core deposits with alternative funding sources such as Federal Home Loan Bank advances. However, in contrast to a year earlier, the surveys suggest that in addition repayments are decreasing and renewals are increasing for farm loans. Financial reports show that farmers are staying current on most loans, presumably with the help of Federal support payments, so increased renewals do not indicate serious problems at this point. The general impression provided by the survey results is that farm banks remain healthy and liquid. They would gladly make any farm loans that are deemed creditworthy, but the definition of creditworthy is being modestly restricted through mechanisms such as greater collateral requirements.

### ***Farm Loan Quality a Bit Mixed, but Solvency Measures Look Good for All Bank Groups***

With moderate loan delinquencies and charge-offs, farm loan quality remained strong through the first half of 2002. About 1.5 percent of commercial bank agricultural production loans were delinquent as of June 2002 (table 2), the same as in June 2001 (not shown). Net charge-offs of farm production loans totaled \$162 million on an annualized basis at all commercial banks in the first 6 months of 2002 (table 3), down from \$226 million in the first half of 2001 (not shown). While this decrease is a good sign, even the higher 2001 charge-offs were negligible relative to outstanding loans and to charge-offs observed during the farm crisis of the mid-1980s. Loan loss provisions were only 0.4 percent of outstanding loans for agricultural banks, reflecting management's positive outlook for future loss rates (table 5).

Two agricultural banks, out of over 2,600, failed in 2002, compared with none in 2000-01 and one each in 1997-99 (fig. 17). This reflects continued strength in farm bank loan quality and wide net interest margins, but also follows national trends of very strong

### ***Agricultural Bank Surveys***

Several Federal Reserve District Banks undertake quarterly surveys of agricultural banks in their regions to assess the opinions of bankers concerning conditions for farm credit and farmland values. Much of the information in these surveys is subjective—for example, bankers in the Chicago District are asked whether the availability of loan funds is higher, lower, or the same as during that quarter a year earlier. Responses are summarized in the form of an index value (100 plus the percentage of bankers saying higher less the percentage responding lower) that indicates a trend more so than an absolute measure of credit conditions. For example, in the Chicago Fed survey covering the third quarter of 2001, an index value of 86 for loan repayment rates was up quite a bit from values seen during the past few years. But an index below 100 still means that fewer bankers observed higher loan repayment rates relative to 2000 than reported lower loan repayment rates. In spite of some ambiguity in interpreting the survey results, they reflect the opinions of bankers with an intimate knowledge of the financial condition of their local farmer borrowers.

performance by the banking industry. Eight nonagricultural banks failed in 2002, compared with three in 2001 and six each in 1999-2000 (app. table 10). Just one agricultural bank and five nonfarm banks had nonperforming loans exceeding their capital at midyear, compared with two farm banks and three other banks at the end of 2001 (app. table 9). Based on examinations by Federal regulators, the Federal Deposit Insurance Corporation (FDIC) rated 126 commercial banks (less than 2 percent of all banks) as problem institutions at the end of September 2002, the most since March 1996. (The identity of these banks is not made public.) Even an increasing proportion of agricultural banks on the list would not signify widespread troubles for farm banks since most farm banks are profitable and not rated as problem banks.

Bank capital reduces the risk of bank failure by cushioning losses and supports liquidity by maintaining depositor confidence. Capital-to-asset ratios for midyear 2002 show that commercial banks—regardless of size—have sufficient capital to handle any reasonable projected loan losses (table 8). Small commercial banks had capital-to-asset ratios ranging from 11 to 15 percent, compared with around 11 to 12 percent for the three largest bank categories. A

narrower measure, the ratio of equity capital to assets, averaged 14 percent for the smallest banks, but only 9 percent for banks with assets above \$500 million. Large banks tend to be highly leveraged, with more loans outstanding per dollar of equity capital.

### Current Banking Issues

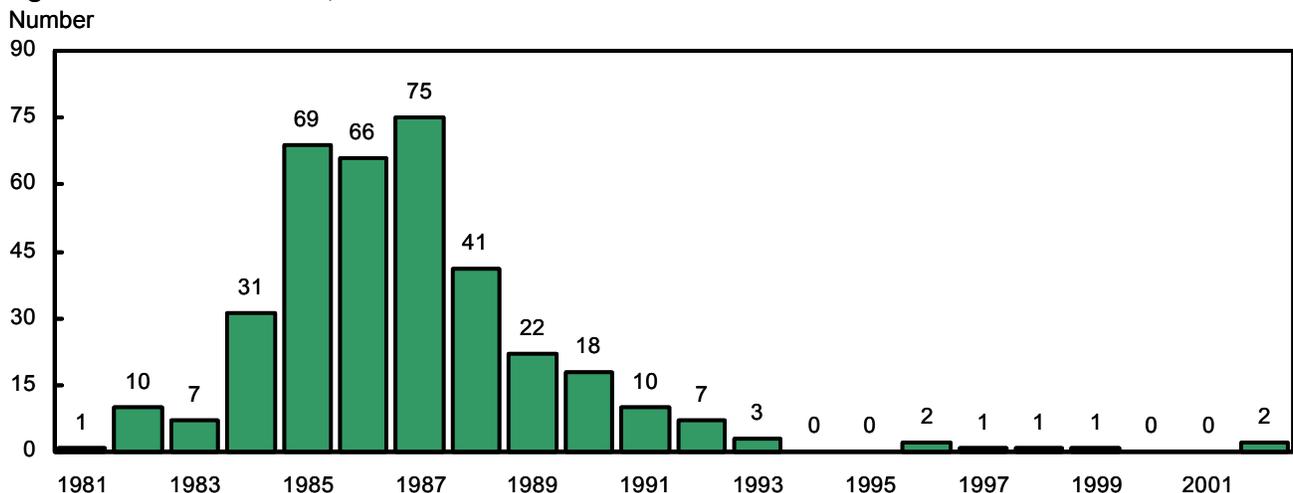
The issues that interest the banking sector have not changed much during the past year. Bankers continue to monitor the effects of financial reform provided by the Gramm-Leach-Bliley Act of 1999 (GLB). This Act allows banking, insurance, and securities firms to merge their operations as affiliates of a financial holding company or as subsidiaries of a bank. Several hundred banking firms have registered as financial holding companies to facilitate future use of these new authorities, but outside of several well-publicized cases involving very large firms, relatively little activity has been observed so far in this arena.

GLB also permits most community banks to join the FHLBS and to use agriculture and small business loans as well as housing loans as collateral for FHLBS advances. Many small banks are using these advances to supplement deposits as a stable source of loanable funds. But community banks also support proposals to increase the maximum account size protected by

Federal deposit insurance. The limit was last raised in 1980, and bankers argue that an increase would help them to attract and retain more loanable funds since fewer large depositors would need to find alternative safe outlets for their investment funds.

The major trade groups for banks, the American Bankers Association (ABA) and the Independent Community Bankers of America (ICBA), are concerned about what they perceive as unfair competition from the Farm Credit System (FCS) and from credit unions. Farm banks have competed against FCS lenders for decades, but ABA and ICBA argue that the FCS is making too many loans not covered under its Congressional mandate. They also lobby against attempts to greatly extend the geographic reach of FCS institutions. ABA and ICBA argue that credit unions have unfair advantages (no income tax and not covered by the Community Reinvestment Act), which would not be a serious issue if they had retained their earlier role of providing basic financial services to very limited groups of potential members, such as employees of a particular firm. But today credit unions often provide many more financial services such as mortgages and business loans. Further, some credit unions have grown quite large and are seeking authority to greatly expand their membership base.

Figure 17  
**Agricultural bank failures, 1981-2002**



Source: Federal Deposit Insurance Corporation Press Releases and Board of Governors of the Federal Reserve System, Report of Condition and Report of Income files.

Table 7--Number of agricultural banks, by definition, 1994-2002 1/

Item	1994	1995	1996	1997	1998	1999	2000	2001	2002 2/
Commercial banks (Number)	10,401	9,892	9,476	9,080	8,703	8,502	8,231	8,007	7,897
FRB Agricultural banks (Number)	3,548	3,363	3,250	3,108	2,974	2,879	2,773	2,690	2,644
FRB farm loan ratio (Percent)	16.99	16.72	16.35	16.34	16.24	15.58	15.00	14.79	14.97
FDIC Agricultural banks (Number)	2,826	2,642	2,480	2,374	2,271	2,116	1,979	1,873	1,896

1/ Includes domestically chartered FDIC-insured commercial banks with non-zero deposits, assets, and loans. 2/ 2002 figures are for June 30; all others are December 31.

Source: Calculated from the Report of Condition and Report of Income files, Board of Governors of the Federal Reserve System.

Table 8--Selected commercial bank solvency and liquidity ratios, by bank size, June 30, 2002 1/

Total assets	Banks	Capital asset 2/	Equity asset	Loan deposit	Loan asset	Deposit liability
Million dollars	Number	Percent-----				
Under 25	812	15.3	14.3	68.7	56.9	96.7
25-50	1,433	12.5	11.6	71.6	60.7	95.9
50-100	2,084	11.4	10.5	74.7	63.2	94.5
100-300	2,319	10.8	9.9	77.9	65.1	92.7
300-500	509	10.9	9.8	81.3	66.0	90.0
Over 500	740	12.0	9.1	91.6	58.3	70.2
Total	7,897	11.9	9.3	89.4	59.0	72.9

1/ Weighted average within size class. 2/ Total capital includes equity capital, allowance for loan and lease losses, minority interest in consolidated subsidiaries, subordinated notes and debentures, and total mandatory convertible debt.

Source: Calculated from the Report of Condition and Report of Income files, Board of Governors of the Federal Reserve System.

Table 9--Selected commercial bank profitability and efficiency measures, by bank size, June 30, 2002 1/

Total assets	Return on assets 2/	Return on equity 3/	Asset utilization 4/	Noninterest income to total income	Interest expense to total expense	Interest expense to interest income
Million dollars	Percent					
Under 25	0.54	3.77	7.03	14.87	35.58	35.91
25-50	0.95	8.22	6.90	11.18	41.22	36.90
50-100	1.06	10.08	6.96	11.11	42.63	36.99
100-300	1.20	12.19	7.25	14.71	41.39	35.81
300-500	1.28	13.04	7.56	19.28	39.09	34.90
Over 500	1.37	15.00	7.89	33.97	34.57	34.23
Total	1.34	14.54	7.81	31.84	35.37	34.46

1/ All ratios are on an annualized basis and weighted within class size. 2/ Rate of return on assets is net income after taxes as a percentage of total assets. 3/ Rate of return on equity is net income after taxes as a percentage of total equity. 4/ Asset utilization is gross income as a percentage of total assets.

Source: Calculated from the Report of Condition and Report of Income files, Board of Governors of the Federal Reserve System.

## Lending Volume on the Rise Again

FCS loan volume grew at a brisk pace once again in 2002 (table 10). Overall outstanding FCS loan volume grew by 10 percent from September 30, 2001 through September 30, 2002, with outstanding volume in long-term real estate loans and loans made in connection with international transactions each up 13 percent, and outstanding short- and intermediate-term loan volume up by 9 percent. Only loans to cooperatives showed sluggish growth in 2002.

Growth in lending volume was fairly uniform across the country, with a majority of FCS associations recording double digit volume growth and only a handful experiencing declines in lending volume. Higher farmland values, which increase borrowing needs, greater demand for the refinancing of outstanding debts, and low borrowing rates, which encourage debt expansion, help explain the rise in farm real estate lending. Since 1996 outstanding FCS loan volumes for short- and intermediate-term loans and for long-term real estate loans have grown by over 50 percent. The rapid rise in this FCS debt (which is mostly farm related) is not as dramatic as that of the late-1970s and early-1980s farm debt explosion. Nonetheless, the rise is noteworthy and repayment of this debt is highly dependent upon government farm support programs.

A fast growing component of the short- and intermediate-term loan category continues to be loans to farm-related businesses and marketing and processing businesses. The Farm Credit Administration (FCA) has liberalized regulations in this area, making it easier for these types of businesses

to be eligible for FCS loans. The 2002 Farm Act granted the CoBank greater authority to finance the import and export of farm supplies, agriculture-related equipment, agricultural processing equipment, and other capital goods used in storing and handling agricultural commodities or products. The FCS also has authority to finance “other financing institutions” (OFI), which include commercial banks, thrifts, credit unions, and other financial entities. FCA reported in its *Performance and Accountability Report Fiscal Year 2002* that use of OFI authority was increasing in 2002, but the volume stood at just \$300 million on September 30, 2002.

During 2002, FCS institutions pursued several strategies to improve the efficiency with which they use their capital or to relieve capital constraints on business growth. One such strategy is to participate in loans among FCS institutions and between FCS institutions and non-FCS lenders. Since 1996, loan participations with non-FCS lenders have risen from less than 2 percent of total loans to 5.6 percent of total loans (or \$4.9 billion) as of September 30, 2002. Total loan participation volume with non-FCS lenders grew by 19 percent in the 12 months ending September 30, 2002, with much of the increase coming from participation on loans to borrowers who would not otherwise be eligible to borrow directly from the FCS (“similar entity” loans). The increase in participations allows FCS lenders to diversify the risk in their portfolios, use their at-risk capital more efficiently, and increase lending volume. FCA modified loan participation rules effective March 4, 2002, to allow System lenders to have 100 percent participations in loans. In addition, the 2002 Farm Act eliminated the requirement that before participating in certain similar

Table 10--Farm Credit System loan volume, by loan type, December 31, 1996-2001 and September 30, 2002

Loan type	1996	1997	1998	1999	2000	2001	2002
	Billion dollars						
Long-term real estate 1/	29.60	30.66	32.98	34.19	36.33	40.89	44.78
Short and intermediate term 2/	15.11	16.64	17.84	17.87	19.52	22.27	23.33
Domestic loans to cooperatives 3/	13.84	14.06	14.79	15.31	16.87	16.71	16.77
Loans made in connection with international transactions	2.62	2.07	2.29	2.63	2.51	2.78	3.03
Total	61.18	63.44	67.90	70.00	75.22	82.64	87.92

Sources: Federal Farm Credit Banks Funding Corporation, Farm Credit System Annual Information Statement, and Farm Credit System Quarterly Information Statement, various dates.

1/ Includes rural home loans and various loans classified as “other.” Housing loans totaled approximately \$2 billion on September 30, 2002. 2/ Includes portion of loans classified as “lease receivable” and various loans classified as “other.” Lease receivables, including those to cooperatives, totaled \$2.2 billion on September 30, 2002. 3/ Includes loans to rural utilities, rural water and waste facilities, and a portion of loans classified as “lease receivables”. Loans to utilities totaled \$6.9 billion on September 30, 2002.

entity loans originated outside that lender's chartered territory, the association, FCB, or CoBank must first obtain prior permission from the affected FCS institution.

Another strategy is the purchase of Farmer Mac guarantees (see Farmer Mac section of this report) on portions of their farm mortgage portfolios. These guarantees reduce required capital, allowing lenders to operate both safely and legally with lower overall capital levels. As of September 30, 2002, 5.3 percent of FCS long-term real estate loan portfolios had been guaranteed by Farmer Mac. A similar mechanism being used by FCS associations is the use of Federal and State loan guarantee programs. As of September 30, 2002, 2.7 percent of FCS farm loans or \$1.8 billion had a federal or state guarantee. While most FCS associations use Federal or State loan guarantee programs, many are infrequent users of these risk reducing tools.

### ***District and Association Consolidation Continues***

Effective at the beginning of January 2003, the number of Farm Credit Banks (FCB) dropped from six to five as AgAmerica FCB merged into AgriBank FCB ([app. figure 1](#)). AgAmerica had been operating under a joint management agreement with the Western FCB since March 1, 1997, but they terminated that agreement on January 1, 2002 to pursue the merger with AgriBank. Northwest Farm Credit Services, one of just two Agricultural Credit Association Parents in the AgAmerica district, affiliated with the CoBank Agricultural Credit Bank (ACB) instead of AgriBank. With further consolidation at the association level, more mergers of FCBs are likely. On January 1, 2002, the FCB of Wichita and the Western FCB became jointly managed and their boards of directors agreed to pursue a merger that would become effective on October 1, 2003. In a related move, the FCB of Wichita will change its official name to US AgBank, FCB, on that day, but in the meantime both banks are using US AgBank as their trade name.

At the association level, favorable tax and regulatory rulings have made the parent ACA, with Production Credit Association (PCA) and Federal Land Credit Association (FLCA) subsidiaries, the preferred operating structure. Only two of the 86 remaining ACAs in the FCS are not structured this way. The parent ACA structure encourages associations to merge or form new ACAs by removing the tax disadvantage of the previous ACA structure, namely the loss of the

income tax exemption enjoyed by Federal Land Bank Associations (FLBAs) and FLCAs on interest earnings from real estate loans.

By 2001, none of the original FLBAs remained in the FCS, either having been merged into an ACA structure or converted to an FLCA charter, where lending authority and loan assets reside at the association as opposed to the FCB. Just 13 independent FLCAs remained in the FCS at the beginning of 2003, most of which are in the Texas FCB district ([app. table 7](#)). The last two stand-alone PCAs were merged and converted into subsidiaries of a parent ACA at the start of 2003. At the start of 2003, just 99 FCS lending associations remained, which is a sharp contrast to the nearly 900 FLBAs and PCAs that existed 20 years ago and the nearly 2,300 that existed at the end of World War II.

Whereas 20 years ago a typical FCS association covered a small geographic area of several counties and specialized either in land loans or farm production loans, the typical FCS association of today covers large regions, delivers a wide range of farm and rural credit programs and financial services, and has an extensive loan portfolio. As of September 30, 2002, 16 associations had loan portfolios exceeding \$1 billion. The consolidations can yield economic benefits, such as improved financial strength at the individual association level due to a more diversified lending portfolio and asset base. Yet, the consolidations may yield greater costs, such as reduced access to credit as local offices close and less specialized product choices as lending becomes more uniform. The consolidation of FCS assets has implications for issues that range from the original concept of local borrower control of lending policies to how the consolidated System will fund itself, to how it will be regulated in the future. With 276 employees at the end of fiscal 2002 and a \$36 million regulatory bill, FCA may face pressure to rethink its regulatory infrastructure as the number of FCS institutions it regulates falls.

### ***YBS Targeting Under Review***

Following the recommendations of a General Accounting Office (GAO) Report (*Farm Credit Administration Oversight of Special Mission to Serve Young, Beginning, and Small Farmers Needs to Be Improved*) issued in March 2002, the FCA published in September 2002 an [Advanced Notice of Proposed Rulemaking \(ANPRM\)](#) concerning the Farm Credit System's service to young, beginning, and small farmers and ranchers (YBS). FCA defines a young farmer as 35 years old or less, a beginning farmer as

one with 10 years or less of farming or ranching experience, and a small farm as one with less than \$250,000 in annual gross sales. The YBS targeting requirement comes under Section 4.19 of the Farm Credit Act of 1971. This section of the law requires FCS lenders to target these underserved borrowers by providing sound and constructive credit and related services to them and to coordinate these efforts with other FCS lenders, and other governmental and private sector lenders.

The GAO report recommended that FCA strengthen its oversight of YBS lending by promulgating a regulation that outlines specific activities and standards that are acceptable toward meeting YBS statutory requirements and that FCS associations are examined regularly as to their compliance with the regulation, including the disclosure to the public of these examination results. In the ANPRM, FCA is seeking to develop results-oriented YBS guidelines for FCS lenders to follow, define effective measurement mechanisms of YBS performance goals, and identify procedures for adequate public disclosure of the FCS's compliance with statutory YBS requirements. In November, FCA held a public hearing seeking input from interested parties concerning these objectives.

Current FCA policies and procedures with respect to the YBS mission requirement were last updated in December 1998, when FCA issued a booklet to FCS institutions revising YBS definitions and reporting procedures. These policies were fully phased in on January 1, 2001.

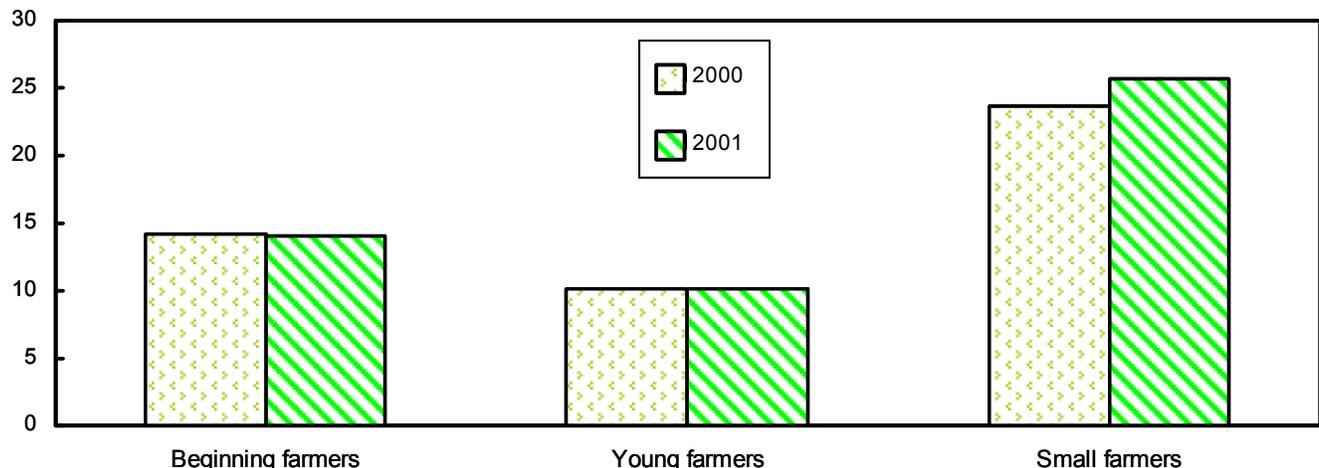
While data between 2000 and 2001 might not be directly comparable due to reporting differences, FCA data suggest that YBS lending by FCS lenders was relatively stable from 2000 to 2001 (fig. 18). However, considerable variation in lending is evident across FCS institutions. When assessing the level of YBS targeting, one needs to keep in mind that a single loan can be counted in all three target groups and that lending to non-operators, such as landlords, may also be included in the totals. The Census of Agriculture's Agricultural Economics and Land Ownership Survey (AELOS) for 1999 shows that nearly 20 percent of the FCS's total farm loan volume is owed by non-operator landlords.

The YBS classification methodology currently used by FCA elevates the percentages of FCS lending to these targeted groups relative to those percentages reported by the Census of Agriculture or by the Farm Service Agency. For example, if a young farmer or one with little farming experience is listed on the FCS note, then the loan may be counted in either or both of these YBS categories. So a son or daughter operating a farm with a parent would qualify the loan for an YBS designation. Again, ALEOS provides some figures for comparison on how definitions can affect totals. FCA data for both 2000 and 2001 indicate outstanding FCS loan volume to young farmers was stable at 12 percent, but the 1999 AELOS data suggest that just 6 percent of total outstanding FCS farm operator loan volume was owed by farm operators less than 35 years of age. AELOS also indicates that just 7 percent of all farm operator debt is owed by farmers in this age group. The AELOS definition captures the age of the senior or primary farm operator, but ignores junior partners.

Figure 18

**Share of total Farm Credit System new farm loan volume to young, beginning, and small farmers**

Percent



Source: Farm Credit Administration, Performance and Accountability Report for Fiscal Year 2002.

## System Remains Financially Healthy

The financial condition of the FCS was strong as it entered 2003. During the first 9 months of 2002, income, portfolio quality, and at-risk capital all were strong. Overall, credit quality remains strong, but did show some weakening through September 2002 as year-over-year, nonaccrual loans increased from \$781 million to \$1.0 billion. However, nearly \$200 million of the increase in nonaccrual loans was associated with loans to agribusiness cooperatives and to energy and communication companies. As a result, the share of total FCS loans in nonaccrual status or were over 90 days past due rose from 1.02 percent at the end of 2001 to 1.24 percent at the end of September 2002 (table 11).

Systemwide statistics hide differences in performance among FCS districts and entities. Nonaccrual loan levels increased substantially in the AgFirst and AgAmerica districts and at the CoBank, ACB, but changed little or fell at the other districts. The ratio of nonaccrual loans to total loans (excluding guaranteed loans) ranged from 1.8 percent at CoBank, ACB and 1.5 percent in the AgAmerica district to as little as 0.5 percent in the Wichita district.

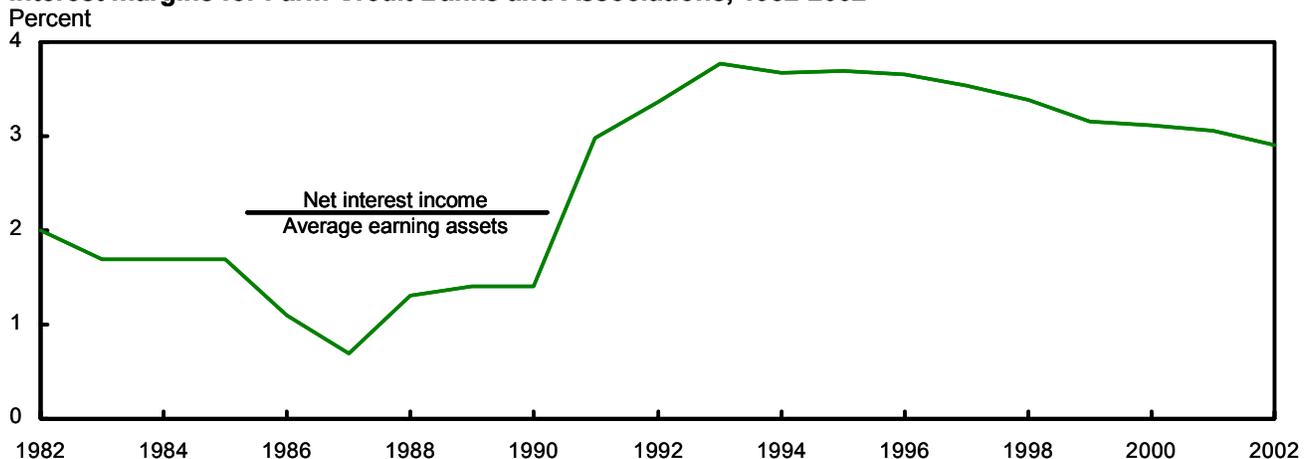
FCS net income was accumulating at a rate of \$1.83 billion per year during the first 9 months of 2002 (table 12), up slightly from the 1.79 billion reported for 2001. A decline in the amount added to the provisions for loan losses aided income growth relative to the first 9 months of 2001. Non-interest expenses for the first 9 months of 2002 rose compared with the first 9 months

of 2001, but the ratio of these expenses to total loans fell due to the large increase in loan volume. Non-interest income fell slightly in the first 9 months of 2002 relative to the first 9 months of 2001.

Net interest rate spreads (the difference between the interest earned on earning assets and the interest paid on interest-bearing sources of funds) increased to 2.24 percentage points during the 9 months ending September 30, 2002, from 1.98 points a year earlier. Spreads increased primarily because yields on interest-bearing funds used to finance FCS lending activities fell faster than rates charged on loans. Net interest margins (net interest income relative to average earning assets) for the FCS as a whole were stable, while the FCBs and their related associations experienced a slight decline (fig. 19). CoBank ACB and its related associations saw interest margins rise.

Capital adequacy for the System also remains strong. By September 30, 2002, FCS at-risk capital, including loan loss allowances and the FCS insurance fund, stood at \$19.1 billion or 21.7 percent of loans outstanding and 17.4 percent of total assets (table 11). At-risk capital measures all resources that can be liquidated without impairing bondholders. Such resources include unprotected borrower stock, the FCS Insurance Fund, allowances for losses on loans, as well as surplus. The ratio of at-risk capital to total assets is a measure of the cushion between stockholders and bankruptcy. The at-risk capital-to-total loans ratio has been relatively stable over the past 6 years of rapid growth in FCS loan volume.

Figure 19  
Interest margins for Farm Credit Banks and Associations, 1982-2002\*



\* Net interest income as a percentage of average earning assets. Average earning assets consist of gross loans plus cash and investments. Data represent combined totals for Farm Credit Banks and Associations, excluding those Associations affiliated with CoBank, ACB. Data for 2002 are through September 30.

Source: "Summary Report of Condition and Performance of the Farm Credit System," various dates, Federal Farm Credit Banks Funding Corporation, Jersey City, NJ.

While Systemwide at-risk capital has been relatively stable, there is considerable variation in capital positions of district FCBs and FCS associations. Across districts, permanent capital ratios ranged from 18 to 21 percent with the exception of CoBank's 12.1 percent ratio on September 30, 2002. For FCS associations, 90 percent had permanent capital ratios

above 12.8 percent, with the lowest ratio being 10.5 percent and the greatest being 28.1 percent. The regulatory minimum permanent capital ratio is 7 percent. Accumulated surplus for the System grew to \$13.5 billion on September 30, 2002, equivalent to 12.5 percent of total assets and is a substantial equity cushion.

Table 11--Farm Credit System financial indicators, December 31, 1996-2001, and September 30, 2002

Item	1996	1997	1998	1999	2000	2001	2002
				Percent			
At-risk capital/total loans 1/	20.22	21.15	21.15	21.70	21.77	21.82	21.68
Percent of loans in nonaccrual status or over 90 days past due	1.10	0.99	1.83	1.41	1.01	1.02	1.24
Other expense/total loans	1.40	1.41	1.40	1.41	1.38	1.34	1.27 2/

1/ At-risk capital includes allowances for losses on acquired property and loans, surplus and unprotected borrower stock and participation certificates, and the FCS Insurance Fund. 2/ Annualized rate based on first three quarters' performance.

Sources: Federal Farm Credit Banks Funding Corporation, Farm Credit System Annual Information Statement, and Farm Credit System Quarterly Information Statement, various dates.

Table 12--Farm Credit System income statement, December 31, 1996-2001, and September 30, 2002

Item	1996	1997	1998	1999	2000	2001	2002 1/
				Billion dollars			
Total interest income	5.78	5.94	6.12	6.14	7.04	6.59	5.53
Interest expense	-3.62	-3.75	-3.88	-3.87	-4.64	-3.94	-2.75
Net interest income	2.16	2.19	2.24	2.27	2.40	2.66	2.78
Provision/reversal for loan losses	-0.14	-0.09	-0.15	-0.18	-0.14	-0.19	-0.10
Loss/gain on other property	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Other income	0.20	0.24	0.31	0.31	0.29	0.42	0.36
Other expense	-0.86	-0.90	-0.97	-1.00	-1.05	-1.14	-1.12
Debt repurchase	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Taxes	-0.17	-0.19	-0.18	-0.17	-0.07	0.03	0.09
Net income	1.20	1.27	1.25	1.23	1.42	1.79	1.83

1/ Annualized rate based on first three quarters' performance.

Sources: Federal Farm Credit Banks Funding Corporation, Farm Credit System Annual Information Statement, and Farm Credit System Quarterly Information Statement, various dates.

## Farm Loan Portfolios Remain Strong

Historically, agricultural real estate mortgages have been an important investment for life insurance companies, which have been a key source of farm real estate loan funds. On June 30, 2002, approximately 20 life insurance companies held 12,000 agricultural loans. During 2002, the quality of agricultural mortgage portfolios of life insurance companies remained high.

Life insurance companies closed new farm mortgage loans totaling \$1.88 billion in 2002. Loan demand is expected to be moderate in 2003 with the stock of life insurance company farm loans outstanding projected by ERS to expand 1.5 percent, down from 2.4 percent in 2002 and well below the yearend 1995-2002 annual average 5 percent increase.

## Delinquency Rates Low

The agricultural loan delinquency rate based on dollar volume was 1.8 percent on June 30, 2002, down slightly from 1.9 percent a year earlier (table 13). The June 30, 2002, nonagricultural rate was 0.3 percent. Agricultural mortgage delinquency rates continued at a low level in 2002. They were 3 percent as recently as June 1996 and were 5.5 percent in June 1992 (the peak was 19.9 percent in June 1986). The June 2002 1.8 percent level is below all post-1979 rates except for the very low rates experienced in 1996-99. During the 1991-97 period, the agricultural delinquency rate was generally lower than the nonagricultural rate in terms of dollar volume. (In terms of the number of loans, the agricultural delinquency rate was below the nonagricultural rate most of the time between late 1991 and the end of 2000.) But beginning in late 1997 in

Table 13--Life insurance company mortgage loan delinquencies, 1980-2002 1/

End of month	Rates by number of loans		Rates by amount		
	Nonagricultural mortgages	Agricultural mortgages	Nonagricultural mortgages	Agricultural mortgages	
	Percent				
1980	Dec.	1.06	0.54	0.89	2.00
1981	Dec.	1.11	0.77	0.69	3.69
1982	Dec.	1.07	1.66	0.83	6.40
1983	Dec.	1.10	2.63	0.90	8.27
1984	Dec.	1.24	3.78	0.90	9.58
1985	Dec.	1.43	6.34	1.16	15.06
1986	Dec.	1.64	8.30	2.65	17.01
1987	Dec.	1.60	6.83	2.61	14.31
1988	Dec.	1.74	4.44	2.44	8.87
1989	Dec.	1.68	2.68	2.37	4.74
1990	Dec.	2.10	2.40	3.60	4.22
1991	Dec.	2.66	2.34	5.79	3.84
1992	June	2.87	4.07	7.35	5.48
	Dec.	3.05	2.64	6.50	3.33
1993	June	2.78	3.47	6.23	4.06
	Dec.	2.84	1.99	4.48	2.21
1994	June	2.94	2.51	5.00	3.77
	Dec.	2.81	1.27	3.34	2.60
1995	June	2.67	1.67	3.53	2.85
	Dec.	2.51	1.14	3.43	2.72
1996	June	2.48	1.57	2.58	2.92
	Dec.	2.50	0.83	1.81	0.92
1997	June	2.66	0.96	1.57	0.94
	Dec.	2.13	0.69	0.92	0.97
1998	June	2.01	1.19	0.82	1.80
	Dec.	2.09	0.82	0.51	1.35
1999	June	1.63	1.27	0.33	1.39
	Dec.	1.54	0.89	0.27	0.84
2000	June	1.36	1.01	0.32	1.49
	Dec.	1.53	0.87	0.29	1.27
2001	June	1.25	1.33	0.25	1.91
	Dec.	1.24	0.92	0.14	1.47
2002	June	1.51	1.77	0.28	1.80

1/ Delinquent loans (including loans in the process of foreclosure). A delinquent loan is a nonfarm mortgage with interest payments in arrears at least 2 months (60 days if other than a monthly payment) or a farm loan with interest in arrears more than 90 days.

Source: American Council of Life Insurers, Investment Bulletin: Mortgage Loan Portfolio Profile, various issues.

terms of dollar volume, agricultural loan delinquency rates exceed nonagricultural rates, although both are at low levels. Some \$234.3 million in life insurance company agricultural mortgage debt was delinquent on June 30, 2002, a modest level for the industry.

The agricultural mortgage loan delinquency rates demonstrate some seasonality, with the rates often higher in June than in December (shown by the 1992-2002 data in table 13). According to the American Council of Life Insurers, the volatility in agricultural loan delinquencies is due, in part, to the payment schedule of farm loans. Unlike commercial mortgages, a large percentage of agricultural mortgages have quarterly or even semiannual payment schedules. These schedules, together with the fact that farm income may only be generated a few times a year when crops or livestock are sold, can result in swings in agricultural loan delinquency rates. These varied

payment schedules are also one of the reasons why agricultural delinquencies are defined as 90 days past due rather than the 60-day benchmark used for commercial properties.

### **Foreclosure Rates at Low Level**

The share of agricultural mortgage loans based on dollar volume in the process of foreclosure stood at 0.4 percent on June 30, 2002. It was below the nonagricultural rate during 1991-98, but the June 30, 1999, quarterly report for the industry showed that it had moved above the 0.2-percent nonagricultural foreclosure rate (table 14). The agricultural rates remain at the lowest levels since 1980. A total of \$53.1 million in life insurance company farm mortgage loans was in the process of foreclosure on June 30, 2002, down from \$119.9 million 6 years earlier. Agricultural mortgage loans in the process of foreclosure totaled 57

Table 14--Life insurance company mortgage loans in the process of foreclosure, 1980-2002 1/

End of month	Rates by number of loans		Rates by amount		
	Nonagricultural mortgages	Agricultural mortgages	Nonagricultural mortgages	Agricultural mortgages	
Percent					
1980	Dec.	0.09	0.17	0.17	0.72
1981	Dec.	0.12	0.28	0.23	1.20
1982	Dec.	0.16	0.63	0.29	2.41
1983	Dec.	0.16	0.89	0.31	2.60
1984	Dec.	0.16	1.75	0.18	4.54
1985	Dec.	0.21	2.86	0.31	7.11
1986	Dec.	0.29	3.84	0.84	7.83
1987	Dec.	0.41	3.02	1.07	6.43
1988	Dec.	0.45	2.60	1.22	4.83
1989	Dec.	0.43	1.30	1.29	2.28
1990	Dec.	0.51	1.13	1.71	1.91
1991	Dec.	0.68	1.29	2.78	2.24
1992	June	0.77	1.74	3.40	3.11
	Dec.	0.76	1.57	3.08	2.32
1993	June	0.84	1.52	2.89	1.93
	Dec.	0.80	1.04	2.14	1.30
1994	June	0.82	0.97	2.46	1.04
	Dec.	0.82	0.68	1.77	1.11
1995	June	0.80	0.62	2.05	1.02
	Dec.	0.68	0.32	1.42	1.17
1996	June	0.70	0.42	1.52	1.26
	Dec.	0.66	0.30	1.09	0.32
1997	June	0.61	0.26	0.90	0.33
	Dec.	0.54	0.19	0.58	0.18
1998	June	0.53	0.25	0.46	0.20
	Dec.	0.50	0.22	0.32	0.24
1999	June	0.49	0.25	0.18	0.24
	Dec.	0.40	0.22	0.10	0.17
2000	June	0.39	0.21	0.20	0.29
	Dec.	0.28	0.17	0.15	0.19
2001	June	0.32	0.37	0.08	0.41
	Dec.	0.28	0.41	0.07	0.33
2002	June	0.32	0.48	0.08	0.41

1/ Reporting companies account for approximately 85 percent of the mortgages held by U.S. life insurance companies depending on the date of the survey. Loans in foreclosure include those on which foreclosure action has been authorized, including any involved in a subsequent filing of bankruptcy. Beginning in 1988, loans in the foreclosure category include delinquent loans for which the firm is negotiating a deed in lieu of foreclosure.

Source: American Council of Life Insurers, Investment Bulletin: Mortgage Loan Portfolio Profile, various issues.

on June 30, 2002, down from 322 on December 31, 1992, but above the 30 recorded on December 31, 1997.

The number and dollar amounts of agricultural loans actually foreclosed have generally declined since 1986. They are now running at levels on an annual basis comparable with 1980 and earlier. Agricultural mortgage loan foreclosures were \$61.6 million in 2001, and 16 worth \$36.3 million were recorded in the first 6 months of 2002 (table 15).

### Important Trends Affect Lending

The life insurance industry's relationship with agriculture has changed considerably since the farm financial crisis of the early to mid-1980s. In spite of the changes, life insurance companies have been resilient lenders to the farm sector by continuing to originate a significant volume of farm loans during both the financial highs and lows experienced by agriculture through the years. They held 11.1 percent of the farm mortgage debt (including operator households) at yearend 2002, which compares with 12 percent when the USDA series began in 1910, and a high of 25.1 percent in 1955-56. Life insurance company outstanding farm loan portfolios have trended up since the end of 1992, gaining 40.2 percent by yearend 2001 (app. table 2).

Approximately 20 companies now hold farm mortgages. The number of life insurance companies making new farm mortgage loans declined from 12 in 1980 to 6 in late 1996, with most departures occurring in 1986. The six companies (AEGON USA, Citigroup Investments AgriFinance, Lend Lease Agri-Business, Metropolitan Life, MONY Life Insurance, and Prudential) currently active in farm lending account for about 90 percent of the industry's farm mortgages and generally have high total assets and large farm mortgage portfolios. They have virtually pulled out of the small- to medium-sized farm mortgage market in favor of loans to agribusiness, timber, and specialty enterprises. These moves accelerated in the wake of the farm sector's financial problems of the early- to mid-1980s. These companies are emphasizing larger (\$500,000 or more) agricultural loans, with an industry average of \$1,074,445 on September 30, 2002. The nominal life insurance company average farm loan size increased 669 percent between 1980 and 2002. In comparison, the average size of an FCS agricultural real estate loan on September 30, 2002, was \$138,521. The ratio of life insurance company to FCS average real estate loan size has grown from 2.2 in 1980 to 7.8 in 2002.

Since 1980, the concentration of life insurance company farm mortgage holdings has shifted away from the Corn Belt (Illinois, Indiana, Iowa, Missouri,

Table 15--Life insurance company mortgage loans foreclosed, 1980-2002 1/

Year	Nonagricultural mortgages		Agricultural mortgages	
	Number	Thousand dollars	Number	Thousand dollars
1980	549	63,237	26	18,160
1981	552	58,491	47	55,741
1982	760	131,392	167	170,310
1983	868	114,993	306	347,002
1984	1,024	242,428	475	289,251
1985	1,033	328,558	1,000	530,235
1986	1,541	1,143,082	1,654	827,472
1987	2,048	1,580,027	1,515	691,914
1988	1,196	2,530,105	727	364,414
1989	1,098	2,178,949	356	204,361
1990	1,018	3,042,171	122	85,281
1991	1,284	4,942,349	125	94,875
1992	1,365	6,665,288	88	148,006
1993	1,159	6,013,084	79	96,318
1994	844	4,463,787	31	41,745
1995	640	3,055,039	21	73,258
1996	400	1,661,973	23	81,538
1997	285	1,373,452	14	15,949
1998	168	746,232	7	26,690
1999	113	538,652	3	8,908
2000	75	402,627	5	34,720
2001	55	457,206	28	61,606
2002 2/	21	72,660	16	36,268

1/ Loans foreclosed include those for which title to the property or entitling certificate was acquired during the period shown, either through foreclosure or voluntary conveyance in lieu of foreclosure. Dollar amounts include principal outstanding at the time of the foreclosure, amounts capitalized for interest, foreclosure costs, and any advances made to protect the collateral. 2/ January 1 through June 30.

Source: American Council of Life Insurers, Investment Bulletin: Mortgage Loan Portfolio Profile, various issues.

and Ohio) to the Southeast (Alabama, Florida, Georgia, and South Carolina) and Pacific Coast (Alaska, California, Hawaii, Oregon, and Washington) farm production regions. The share of the industry's outstanding mortgage loan volume in the Corn Belt declined from 23.5 percent in 1980 to 12.8 percent in 2001, while the Pacific region's share increased from 19.3 percent to 36 percent. At 2001 yearend (based on the most recent State-level data), the Pacific region, Florida, and Texas together accounted for 48.6 percent of total outstanding dollar volume of life insurance farm mortgages.

The life insurance industry's relationship with agriculture has grown more complicated beginning in the mid-1980s with the direct acquisition of farmland in addition to expanding farm loan portfolios. Total loans held by life insurance companies (excluding households) at yearend 2002 were \$12.3 billion. The industry also now has sizable holdings of direct farmland investments. The most recent data from the American Council of Life Insurance are for yearend 1996 and show that life insurance companies owned \$2.96 billion in farm real estate. This figure amounted to 31.3 percent of year 1996 life insurance farm mortgage loans outstanding.

### ***Demand for New Loans To Be Moderate in 2003***

The life insurance industry continues to take a significant interest in farm real estate financing. There will be opportunities in 2003 for life insurance companies to make profitable farm mortgage loans, but the competition for the better quality loans will continue to be keen, particularly from the FCS. Active

companies continue to have sufficient loanable funds for qualified applicants and are aggressively competing on rate, terms, and loan-to-value ratio. It is expected that the demand for life insurance company farm loans will be moderate in 2003 with total loans outstanding expanding about 1.5 percent, the 11th consecutive year of increases. Most of the industry's new lending will consist of relatively large loans in selected States rather than being distributed evenly nationwide. Activity on Farmer Mac loans that can be sold out of the company's portfolio or from new loans is expected to be minimal.

Although insurance lenders recognize that current changes in U.S. farm policies can alter the location and incidence of financial stress, they are quite optimistic. The feeling is that the life insurance industry is in a strong position to weather these potential changes due to the wide diversity of crop types, States, and loan sizes. The life insurance industry farm loan situation compared with other agricultural lenders is tempered to a substantial degree because of the focus on larger farms and the amount of specialty crop and livestock loan activity. For example, pages 24-29 (particularly table 9 and figure 21) of *Agricultural Income and Finance Outlook (AIS-79)* show that government payments run 6 percent or less of gross cash income for farms specializing in "other crops" or various types of livestock. The farm borrower targeted by the insurance industry is the larger, diversified unit that is less likely to be negatively affected by changes in farm support payments. Also, much of the insurance industry's farm loan portfolio is secured by land on which non-government supported commodities are produced, which moderates the effects of any Federal support cuts.

## Emergency Lending Down in 2002

Emergency Loan Program (EM) lending dropped significantly in fiscal 2002 to just \$58 million (table 16). Adjusted for inflation using the GDP deflator this was the lowest EM obligation total since 1988, which itself was at a 30-year low. Lending under the program was concentrated in just a handful of States. Over a quarter of the lending occurred in Michigan, which experienced weather related production shortfalls in 2001. Lower program demand might reflect the fact that there was less difference between EM's 3.75 percent loan rate and rates available on other FSA direct or guaranteed farm loans during 2002.

The EM program did not receive funding in fiscal 2003, and the President's budget request for fiscal 2004 does not propose any funding. However, the EM program has carryover authority to cover loan requests for the remainder of fiscal 2003 and for fiscal 2004, with \$229 million for fiscal 2004. In the past, Congress has approved supplemental appropriations when major natural disasters have occurred and existing lending authority has been insufficient.

EM obligations totaled over \$35 million through the middle of March for fiscal 2003. EM lending could increase from this level depending on the distribution of supplemental emergency assistance available to farmers provided in the omnibus spending legislation

passed in February. Nearly 2,000 counties in 2002 were designated as primary natural disaster areas due to production losses and were eligible for disaster loans. The majority of these counties were designated due to causes related to drought.

## Loan Guarantee Use Up in 2002

New guaranteed loan volume rose to over \$2.6 billion in fiscal 2002, with a 29-percent rise in guaranteed farm ownership (FO) lending occurring (table 17, fig. 20). Guaranteed operating loan (OL) obligation volume rose more modestly at 6 percent. Overall new direct lending volume fell again in fiscal 2002 to just \$903 million, primarily because of the decline in EM loan obligations. With declining direct loan obligation volume and greater guaranteed loan obligation volume, the outstanding \$8.2 billion in guaranteed loan volume exceeded outstanding direct loan volume for the first time since the farm loan guarantee programs were introduced in 1974.

Despite the 15-percent rise in total loan guarantee obligations in fiscal 2002, total outstanding guaranteed debt rose more modestly at 5.5 percent during fiscal 2002. This is about the same rate of increase that outstanding commercial farm debt was estimated to have risen during 2002 (app. table 1). As a result, the share of total farm debt guaranteed by FSA remained at 4 percent.

Table 16--Farm Service Agency major farmer program level and obligations, fiscal 2002, and program level, fiscal 2003-4

Program	Fiscal 2002 program level 1/	Fiscal 2002 obligations 2/	Fiscal 2003 program level 1/	Fiscal 2004 program level 1/
Million dollars				
Farm ownership (FO)				
Direct	183.5	177.9	129.2	140.1
Guaranteed	1,181.9	1,101.2	1,041.9	1,000.0
Operating loans (OL)				
Direct	700.8	668.1	606.3	650.0
Guaranteed	1,593.8	1,549.7	2,111.0	1,666.2
Subsidized	502.3	496.4	401.3	266.2
Unsubsidized	1,091.4	1,053.3	1,709.7	1,400.0
Emergency disaster (EM)	405.2	57.6	229.0	0
Total	4,065.2	3,554.4	4,117.4	3,456.3

1/ Budgetary appropriations setting limits on the volume of new loans that can be issued during the fiscal year. Includes supplemental appropriations. Some funding is transferable between programs and some programs have unused funding available from previous years. Fiscal 2004 program levels are those proposed in the President's fiscal 2004 budget. 2/ Actual amount of lending authority committed to new loans or loan guarantees.

Source: Farm Service Agency, 205 Status of Loan and Grant Obligations Report, various issues.

One possible explanation for the rapid rise in guaranteed FO volume was a greater demand for FSA guarantees on loans used to refinance existing debt. In fiscal 2002, over 57 percent of guaranteed loans were made for this purpose, as opposed to the typical one-third share. How much of this greater demand for refinancing existing debt was associated with historical low interest rates or greater financial stress is uncertain.

Rising farmland prices may be contributing to the rise in demand for FO loans by increasing purchase money borrowing needs or by allowing farmers to qualify for greater borrowings when refinancing existing debts. There is some evidence that this might be occurring as the average guaranteed FO loan size rose in fiscal 2002 to \$282,000. This greater average loan size alone accounted for over one-third of the increase in aggregate guaranteed FO volume in fiscal 2002. Average loan sizes also rose 20 years ago when farmland prices were rising. But, as farmland prices started to decline in the mid-1980s, average loan sizes and loan demand also fell. Also contributing to higher loan sizes is the 1998 law change that increased the cap on guarantee FO loan program indebtedness from \$300,000 to \$700,000, adjusted for inflation.

Funding for the OL and FO programs for the remainder of fiscal 2003 should be tighter than in fiscal 2002, with only the guaranteed OL expected to have unused authority at year-end. Direct loan program funding proposed for fiscal 2004 is similar to fiscal 2003, but guaranteed lending for fiscal 2004 would experience cuts relative to fiscal 2003, particularly for OL lending. Under the proposed 2004 budget, the volume of guaranteed OL loans made with 4-percent interest rate assistance would fall by nearly 50 percent from fiscal 2002 levels. With farm borrowing rates near 40-year lows, borrower need for additional interest rate subsidies is less than if commercial borrowing rates were at higher levels.

### **Targeted Lending Rises**

Another explanation for the rise in FSA guaranteed loan obligations is a greater use of guarantees by lenders to service the credit needs of socially disadvantaged (SDA) and beginning farmer borrowers. FSA farm loan programs are targeted to these borrowers by setting aside lending resources and/or by providing them with special lending terms. Emergency loans are not targeted.

Table 17--Farm Service Agency farmer program obligations, September 30, 1987, to September 30, 2002

Fiscal year	Obligations 1/			Outstanding principal of farmer Programs 2/	
	Total	Direct (Insured)	Guaranteed		
			Amount	Share of total	
	-----Million dollars-----			Percent	Mil. Dol.
1987	3,080.5	1,515.0	1,587.4	51.5	28,147.6
1988	2,320.7	1,065.8	1,271.4	54.8	28,242.6
1989	2,229.6	1,030.1	1,199.5	53.8	26,525.6
1990	2,193.2	921.3	1,271.9	58.0	23,684.0
1991	2,124.1	633.7	1,490.4	69.2	21,992.1
1992	2,306.4	714.5	1,591.9	69.0	20,460.6
1993	2,135.2	672.7	1,432.5	67.1	18,815.5
1994	2,725.6	881.9	1,843.7	67.6	18,040.1
1995	2,501.9	563.6	1,938.3	77.5	17,451.1
1996	2,683.2	832.3	1,850.9	69.0	16,940.5
1997	2,319.3	744.8	1,574.5	67.9	16,342.7
1998	2,174.1	738.7	1,435.4	66.0	15,687.3
1999	3,839.3	1,288.9	2,550.4	66.4	16,262.3
2000	3,722.1	1,048.1	2,674.1	71.8	16,622.8
2001	3,258.5	943.6	2,314.9	71.0	16,327.5
2002	3,554.4	903.6	2,650.9	74.6	16,209.5

1/ Obligations are the dollar amounts of funds loaned or guaranteed, including the dollar amount of interest rate assistance provided on guaranteed loans for years prior to 1993. Excludes obligations for credit sales of acquired property, Indian land acquisition loans, apple, seed company, and agricultural resource conservation demo loans. 2/ Total outstanding principal balance of direct or insured and guaranteed program loans at yearend.

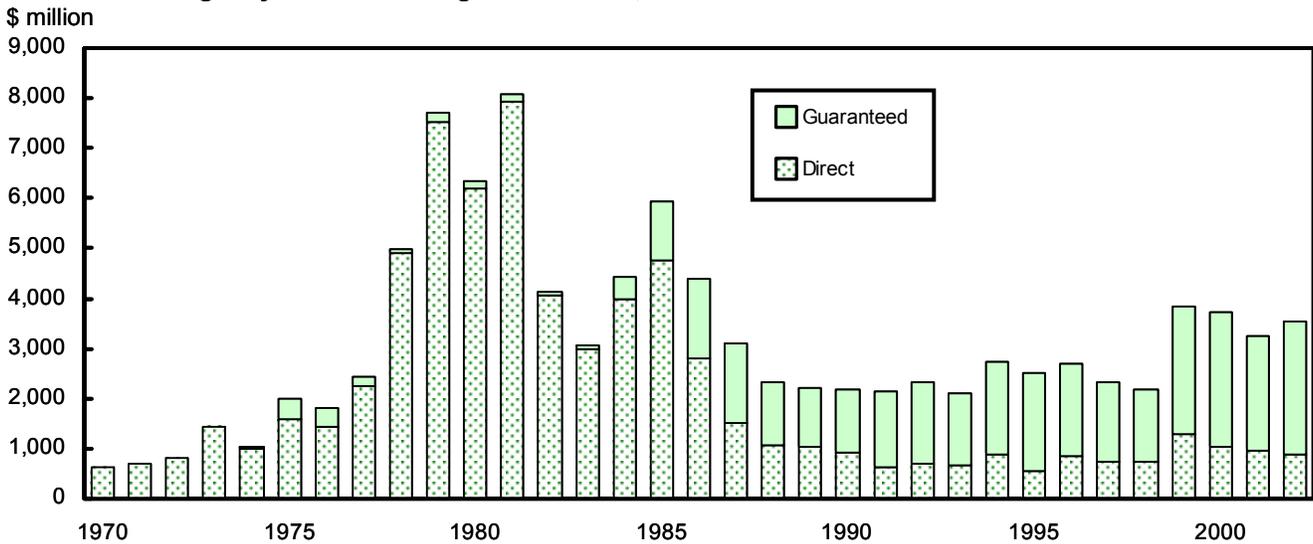
Source: Farm Service Agency, 205 Status of Loan and Grant Obligations Report, various issues.

An SDA farmer is one that may have been subject to racial, ethnic, or gender prejudice because of their identity as members of a group without regard to individual qualities. Guaranteed loan obligation volume to SDA borrowers rose 24 percent in the OL program and 21 percent in the FO program during fiscal 2002, compared with non-targeted guaranteed lending volume increases of 3 percent and 27 percent, respectively. SDA lending volume accounted for 8 percent of total guaranteed loan volume in fiscal 2002 (fig. 21). Total direct program lending volume to SDA borrowers actually fell slightly from fiscal 2001 as

direct FO usage by these applicants fell somewhat. Even so, 13 percent of total direct OL and FO lending volume went to SDA applicants.

In general, a beginning farmer is identified as one with 10 years or less experience owning or operating a farm. Lending volume to beginning farmers in the guaranteed OL and FO programs grew by 19 percent and 42 percent in fiscal 2002, respectively. Direct FO beginning farmer loan volume rose 25 percent, while OL lending to these farmers was little changed in 2002. With over 90 percent of direct FO lending going to

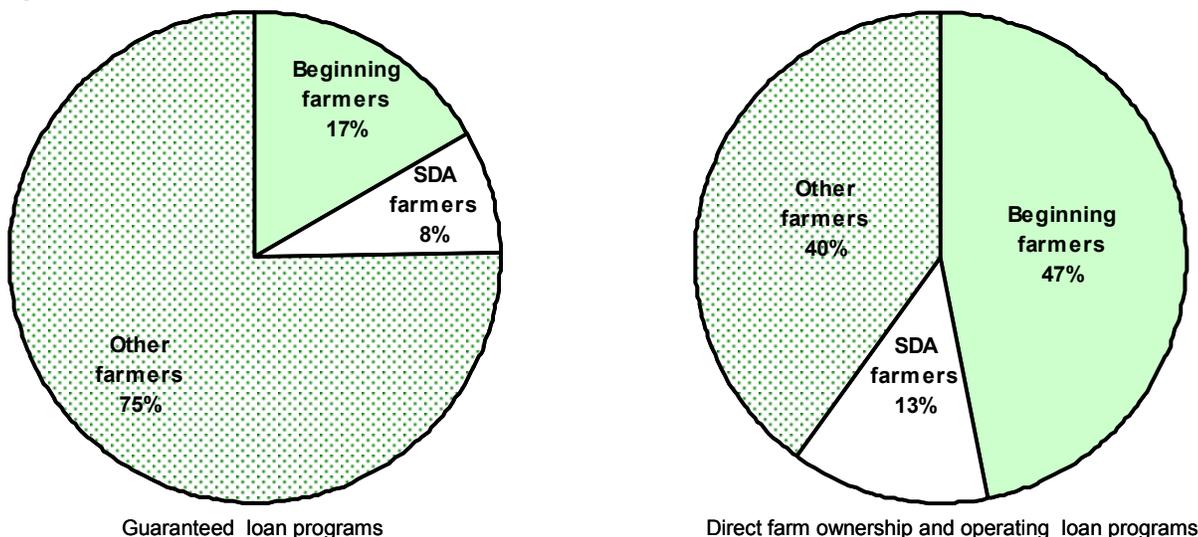
Figure 20  
**Farm Service Agency farm loan obligation volume, fiscal 1970-2002**



Source: Farm Service Agency, 205 Status of Loan and Grant Obligations Report, various issues.

Figure 21

**Fiscal 2002 Farm Service Agency farm loan program obligation volume by program type and by borrower classification**



Source: Farm Service Agency, 205 Status of Loan and Grant Obligations Report.

either beginning farmers or SDA farmers, little funding is available for non-targeted farmers within this program. Recent changes in eligibility and lending rules make it easier to qualify for beginning farmer loans and likely explain some of the observed increases.

### Loan Performance Stable

The quality of loans in the direct loan portfolios showed little indication of greater stress at the end of fiscal 2002. The delinquent payment rates within the direct programs continued to fall, particularly within the EM program (table 18). Delinquent principal and interest payments fell to just 11 percent of outstanding principal at the end of fiscal 2002, which compares with the 34-percent rate recorded at the end of fiscal 1989.

Considerable regional variations in delinquencies occur within the direct programs. In the OL program, five States had loan delinquency rates at least twice the national average of 12 percent. Regardless of the programs, delinquency rates are modest in most major

agricultural States, with Texas being a notable exception.

Due in part to strong farmland values and faster volume growth the last few years, the payment delinquency rate in the guaranteed FO program remained at just 1.2 percent in fiscal 2002 (table 19). However, delinquent loan volume within the guaranteed OL program was up 14 percent from last year, pushing the delinquency rate to 3.4 percent. There is also some significant variation in guaranteed OL delinquency rates across States. Delinquency rates are lower in the loan guarantee programs relative to direct loan programs because the credit standards and loan servicing standards and procedures are closer to those of commercial loans.

### Direct Borrowing Rates Fall

Interest rates on direct OL loans hit historic lows during 2002 as the Federal Reserve pushed short term rates to a 40-year low. The regular rate on direct OL loans fell from 4.75 percent in January 2002 to just 3.25 percent in December 2002 (fig. 22). This decline

Table 18--Farm Service Agency direct farmer loan program delinquencies, September 30, 1987, to September 30, 2002

Year 1/	Number of active cases 2/			Principal outstanding		
	Total	Delinquent 3/		Total	Delinquent 4/	
		Total	Proportion		Amount	Share of total
	Number	Percent	Million dollars	Percent		
1987	388,833	127,577	32.8	25,763.7	6,592.0	25.6
1988	376,388	137,958	36.7	25,065.0	8,321.7	33.2
1989	346,442	114,737	33.1	23,281.9	8,005.6	34.4
1990	299,069	80,341	26.9	19,544.2	6,138.8	31.4
1991	280,528	79,204	28.2	17,465.5	5,507.5	31.5
1992	251,892	73,657	29.2	15,536.7	4,804.8	30.9
1993	224,739	56,099	25.0	13,775.5	4,116.2	29.9
1994	208,130	47,723	22.9	12,622.6	3,569.9	28.3
1995	194,034	52,635	27.1	11,522.3	3,199.4	27.8
1996	182,305	42,111	23.1	10,584.2	2,420.3	22.9
1997	170,488	32,051	18.8	9,841.2	2,036.5	20.7
1998	158,920	28,013	17.6	9,152.6	1,692.0	18.5
1999	148,879	24,830	16.7	8,937.9	1,398.7	15.6
2000	142,294	22,118	15.5	8,657.9	1,178.6	13.6
2001	135,587	20,622	15.2	8,599.7	1,037.3	12.1
2002	124,191	19,775	15.9	8,059.2	890.5	11.0
2002 by major programs						
Farm ownership 5/	46,163	4,362	9.4	3,238.0	129.5	4.0
Operating loans 6/	42,526	9,103	21.4	2,882.5	351.6	12.2
Emergency-disaster	23,008	4,691	20.4	1,508.1	319.7	21.2

1/ September 30 of year shown. 2/ May include duplications because some borrowers have loans under several different programs. Prior to 1988 active cases excluded those borrowers who are in foreclosure, bankruptcy, or liquidation status. Active cases do not include loans made to associations. Excludes nonprogram loans. 3/ Prior to 1988 a case was considered delinquent when a payment was more than \$10 and 15 days past due. Beginning in 1988, a case is delinquent if a payment is more than 30 days past due. 4/ Past due principal and interest payments. 5/ Excludes loans for nonfarm enterprise purposes. 6/ Excludes loans to youths.

Source: Farm Service Agency, 616 Direct Borrowers Delinquency Report, various issues.

translates into annual savings of nearly \$700 on an average new OL loan. The regular rate is below the 5-percent limited resource rate that is available to borrowers unable to show ability to repay their debts at the regular rate. With the regular rate at or below the limited resource rate during most of fiscal 2002, nearly all OL program lending was made at regular rates. In contrast, just two years ago 44 percent of OL obligations were made at the limited resource rate, a figure typical for much of the 1990s.

The regular OL borrowing rate is based on the 5-year Treasury note rate, which fell sharply during the year. However, FO loan rates are based on U.S. Treasury Bonds with 25 years to maturity and those rates did not fall as much during the year. FO interest rates ranged from 5.50 to 6.25 percent, above the 5 percent limited resource rate. Just over a quarter of these loans were made at the limited resource rate, but still below the level which has been common in recent years. Limited resource rates are subject to annual eligibility review, whereas regular rates are set for the life of the loan.

Guaranteed borrowers also greatly benefited from the decline in interest rates throughout the economy during the year. While rates charged by lenders on guaranteed loans are supposed to be typical for the type of loan

requested, guaranteed borrowers experiencing cash flow problems can qualify for FSA interest rate assistance on OL loans. If a borrower qualifies for the 4-percent interest rate assistance program, the interest rate charged that borrower in many circumstances would have been less than the rates charged for a similar direct OL loans at the beginning of 2003. Nearly one-third of guaranteed OL loans were made with interest assistance in fiscal 2002, little changed from the previous fiscal year.

### **Farm Loan Program Changes Made by 2002 Farm Act**

The Farm Security and Rural Investment Act of 2002 made adjustments to FSA farm loan programs. Farm loan program eligibility rules were relaxed by waiving eligibility time limits on guaranteed farm operating loans through 2006 and for direct operating loan borrowers on a case-by-case basis for an additional 2 years. Native Americans became exempt from eligibility limits on direct operating loans and USDA, State, county, or area committee employees became eligible for farm loan programs. Borrowers can obtain direct FO loans if they participated in the operation of a farm for at least 3 years, instead of operating a farm for 3 years as previously required. Borrowers who

Table 19--Farm Service Agency guaranteed farmer loan program delinquencies, September 30, 1987, to September 30, 2002

Year 1/	Number of active cases			Principal outstanding		
	Total 3/	Delinquent		Total	Delinquent 2/	
		Total	Proportion		Amount	Share of total
	-----Number-----		Percent	-----Million dollars-----		Percent
1987	18,887	1,052	5.6	2,384.0	42.6	1.8
1988	27,519	1,298	4.4	3,177.6	54.1	1.7
1989	30,016	1,580	5.3	3,243.7	60.6	1.9
1990	36,955	1,681	4.6	4,139.8	58.5	1.4
1991	40,169	1,904	4.7	4,526.6	59.3	1.3
1992	42,189	2,376	5.6	4,923.9	102.8	2.1
1993	42,475	2,077	4.9	5,044.8	98.5	2.0
1994	44,129	1,659	3.8	5,417.5	82.3	1.5
1995	46,838	1,821	3.9	5,933.1	91.3	1.5
1996	48,468	2,311	4.8	6,360.3	112.5	1.8
1997	49,512	2,540	5.1	6,505.2	124.5	1.9
1998	48,795	2,759	5.7	6,537.7	135.4	2.1
1999	49,279	2,925	5.9	7,326.9	172.2	2.4
2000	50,069	2,235	4.5	7,967.1	145.9	1.8
2001	50,067	2,316	4.6	7,727.5	162.1	2.1
2002	49,183	2,886	5.9	8,150.3	183.2	2.2
2002 by major program area						
Farm ownership	22,282	829	3.7	4,222.3	50.9	1.2
Operating loans	26,858	2,056	7.7	3,924.4	132.2	3.4

1/ September 30 of year shown. 2/ Amount delinquent includes past payments of principal and accrued interest. 3/ May include duplications because some borrowers have loans under several different programs.

Source: Farm Service Agency, 4067 Analysis of Delinquencies Report, various issues.

received debt forgiveness in the past became eligible for new direct or guaranteed operating loans provided the forgiveness resulted from a declared major emergency or natural disaster. Emergency loans are now available in areas under plant or animal quarantines.

Beginning farmer and rancher rules were modified by the 2002 Farm Act. The maximum amount of owned acres allowed for direct FO eligibility rose from 25 percent to 30 percent of the county median. Down payment FO loans now can be for up to 15 years at 40 percent of sale price or appraised value, as opposed to 10 years and 30 percent. Inventory property rules were also modified, increasing from 75 to 135 the number of days that inventory farm property (farm assets obtained by FSA from borrower default or foreclosure) must be held for beginning farmers before it is sold to others. On a pilot basis, FSA may now guarantee up to five owner-provided loans (land contracts for sale) in five geographically diverse States per year through 2006 to

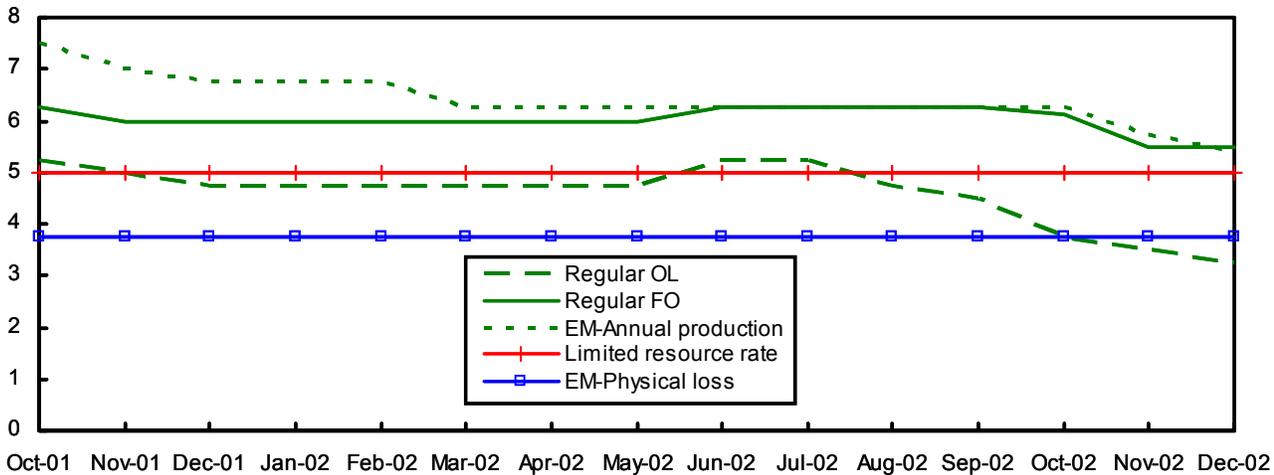
beginning farmers purchasing a farm or ranch. Finally, FSA may guarantee beginning farmer loans offered through State government financing mechanisms. (A change in the tax code is still required to make this change operational.)

The 4-percent interest rate assistance program for guaranteed operating loans was made permanent, and annual authority for the program rose from \$490 million to \$750 million. Changes were made to FSA farm loan programs to streamline their delivery, including reducing county committee involvement in loan decisions, allowing a greater number of employees authority to handle farm loan decisions, and raising low-document loan processing on guaranteed loan requests from \$50,000 to \$125,000. Finally, the Secretary of Agriculture is to conduct two 1-year studies on the effectiveness of FSA direct and guaranteed lending programs in meeting the credit needs of agricultural producers in an efficient and fiscally responsible manner.

Figure 22

**Monthly loan rates for major direct FSA farm loan programs**

Annual percentage rate



Source: Rates supplied by the Farm Service Agency.

## Lending Volume at Record Pace Once Again

The volume of loans purchased or guaranteed by Farmer Mac reached a record \$2.1 billion in 2002 (fig. 23). As in the previous year, much of the new guarantee volume came through Farmer Mac's sale of long-term standby purchase commitments (LTSPC), which totaled \$1.2 billion during the year. Loans purchased under the Farmer Mac I authority (loans not guaranteed by USDA) also soared to a record \$748 million during the year, but \$489 million of this was associated with one transaction with a life insurance company. Excluding that sale, Farmer Mac I cash window loan purchase volume actually declined during the year. The Farm Credit System (FCS) again accounted for much of Farmer Mac's total loan guarantee volume in 2002 through its use of the LTSPC program.

Under an LTSPC, the buyer passes the credit risk on qualified loans or groups of loans on to Farmer Mac in exchange for the payment of an annual guarantee fee. An LTSPC provides the buyer with an unconditional commitment by Farmer Mac to purchase identified agricultural mortgages under specified circumstances over the life of the loan. Essentially, Farmer Mac is guaranteeing the identified loans against default, while the participating lender retains interest rate risk.

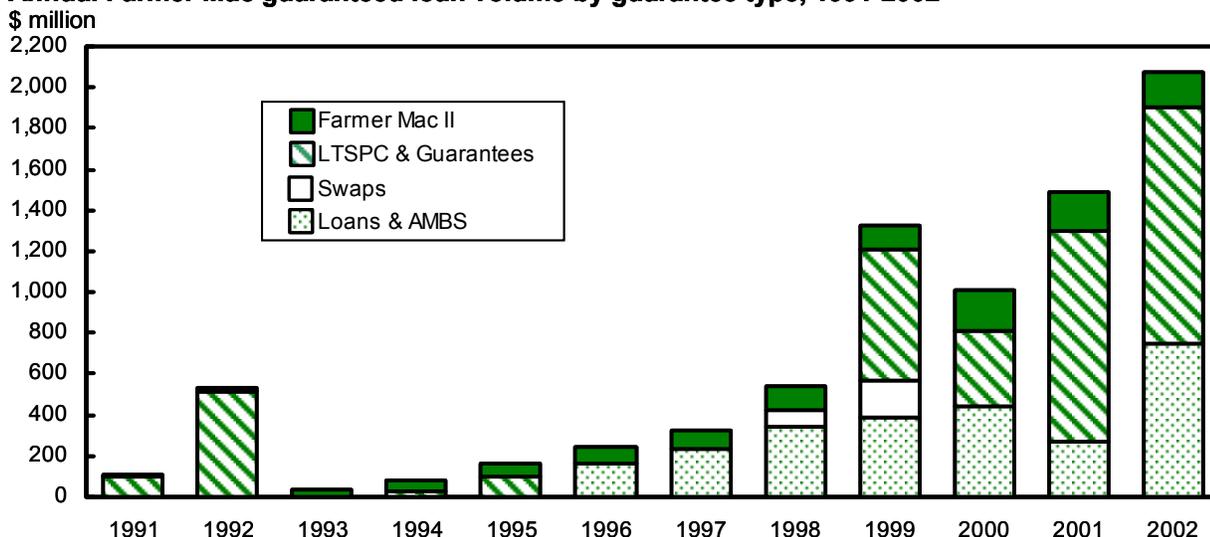
Another component of Farmer Mac's mission is the purchase of USDA guaranteed loans under its Farmer

Mac II program. Because Farmer Mac purchases only the guaranteed portion of these loans, the purchases carry no credit risk to Farmer Mac. Farmer Mac does have interest rate risk on the purchases it holds and is able to pass some of its lower cost funding on to lenders and borrowers participating in the program. Most of these loans are held by Farmer Mac as opposed to being sold through Agricultural Mortgage Backed Securities (AMBS). Farmer Mac purchased \$173 million in USDA guaranteed loans in 2002, down from the \$187 million purchased in 2001. Much of the Farmer Mac II volume is coming from the purchase of Business and Industry and Community Facility guaranteed loans rather than FSA guaranteed farm loans. Farmer Mac II volume outstanding at the end of 2002 rose to \$646 million.

With the rapid growth in new Farmer Mac I volume, total outstanding guarantee volume grew to over \$5.5 billion at the end of 2002, of which \$4.9 billion was associated with the Farmer Mac I program (fig. 24). Farmer Mac estimates that its volume represents about 11 percent of the eligible agricultural mortgage volume. Nearly 55 percent of all outstanding Farmer Mac I volume is from the LTSPC program.

Originally, it was envisioned that Farmer Mac would function primarily as an issuer of AMBS, whereby it would purchase qualified loans, pool them together, and package them into securities for sale to investors. But Farmer Mac continues to hold the majority of the loans it purchases on its balance sheet either as whole

Figure 23  
Annual Farmer Mac guaranteed loan volume by guarantee type, 1991-2002



Source: Farmer Mac information statements and documents filed with the Securities and Exchange Commission.

loans or as AMBS. This option is typically more profitable than selling off AMBS to investors, but it can carry additional risks. Farmer Mac mitigates some of the interest rate risk by requiring prepayment penalties (yield maintenance payments) on mortgages and by hedging the risks with the use of financial derivatives, including interest rate swap contracts. At the end of September, 2002 60 percent of the volume of Farmer Mac I loans or AMBS securities held by Farmer Mac carried some type of prepayment penalty, and Farmer Mac had entered into \$742 million worth of interest rate swaps.

During 2002, just \$48 million of Farmer Mac I loans were securitized into eight loan pools. An additional \$15.4 million in Farmer Mac II loans were securitized. This amount of activity represents a little over 2 percent of the value of these assets on Farmer Mac's balance sheet. Because of the thin issue volume, there is not an active public market for Farmer Mac AMBS. Outstanding loans on the balance sheet rose from \$200 million at the start of 2002 to \$966 million at year-end, most of which were not identified as being held for sale.

Farmer Mac was created by Congress to provide a source of long term fixed rate mortgage credit to the farm sector. Of the \$2.5 billion in loans and guaranteed securities on Farmer Mac's balance sheet, 40 percent was made at long term fixed rates (at least 10 years). Another 40 percent was made at maturities of between 5 or 10 years and the remaining 20 percent at maturities of 3 years or less.

### ***Loan Quality Changes Little***

The quality of Farmer Mac I loans changed little in 2002. Delinquent post-1996 Act loan volume rose to \$74 million, but due to the large increase in new loan and guarantee volume the share of total loan volume that is delinquent fell to 1.5 percent at yearend (fig. 25). Farmer Mac delinquency rates run slightly above those of retail farm lenders. Farmer Mac added to its allowance for losses in 2002 to cover potential future loan losses. Its total provision for losses was \$20 million at the end of the year, equal to 0.42 percent of its total Farmer Mac I loan and guarantee volume.

A greater number of Farmer Mac's loans and guarantees are now at an age where defaults are more likely, which may explain some of the rise in nonperforming assets. Generally, the probability of default follows a distribution, where recent loans and older loans are least likely to default. On September 30,

2002, 39 percent of Farmer Mac I loan volume had aged between 3 to 5 years from the origination date and hence were in the peak default years. This compares with just 32 percent of total loan volume the previous year. Because farmland values continue to rise or are at least stable in most regions, losses sustained on nonperforming loans are being kept to a minimum. Farmer Mac did charge-off \$1.3 million in losses during the fourth quarter of 2002.

### ***Financial Health Improves***

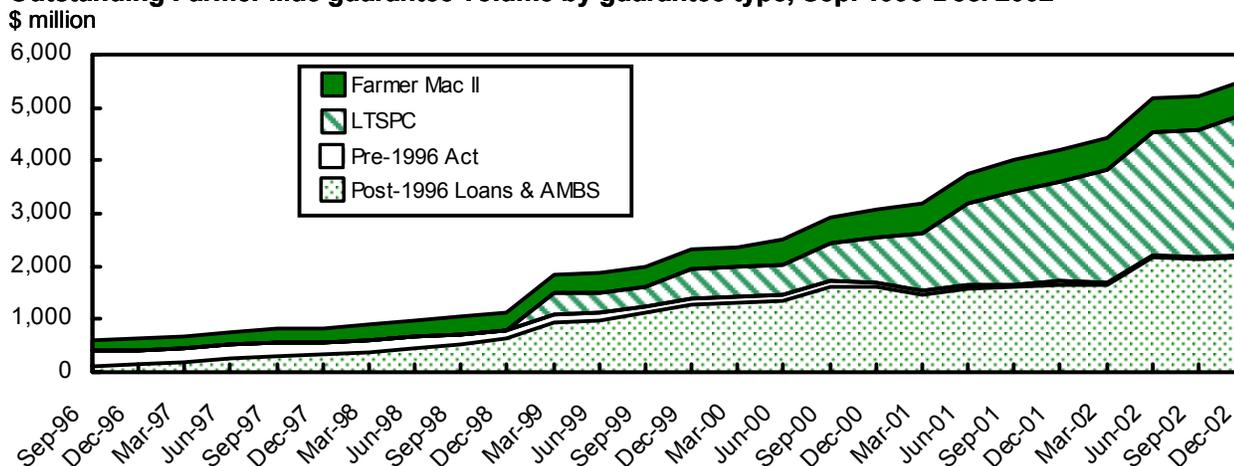
Farmer Mac profits rose sharply in 2002, with net profits climbing to \$21.3 million from \$16.3 million in 2001. The rise in net income was driven by increases in net interest income, guarantee fee income, and yield maintenance payments. Yield maintenance payments accounted for about 10 percent of Farmer Mac's profits. Prepayment clauses require borrowers to pay a yield maintenance fee under certain circumstances if their loans are repaid earlier than a specified date. Such features reduce interest rate risk for Farmer Mac and hence provide for lower initial rates paid by borrowers. With the steep drop in interest rates during the year, some borrowers with relatively high interest rate loans found it advantageous to refinance their loans despite paying the fee. Also contributing to Farmer Mac's net interest income are its substantial cash and investment assets, which rose to \$1.5 billion.

Farmer Mac came under new risk-based capital standards beginning May 23, 2002. At yearend, Farmer Mac's regulatory core capital stood at \$184 million, exceeding its minimum capital requirement of \$137.1 million. In May, Farmer Mac raised its capital during the year with the sale of \$35 million in preferred dividend-paying stock. It now has capital equivalent to 2.5 percent of its total on- and off-balance sheet assets. For comparison, on September 30, 2002, the FCS at-risk capital, including loss allowances and the FCS insurance fund, stood at \$19.1 billion or 21.7 percent of loans outstanding and 17.4 percent of total assets.

### ***Lender Participation Remains Shallow***

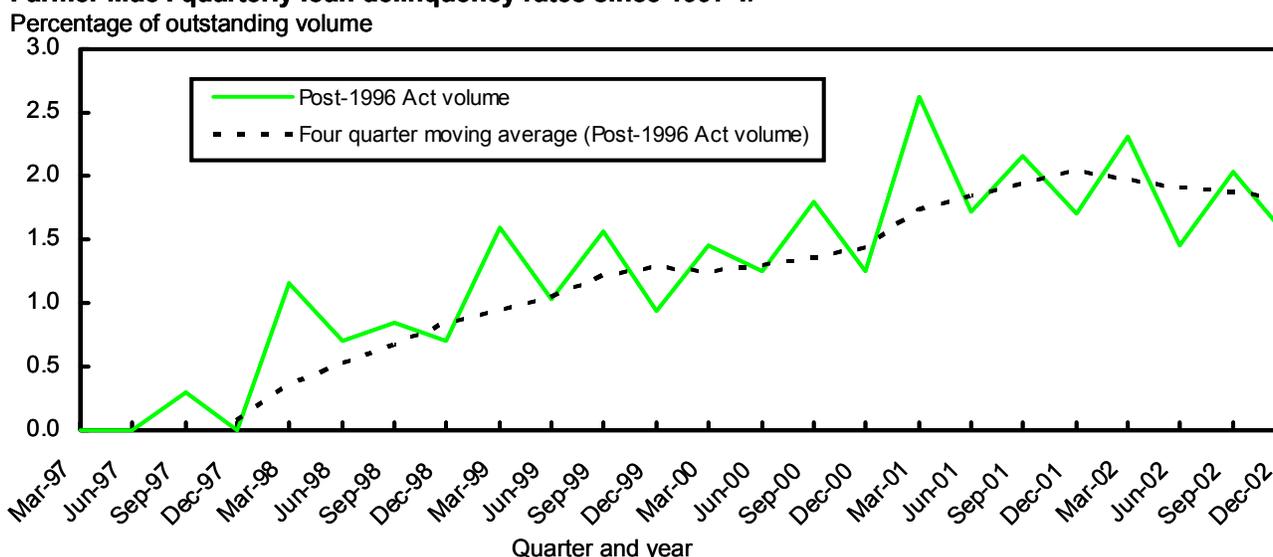
The creation of Farmer Mac in 1987 was strongly supported by the banking industry because bankers viewed the government sponsored enterprise as a new source of competitively priced funding. Although banks are a primary user of Farmer Mac's cash window loan purchase program, a relatively small share of banks use the funding source. This has occurred despite the fact that bank-held farm mortgage volume has doubled since Farmer Mac was created. In general,

Figure 24  
**Outstanding Farmer Mac guarantee volume by guarantee type, Sep. 1996-Dec. 2002**



Source: Farmer Mac information statements and documents filed with the Securities and Exchange Commission.

Figure 25  
**Farmer Mac I quarterly loan delinquency rates since 1997 1/**



1/ Includes loans 90 days or more past due, in foreclosure, and in bankruptcy made after change in authority in 1996, plus other real estate owned.

Source: Farmer Mac information statements and documents filed with the Securities and Exchange Commission.

banks have had sufficient internal funding for new lending or have accessed the Federal Home Loan Bank System to fund loans when needed.

Despite the low participation rate among banks, there was greater interest in the Farmer Mac programs during the year. During the third quarter of 2002, Farmer Mac added five approved sellers to its Farmer Mac I program and 10 sellers to its Farmer Mac II program. Total active sellers were 213 in the Farmer Mac I program and 141 in the Farmer Mac II program. Sellers include commercial banks, the FCS, life insurance companies, and mortgage companies. To give some reference to the number of sellers in the

program, 2,644 banks were defined as agricultural using the Federal Reserve definition at mid-2002.

Lenders using the Farmer Mac I market are selling loans primarily from Western States. As of September 30, 2002, 72 percent of the volume came from 15 Western States (including Nebraska and the Dakotas). Reflecting this geographic concentration, loans for permanent plantings (orchards, vineyards, etc.) are a relatively high share of the total Farmer Mac I loan and guarantee portfolio at 29 percent. Delinquency and loss rates have recently been more prevalent among permanent planting loans, many of which are located in the Northwest.

### ***General Accounting Office to Issue Report***

During the year, negative publicity about the financial accounting and operation of Farmer Mac generated Congressional interest in issues relating to Farmer Mac's safety and soundness and its mission as a government sponsored enterprise. In June, 2002, members of the Senate Agriculture Committee asked

the General Accounting Office to investigate the financial stability of Farmer Mac, its corporate governance, its management compensation policy, its investment practices, the non-voting status of its Class C stock, and its fulfillment of its Congressionally-established mission. That report is due to Congress in 2003.

### ***Farm Debt Expected To Climb Higher in 2003***

Farm business debt is anticipated to stand at about \$209.7 billion by the end of 2003, up from \$201.9 billion in 2002. Total debt, in nominal terms, is expected to continue its recent move above the previous record high level of \$193.8 billion set in 1984. However, debt growth is anticipated to slow to about 4 percent in 2003, following an increase of 5.5 percent in 2002 (app. table 1).

The expected rise in farm business debt in 2003 will mark 11 consecutive years of increasing farm debt. From the beginning of 1993 through the end of 2002, farm debt rose almost \$63 billion, an increase of 45 percent. About \$22 billion of this gain occurred during 1996-1998, when debt grew at an annualized rate of 4.7 percent. After slowing to 2 percent in 1999, debt growth accelerated in 2000 and 2001, when the annualized growth rate exceeded 4.3 percent. The 5.1-percent surge in 2002 has resulted in a farm business debt rise of more than \$25 billion since the beginning of 2000.

### ***Farm Debt Growing Despite Improving Commodity Prices***

Debt growth in 2003 is expected to accompany commodity prices that are generally higher than 2002 levels, with crop and livestock cash receipts projected to rise by \$7 billion. With improving 2003 cash markets for many agricultural commodities, lenders are expected to encourage their farmer clients to improve their balance sheets by reducing existing debt.

However, rising production costs will likely reduce the impact of improving commodity prices in raising 2003 net incomes. While net cash income is expected to rise \$5 billion to \$51.3 billion, it will remain well below its 1993-2002 average of \$55.9 billion. Some farmers may be reluctant to use available cash to pay down debt, anticipating greater difficulty in obtaining credit should their financial condition worsen in the future. While institutional lenders report ample funds available for lending to creditworthy borrowers, some current borrowers may have difficulty showing that they can generate sufficient income to repay their 2003 production loans.

Machinery, seed, and chemical suppliers have become active lenders in recent years, and are likely to continue

to fill funding gaps. Input suppliers are expanding their traditional use of financing as a means to boost product sales, and are offering financing to meet the farmer's full production credit needs.

### ***Debt Growth Facilitated by Balance Sheet Improvement***

Despite recent isolated reports of rising farm loan delinquency rates, the overall financial condition of the U.S. agricultural sector is sound, as evidenced by continuing increases in asset values and equity levels. The farm business balance sheet has shown steady improvement throughout 1999-2002, despite the relatively low commodity prices prevailing throughout much of this period. During this 4-year span, total government payments contributed more than \$78 billion to the incomes of farm operators and landowners, supporting farm incomes and farmland values. From the beginning of 1999 through the end of 2002, farmland owners have benefited from a \$176-billion increase in farm equity, driven largely by a \$198-billion rise in farm real estate values. Over the last 10 years, asset value growth has been strong and equity positions have generally improved. Farm sector debt-to-asset ratios have stabilized at about 16 percent, as the increase in farm business debt has been offset by the rise in the value of farm business assets.

The value of farm real estate, the largest component of farm assets, is expected to increase about 1.5 percent nationwide in 2003, following an increase of more than 66 percent from the beginning of 1992 through the end of 2002. Despite the general economic slowdown, favorable mortgage interest rates have spurred growth in the housing sector, resulting in strong demand for land for urbanization purposes. Relatively low interest rates are also contributing to the strength of the second-home market, boosting demand for land in recreational areas. Enactment of the 2002 Farm Act, by reducing uncertainty concerning future farm program payments, has been a factor contributing to recent farmland value gains in more remote agricultural areas. The continuing lower level of net cash income is anticipated to slow growth in farmland value from its recent rapid growth of 4 percent in 2002, 5.2 percent in 2001, and 6.8 percent in 2000. On average, farm real estate values grew nearly 4 percent annually during the 1990s.

Since land values at least partially reflect expected future earnings from farming, the continuing strength

suggests that farmland owners do not anticipate a substantial decline in incomes in the near future. Bankers in the Chicago Federal Reserve District reported that land values in the district rose about 7 percent in the year ended October 1, 2002. Such gains do not suggest that several years of relatively low commodity prices have made landowners pessimistic about the long-term returns to farmland—whether from farming or conversion to urban uses.

### ***Farm Credit System Gains Market Share***

Banks and the Farm Credit System provided more than 70 percent of all farm business debt outstanding at the end of 2002. FCS farm business debt rose more than 12 percent in the year ended September 30, 2002. Barring an abnormal paydown of loan balances in the fourth quarter, FCS debt is expected to rise almost \$7 billion during 2002, exceeding \$61 billion at yearend, the highest level (in nominal dollars) since 1984. FCS loans are projected to increase another 6.9 percent (\$4.25 billion) in 2003. Since FCS total farm business debt has risen faster than that of other agricultural lenders in recent years, the FCS' share of debt is expected to rise from 26.4 percent at the end of 2000 to 31.2 percent at yearend 2003.

Despite the gains by FCS since 2000, commercial banks are still the leading provider of credit to farmers. Bank debt increased about 2 percent in 2001 and 2002, and is expected to rise almost 2 percent in 2003, approaching \$82 billion by yearend. Banks' share of total debt has declined slightly in recent years, falling from 41.5 percent at the end of 2001 to a projected 39 percent as of December 31, 2003.

USDA's FSA guaranteed loan programs continue to gain importance as a source of credit for higher risk borrowers. Meanwhile, the agency's direct farm business loan balances are expected to decline in 2002 and 2003, as they have in each of the last 17 years, since reaching \$24.5 billion in 1985. FSA direct loans provided over 16 percent of all farm business debt in 1987. FSA direct farm business loans are projected to total less than \$7 billion at yearend 2003, accounting for about 3 percent of all farm debt.

### ***Farm Mortgage Lending Growing Faster Than Nonreal Estate Debt***

Farm real estate debt rose more than 7 percent in 2002, while nonreal estate loan balances increased a little more than 2 percent. Loans secured by farm real estate are expected to surpass \$116 billion by the end of

2003. Real estate loans are projected to account for 55 percent of total farm business debt. Given current forecasts, farm mortgage debt will rise at a 5.3-percent annualized rate from the beginning of 1998 through the end of 2003, while farm business nonreal estate debt is expected to have increased at a rate of 2.6 percent over the same period. Nevertheless, nonreal estate debt is expected to surpass \$93 billion in 2003, maintaining a steady 3-year rise above its previous peak historic value of \$87.9 billion in 1983.

The recent rapid growth in real estate debt, relative to loans for nonreal estate purposes, is at least partially due to lenders requiring that loans for other purposes be secured by farmland. Loans to purchase machinery and seasonal production loans may be reported as loans secured by farmland, and be counted as farm mortgage loans.

### ***Refinancing of Farm Loans Lags That of Home Mortgages***

Favorable interest rates in late 2001 and throughout 2002 spurred a refinancing boom in U.S. housing markets, as homeowners locked in historically low rates with new fixed-rate mortgages. Farm operators would appear to have a similar incentive to refinance existing debt with fixed-rate long-term loans. However, community bankers and other lenders report that such a refinancing boom is not occurring in agriculture. Bankers responding to an October 2002 survey conducted by the American Bankers Association indicated that residential mortgage loan demand was up 89 percent in the preceding 6 months, while agricultural loan demand was up only 9 percent.

The prevalence of variable rate loans to farmers provides a partial explanation for the lack of a refinancing surge in agricultural lending. Farmers find little advantage in paying additional costs to refinance (or transfer to another lender) an existing loan that will soon adjust to reflect a lower interest rate environment anyway. Bankers responding to quarterly Federal Reserve System surveys indicate that about three-fourths of all farm nonreal estate loans extended in 2002 had a floating interest rate. Surprisingly, the share of loans with a floating rate has risen in recent years, increasing from 54 percent in 1998. The use of floating rate loans was greatest on nonreal estate farm loans by large banks, which reported that about 96 percent of 2002 loans written in the fourth quarter of 2002 had a floating rate. Small banks, while more likely to issue fixed-rate loans, still reported more than 60 percent of their farm nonreal estate loans were

issued during the fourth quarter of 2002 with a floating rate.

ERS is now monitoring the extent of refinancing in agricultural credit markets. ARMS data indicate that farm operators incurred about 55 percent of all debt owed at the end of 2001 (the latest year for which survey data are available) for the purchase of land, machinery, or equipment. Farm equity loans represented another 22 percent of all debt. Of the 23 percent of debt used to refinance an existing loan balance, no additional cash was borrowed on about 13 percent of debt, while some cash was taken out on loans representing about 10 percent of debt.

### ***Farm Credit System Regains Mortgage Lead***

Farm Credit System real estate debt is currently projected to increase more than 7 percent in 2003, after gains of almost 12 percent in 2001 and 2002. With the recent surge, FCS regained its traditional position as the leading supplier of farm mortgage debt. Commercial banks had passed FCS as the leading supplier of farm real estate debt during 2000, but bank real estate loans rose \$3.6 billion during 2001-2002, while FCS mortgages grew by \$8.5 billion. FCS is projected to expand on this lead in 2003, holding more than 37 percent of the total farm mortgage market by yearend.

### ***Banks Largest Provider of Nonreal Estate Debt, But Slowly Losing Market Share***

Preliminary projections indicate that bank nonreal estate debt will increase slightly in 2003, following marginal declines in both 2001 and 2002. Banks currently supply over 48 percent of all nonreal estate loans, but have gradually been losing market share since 1994, when bank loans accounted for over 53 percent of all nonreal estate debt. This loss in bank market share has largely been gained by the FCS and farm machinery manufacturing credit corporations, input suppliers, commodity processors, contractors, and other merchants and dealers, collectively known as "individuals and others" in the farm sector balance sheet accounts. Individuals and others' share of farm business nonreal estate debt has risen from 22 percent in 1994 to more than 25 percent by the end of 2003.

Farm Credit System nonreal estate debt is projected to rise about 6 percent in 2003, following gains of 9 percent in 2002 and 14 percent in 2001. FCS nonreal estate loans have generally trended up since 1989, with a loss of 5 percent in 1999 breaking a streak of 6- to 12-percent gains since 1993. FCS had provided 25 percent of nonreal estate debt in 1981, but as loan balances then fell to less than \$9 billion in 1988, its market share declined to less than 15 percent. FCS nonreal estate debt is projected at more than \$22 billion by the end of 2003, accounting for almost 24 percent of all nonreal estate farm loans.

## Off-Farm Income Supports Many Farm Households

Many farmers have substantial off-farm income that can help cover living expenses and can be used to pay loans. By combining income from farm and off-farm sources, operators received a mean—or average—household income of \$64,500 in 2001, slightly above the \$58,200 average for all U.S. households (table 20). On average, 91 percent of farm operators' household income came from off-farm sources in 2001. Reliance on off-farm income, however, varied widely among different types of farm households. Due to off-farm

income, average farm household income was particularly high in metro areas.

The Economic Research Service (ERS) has developed a typology, or classification system, to divide farms into mutually exclusive, more homogeneous groups (see the box "Farm Typology Group Definitions"). For most small farm groups, virtually all income came from off-farm sources. On average, farming made the largest contribution to household income for groups with sales of \$100,000 or more (high-sales, large, and very large farms).

Table 20--Income and net worth of farm operator households, by farm typology group and county type, 2001

Item	Operator households	Total household income			Off-farm income		Total net worth		Share of farm assets in real estate
		Mean amount 1/	From off-farm sources 2/	Percent of U.S. average household income 3/	Mean amount 1/	From earned sources 4/	Mean amount 1/	From non-farm sources	
	Number	Dollars per household	Percent	Percent	Dollars per household	Percent	Dollars per household	Percent	Percent
<b>All operator households</b>	2,092,722	64,465	91.4	110.7	58,894	73.5	545,869	17.0	73.1
<b>Farm typology: 5/</b>									
Small family farms:									
Limited-resource	94,249	7,948	139.8	13.7	11,113	56.4	101,141	24.5	60.0
Retirement	244,200	47,602	102.2	81.8	48,672	21.2	519,144	27.9	84.8
Residential/lifestyle	940,291	81,252	107.0	139.6	86,947	88.9	370,126	22.9	80.9
Farming-occupation									
Low-sales	501,192	35,866	107.1	61.6	38,417	45.5	618,569	16.4	76.9
High-sales	165,485	53,617	50.6	92.1	27,120	69.3	748,999	8.5	64.9
Large family farms	85,155	70,194	47.0	120.6	33,011	57.3	1,158,036	8.6	65.3
Very large family farms	62,199	213,982	15.1	367.6	32,231	63.1	2,017,155	5.5	59.5
<b>County type: 6/</b>									
Metro	733,177	74,306	90.1	127.7	66,934	71.3	609,653	*16.1	76.0
Nonmetro	1,359,595	59,157	92.2	101.6	54,559	75.0	511,473	17.5	71.2
Farming-dependent	280,342	56,248	78.4	96.6	44,085	72.6	541,168	16.4	62.8
Other nonmetro	1,079,253	59,913	95.6	102.9	57,279	75.4	503,760	17.9	73.8

Note: The estimate of average operator household income in this table is slightly higher than the official estimate of \$64,117 in 2001. For an explanation, see the box "Measuring Operator Household Income and Net Worth." \* = Standard error is between 25 and 50 percent of the estimate. 1/ Mean income is the sum of the income received by all households, divided by the number of households. The mean is more commonly called the average, and that term is used in the text. 2/ Income from off-farm sources can be more than 100 percent of total household income if earnings of the operator household from farming activities are negative. 3/ Average farm household income divided by U.S. average household income (\$58,208) from the Current Population Survey (CPS). 4/ Earned income comes from self-employment or a wage and salary job. As currently defined in the Agricultural Resource Management Survey (ARMS), off-farm earned income includes self-employment income from a farm other than the farm being surveyed. 5/ See the box: "Farm Typology Group Definitions." 6/ The U.S. Office of Management and Budget (OMB) defines *metro* areas as geographic areas with a large population nucleus (generally at least 50,000 inhabitants), plus adjacent communities that are socially and economically integrated with that nucleus. Metro designations as of 1993, which identified 813 metro counties, are used here. The 2,276 *nonmetro* counties are a residual, the part of the Nation lying outside metro areas. The Economic Research Service has identified 556 *farming-dependent* nonmetro counties where farming accounted for at least 20 percent of earned income over the 3 years from 1987 to 1989.

Source: 2001 Agricultural Resource Management Survey (ARMS), version 1 for farm operator and farm household data. Current Population Survey (CPS) for U.S. average household income.

Farmers' net worth, or wealth, consists largely of their farms, regardless of typology group. Thus, collateral used to back loans will often be farm assets, largely real estate. But, lenders can assume that most small farm operators will pay off their loans with off-farm income, given their low level of farm earnings.

### **Typology Group Differences in Sources and Level of Income**

Farm programs began in the 1930s to address income disparities between farm and nonfarm households. The majority of farm households today, however, can no

longer be considered low-income. Households operating residential/lifestyle, large, or very large farms actually receive income above the mean (average) and median for all U.S. households (fig. 26). Households operating high-sales small farms have an average and median income that does not differ from those for all U.S. households by a statistically significant amount. Only the limited-resource, retirement, and low-sales groups have an average and median income that falls below the corresponding national-level measures. However, these three lower-income groups account for two-fifths of farm households.

### **Measuring Operator Household Income and Net Worth**

**Operator Household Income.** The Economic Research Service (ERS) estimates farm operator household income using the Agricultural Resource Management Survey (ARMS), an annual survey of farms and the households who operate them.

Farm self-employment income from ARMS is the sum of the operator household's share of net farm business income (less depreciation) and wages paid to the operator. Adding other farm-related earnings of the operator household yields earnings of the operator household from farming activities. Finally, total operator household income is calculated by adding income from off-farm sources. Off-farm income may come from a variety of sources, including wages and salaries, interest, dividends, private pensions, and Social Security.

Operator household income is measured according to the definition of income used in the Current Population Survey (CPS), conducted by the Bureau of the Census. The CPS is the source of official U.S. household income statistics. Calculating an estimate of farm household income that is consistent with CPS methodology allows comparisons between the income of farm households and all U.S. households. The CPS uses a money (cash) income concept that excludes employment-based fringe benefits and in-kind benefits from government programs. The CPS (and ARMS) definition departs from a strictly cash concept by deducting depreciation, a noncash business expense, from income of the self-employed.

**Net Worth.** ARMS is also the source of data for estimates of the operator household's net worth, or wealth. Farm operator household net worth equals the difference between the operator household's assets and liabilities. It is calculated as the sum of the operator household's farm net worth and nonfarm net worth. If the net worth of the farm is shared with other households, only the operator household's share is included.

**Statistical Significance.** The relative standard error (RSE), a measure of sampling variability, is calculated for survey estimates. The RSE is the standard error of the estimate expressed as a percentage of the estimate. Any estimate with an RSE greater than 25 percent is identified in the figures and table. Standard errors can also be used to evaluate the statistical differences between ARMS-based estimates. Differences are stressed in the text only when estimates are significantly different at the 90-percent confidence level or higher.

**ARMS Versions.** Different versions of the ARMS questionnaire are used each year, and each version collects information useful for a specific purpose. The information in this report came from version 1, the only version that collected detailed information about sources of off-farm income in 2001. Average operator household income estimated from version 1 was \$64,465, which was slightly higher than the \$64,117 official estimate based on all versions of the survey.

Source: *2001 Family Farm Report*, pp. 63 and 89-90.

## *Farm Typology Group Definitions*

Small Family Farms (sales less than \$250,000)	Other Family Farms
<ul style="list-style-type: none"> <li>• <b>Limited-resource farms.</b> Small farms with sales less than \$100,000, farm assets less than \$150,000, and total operator household income less than \$20,000. Operators may report any major occupation, except hired manager.</li> <li>• <b>Retirement farms.</b> Small farms whose operators report they are retired.*</li> <li>• <b>Residential/lifestyle farms.</b> Small farms whose operators report a major occupation other than farming.*</li> <li>• <b>Farming-occupation farms.</b> Small farms whose operators report farming as their major occupation.*               <ul style="list-style-type: none"> <li>• <b>Low-sales farms.</b> Sales less than \$100,000.</li> <li>• <b>High-sales farms.</b> Sales between \$100,000 and \$249,999.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Large family farms.</b> Sales between \$250,000 and \$499,999.</li> <li>• <b>Very large family farms.</b> Sales of \$500,000 or more.</li> </ul>
	Nonfamily Farms
	<ul style="list-style-type: none"> <li>• <b>Nonfamily farms.</b> Farms organized as nonfamily corporations or cooperatives, as well as farms operated by hired managers. Household income and wealth data are not collected for nonfamily farms.</li> </ul>

\*Excludes limited-resource farms whose operators report this occupation.

Source: *Structural and Financial Characteristics of U.S. Farms: 2001 Family Farm Report and America's Diverse Family Farms: Assorted Sizes, Types, and Situations.*

Median household income is defined as the income of the household at the center of the ranking of households by income. The median—unlike the average—has the advantage of not being influenced by very high or low income of a small number of households. Medians, however, are not additive: median off-farm income plus median farm earnings do not equal median household income. Averages are additive, and they are used below to show the share of household income accounted for by off-farm income.

Households operating very large farms have the highest average income, \$214,000, or more than three times the average for all U.S. households. These households receive only 15 percent of their income from off-farm sources, much less than the other groups. In addition, 69 percent of the group relies on farming for at least half of its income. Nevertheless, households in this group receive an average of \$32,200 in off-farm

income, mostly from earned sources (self-employment or wage or salary jobs). Many of today's farm households are dual-career, with operators and/or spouses combining farm and off-farm work. Even households running very large family farms may be dual-career, with a spouse working off the farm and an operator farming (generally without off-farm work).

Households operating residential/lifestyle farms or large farms also have high income, compared with all U.S. households, but the sources of income differ between the two groups. Households with residential/lifestyle farms receive practically all of their income from off the farm, largely from earned sources. About 76 percent actually lose money farming, but still have positive household income. Thirty-five percent of the residential/lifestyle farms specialize in beef (fig. 27), which—in the case of cow-calf enterprises—can have relatively low labor requirements that mesh well

with off-farm work. This group also has the lowest share of operators at least 65 years old (fig. 28). In contrast, households with large farms receive only 47 percent of their income from off-farm sources, and most (57 percent) of these households receive at least half of their income from farming. The most common specialization for large family farms is grain (36 percent of farms in the group).

In most respects, households operating high-sales farms are similar to those operating large family farms, except for their lower household income. High-sales households rely heavily on farming for income, with 53 percent specializing in either grain or dairy. Forty-seven percent of the households with high-sales farms receive at least half their income from farming, and farming accounts for about half of the group's total household income.

The three remaining groups of operator households—those with limited-resource, retirement, or low-sales small farms—receive average incomes below the average for all U.S. households, mostly from off-farm sources. As one might expect, only 21 percent of the retired households' off-farm income comes from earned sources. Households with retirement farms rely heavily on unearned income (including income from

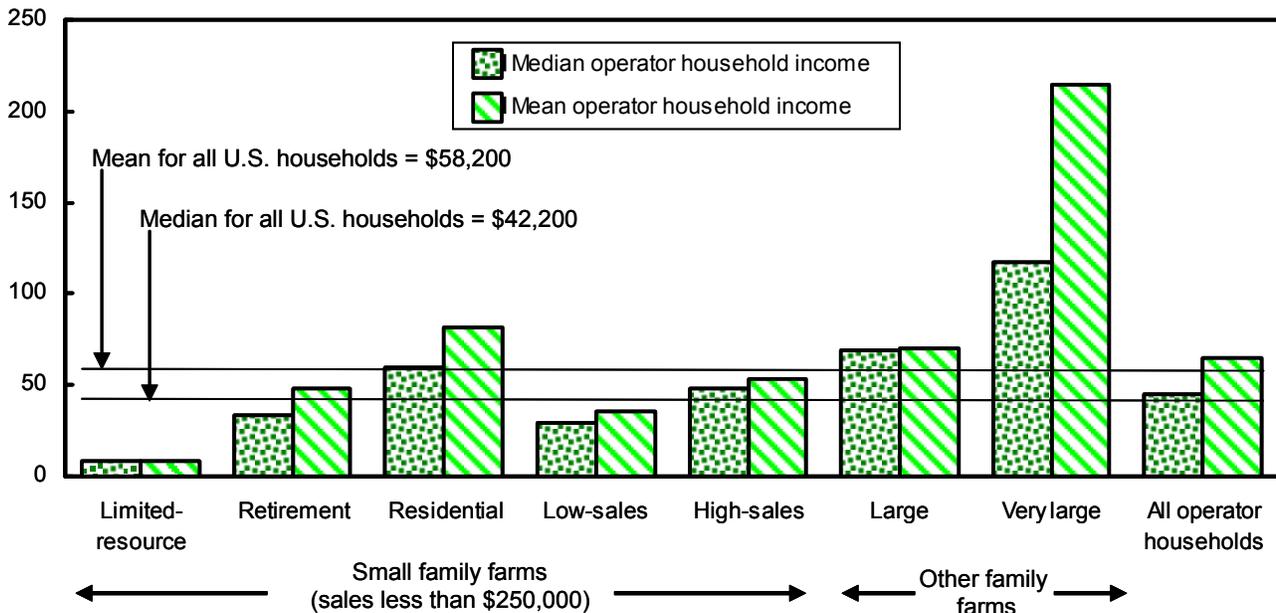
Social Security, other retirement programs, and investments) rather than earned income, because retired operators have largely left the labor force.

Households operating limited-resource or low-sales farms receive about half of their off-farm income from unearned sources. The unearned income of households in these groups comes largely from Social Security and other public retirement and assistance programs, reflecting the advanced age of many of the operators in these groups. Approximately 32 percent of limited-resource operators and 46 percent of low-sales farmers are age 65 or more. Many of these older farmers have scaled back their farming activities, have restricted their off-farm work, and receive Social Security and other retirement income.

Only two groups had significant changes in the level of household income between 2000 and 2001. Average household income decreased by \$3,900 for limited-resource households and rose by \$8,200 for high-sales households. The high-sales group's increase followed a decline of approximately the same magnitude between 1999 and 2000. Both the 1999-2000 and 2000-2001 changes for the high-sales group resulted from fluctuating farm earnings.

Figure 26  
**Median and mean operator household income, 2001**

\$1,000 per household



Note: Mean household income is the sum of the income received by all households, divided by the number of households. The mean is more commonly called the average, and that term is used in the text. Median household income is the income of the household at the center of the ranking of households by income.

Source: USDA, Economic Research Service, 2001 Agricultural Resource Management Survey, version 1, for operator households. Current Population Survey (CPS) for all U.S. households.

Although many farm households relied heavily on off-farm sources for income, most operator household net worth, or wealth, comes from the farm, regardless of typology group. The share of household net worth from the farm ranged from roughly three-fourths for limited-resource, retirement, and residential/lifestyle farms to more than nine-tenths for the remaining groups. Overall, real estate accounted for most (73 percent) of the assets of the farms held by operator households.

### Geographic Variations

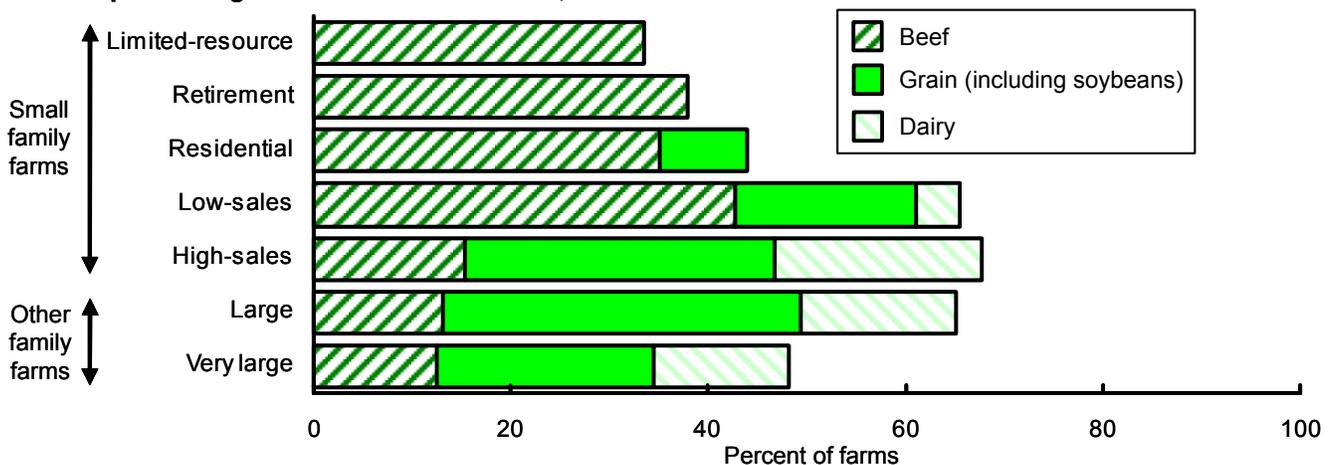
Average farm household income is greater in metro counties (\$74,300) than in either farming-dependent counties (\$56,200) or other nonmetro counties (\$59,900), largely because of substantially higher off-farm income in metro counties. The higher off-farm income in metro areas probably reflects better employment opportunities. Farm households living in farming-dependent counties—concentrated in the Northern and Southern Plains—rely the least on off-farm income,

although 78 percent of their income still comes from off-farm sources. In contrast, off-farm income makes up 90 percent of operator household income in metro counties and 96 percent in other nonmetro counties.

Farmers in metro areas have a larger average household net worth than their counterparts in nonmetro areas that are not farming-dependent, reflecting a much higher average farm net worth in metro areas. At least some of this difference in average farm net worth is explained by urban competition for land that raises the value of farmland per acre in metro areas (fig. 29). The difference in average household net worth between metro counties and farming-dependent counties was not statistically significant, however. Farms in farming-dependent counties tend to own more land than farms located elsewhere, which raises their average value per farm, despite less urban demand for land. In addition, farms hold more non-real estate assets—such as equipment, machinery, and inventories—in farming-dependent counties than in metro areas.

Figure 27

#### Farms specializing in selected commodities, 2001 1/

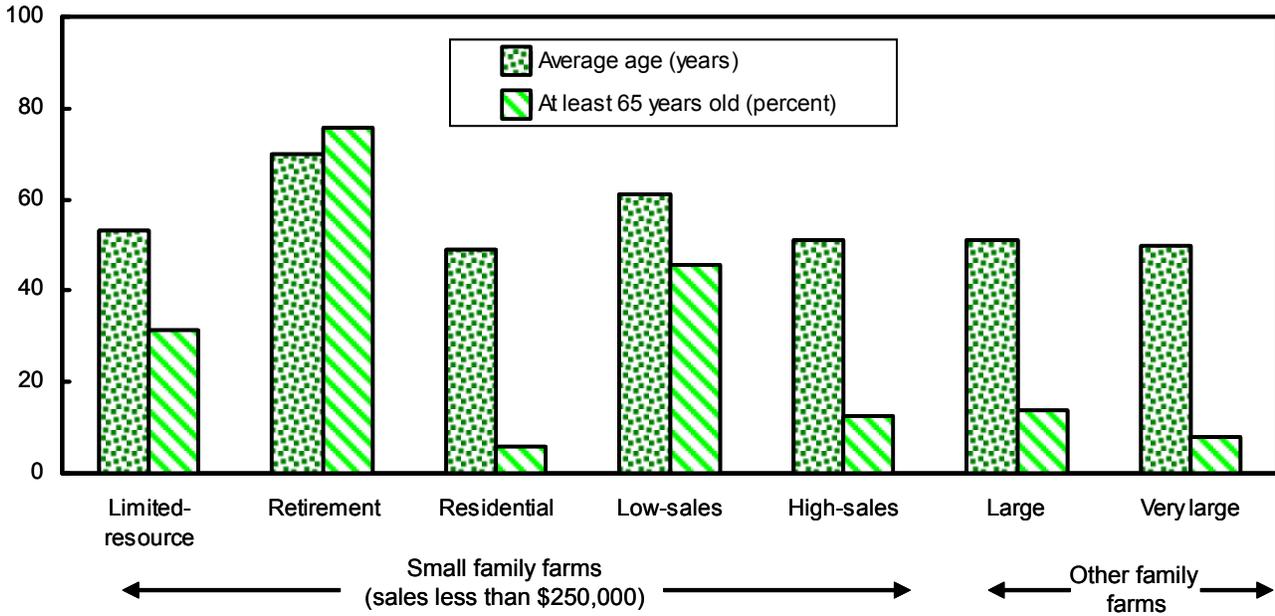


Note: This figure excludes specializations that are not discussed in the text. Estimates of farms specializing in grain or dairy were suppressed for some typology groups, due to insufficient observations. 1/ Commodity accounts for at least half of the farm's value of production.

Source: 2001 Agricultural Resource Management Survey (ARMS), version 1.

Figure 28

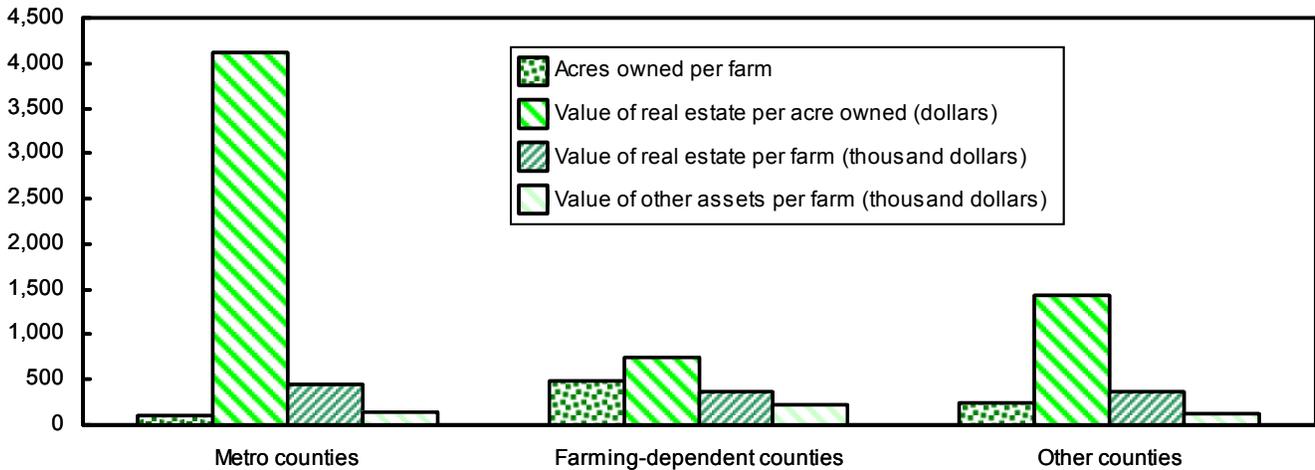
**Average age of operator and share of operators at least 65 years old, 2001**



Source: 2001 Agricultural Resource Management Survey (ARMS), version 1.

Figure 29

**Acres owned and the value of real estate and other assets, 2001**



Source: 2001 Agricultural Resource Management Survey (ARMS), version 1.

## List of Tables

Tables	Page
1. Distribution of farm business debt, by lender, December 31, 2002 .....	11
2. Delinquent farm loan volume, by lender, 1980-2002 .....	13
3. Farm loan losses (net charge-offs), by lender, 1980-2002 .....	15
4. Agricultural lending from agricultural and nonagricultural banks, by bank size, June 30, 2002 .....	22
5. Selected bank performance measures, by type of bank, 1994-2002 .....	22
6. Nonperforming loans as a percentage of total loans, by type of bank, 1994-2002 .....	23
7. Number of agricultural banks, by definition, 1994-2002 .....	26
8. Selected commercial bank solvency and liquidity ratios, by bank size, June 30, 2002 .....	26
9. Selected commercial bank profitability and efficiency measures, by bank size, June 30, 2002 .....	26
10. Farm Credit System loan volume, by loan type, December 31, 1996-2001, and September 30, 2002 .....	27
11. Farm Credit System financial indicators, December 31, 1996-2001, and September 30, 2002 .....	31
12. Farm Credit System income statement, December 31, 1996-2001, and September 30, 2002 .....	31
13. Life insurance company mortgage loan delinquencies, 1980-2002 .....	32
14. Life insurance company mortgage loans in the process of foreclosure, 1980-2002 .....	33
15. Life insurance company mortgage loans foreclosed, 1980-2002 .....	34
16. Farm Service Agency major farmer program level and obligations, fiscal 2002, and program level, fiscal 2003-2004 .....	36
17. Farm Service Agency farmer program obligations, September 30, 1987, to September 30, 2002 .....	37
18. Farm Service Agency direct farmer loan program delinquencies, September 30, 1987, to September 30, 2002 .....	39
19. Farm Service Agency guaranteed farmer loan program delinquencies, September 30, 1987, to September 30, 2002 .....	40
20. Income and net worth of farm operator households, by farm typology group and county type, 2001 .....	49
Appendix Tables	
1. Total farm business debt by lender, December 31, 1980-2002 .....	56
2. Real estate farm business debt by lender, December 31, 1980-2002 .....	58
3. Nonreal estate farm business debt by lender, December 31, 1980-2002 .....	60
4. Interest rates on short- and intermediate-term loans, 1960-2002 .....	62
5. Interest rates on long-term loans, 1960-2002 .....	63
6. Value of acquired property, 1984-2002 .....	64
7. Trends in the numbers of Farm Credit System Associations, 1983-2003 .....	65
8. Commercial bank real estate lending by type of bank, June 30, 2002 .....	65
9. Banks reporting nonperforming loans greater than capital, 1986-2002 .....	66
10. Commercial bank failures, 1982-2002 .....	66

## Appendix Tables

Appendix table 1--Total farm business debt by lender, December 31, 1980-2002

	Debt owed to reporting institutions					Individuals and others 1/	Total debt
	Farm Credit System	Commercial banks	Farm Service Agency	Life insurance companies	Total institutional		
	Million dollars						
1980	52,974	37,751	17,464	11,998	120,188	46,636	166,824
1981	61,566	38,798	20,802	12,150	133,316	49,065	182,381
1982	64,220	41,890	21,274	11,829	139,214	49,592	188,806
1983	63,710	45,422	21,428	11,668	142,228	48,842	191,070
1984	64,688	47,245	23,262	11,891	147,086	46,701	193,787
1985	56,169	44,470	24,535	11,273	136,447	41,152	177,599
1986	45,909	41,621	24,138	10,377	122,044	34,926	156,970
1987	40,030	41,130	23,553	9,355	114,069	30,342	144,411
1988	37,211	42,742	21,879	9,039	110,873	28,694	139,567
1989	36,440	44,929	19,047	9,113	109,529	28,330	137,859
1990	35,773	47,556	17,014	9,704	110,046	27,916	137,962
1991	35,527	50,271	15,253	9,546	110,598	28,620	139,218
1992	35,753	51,669	13,538	8,765	109,725	29,327	139,052
1993	35,439	54,533	12,076	8,985	111,035	30,929	141,964
1994	35,777	57,809	11,485	9,025	114,096	32,704	146,800
1995	37,324	60,025	10,147	9,092	116,588	34,182	150,769
1996	39,745	61,620	9,316	9,468	120,149	35,925	156,074
1997	42,341	66,952	8,655	9,699	127,647	37,766	165,413
1998	45,699	70,011	8,067	10,723	134,499	38,363	172,862
1999	46,218	71,792	7,883	11,490	137,382	39,049	176,431
2000	48,582	76,474	7,532	11,828	144,416	39,736	184,152
2001	54,416	77,761	7,378	12,003	151,559	40,468	192,027
2002P	61,191	79,529	7,067	12,287	160,074	41,820	201,894
	Percent change in year						
1980	16.7	1.7	20.9	6.4	11.1	7.6	10.1
1981	16.2	2.8	19.1	1.3	10.9	5.2	9.3
1982	4.3	8.0	2.2	-2.6	4.4	1.1	3.5
1983	-0.8	8.4	0.7	-1.4	2.2	-1.5	1.2
1984	1.5	4.0	8.6	1.9	3.4	-4.4	1.4
1985	-13.2	-5.9	5.5	-5.2	-7.2	-11.9	-8.4
1986	-18.3	-6.4	-1.6	-8.0	-10.6	-15.1	-11.6
1987	-12.8	-1.2	-2.4	-9.8	-6.5	-13.1	-8.0
1988	-7.0	3.9	-7.1	-3.4	-2.8	-5.4	-3.4
1989	-2.1	5.1	-12.9	0.8	-1.2	-1.2	-1.2
1990	-1.8	5.8	-10.7	6.5	0.5	-1.4	0.1
1991	-0.7	5.7	-10.3	-1.6	0.5	2.5	0.9
1992	0.6	2.8	-11.2	-8.2	-0.8	2.5	-0.1
1993	-0.9	5.6	-10.8	2.5	1.2	5.5	2.1
1994	1.0	6.0	-4.9	0.5	2.8	5.7	3.4
1995	4.3	3.8	-11.7	0.7	2.2	4.5	2.7
1996	6.5	2.7	-8.2	4.1	3.4	5.1	3.5
1997	6.5	8.7	-7.1	2.4	3.2	5.1	6.0
1998	7.9	4.6	-6.7	10.6	5.4	1.6	4.5
1999	1.1	2.5	-2.3	7.2	2.1	1.8	2.1
2000	5.1	6.5	-4.5	2.9	5.0	1.8	4.4
2001	12.0	1.7	-2.0	1.5	5.6	1.8	4.3
2002P	12.5	2.3	-4.2	2.4	5.0	3.3	5.1

continued

Appendix table 1--Total farm business debt by lender, December 31, 1980-2002—continued

	Debt owed to reporting institutions				Total institutional	Individuals and others 1/	Total debt
	Farm Credit System	Commercial banks	Farm Service Agency	Life insurance companies			
Percentage distribution of total debt							
1980	31.8	22.6	10.5	7.2	72.0	28.0	100.0
1981	33.8	21.3	11.4	6.7	73.1	26.9	100.0
1982	34.0	22.2	11.3	6.3	73.7	26.3	100.0
1983	33.3	23.8	11.2	6.1	74.4	25.6	100.0
1984	33.4	24.4	12.0	6.1	75.9	24.1	100.0
1985	31.6	25.0	13.8	6.3	76.8	23.2	100.0
1986	29.2	26.5	15.4	6.6	77.7	22.3	100.0
1987	27.7	28.5	16.3	6.5	79.0	21.0	100.0
1988	26.7	30.6	15.7	6.5	79.5	20.5	100.0
1989	26.4	32.6	13.8	6.6	79.5	20.5	100.0
1990	25.9	34.5	12.3	7.0	79.8	20.2	100.0
1991	25.5	36.1	11.0	6.9	79.4	20.6	100.0
1992	25.7	37.2	9.7	6.3	78.9	21.1	100.0
1993	25.0	38.4	8.5	6.3	78.2	21.8	100.0
1994	24.4	39.4	7.8	6.2	77.7	22.3	100.0
1995	24.8	39.8	6.7	6.1	77.3	22.7	100.0
1996	25.5	39.4	6.0	6.1	77.0	23.0	100.0
1997	25.6	40.5	5.2	5.9	77.2	22.8	100.0
1998	26.4	40.5	4.7	6.2	77.8	22.2	100.0
1999	26.2	40.7	4.5	6.5	77.9	22.1	100.0
2000	26.4	41.5	4.1	6.4	78.4	21.6	100.0
2001	28.3	40.5	3.8	6.3	78.9	21.1	100.0
2002P	30.3	39.4	3.5	6.1	79.3	20.7	100.0

P = Preliminary. 1/ In addition to individuals, this category includes land for contract, merchants' and dealers' credit, etc., CCC storage and drying facilities loans, and Farmer Mac loans.

Sources: American Council of Life Insurers, Investment Bulletin: Mortgage Loan Profile; Board of Governors of the Federal Reserve System, Report of Condition and Report of Income files; Federal Farm Credit Banks Funding Corporation Reports and Farm Credit Administration LARS database; Farm Service Agency, 616 Direct Borrowers Delinquency Report; U.S. Census of Agriculture Finance Surveys; and U.S. Department of Agriculture farm operator surveys.

Appendix table 2--Real estate farm business debt by lender, December 31, 1980-2002

	Debt owed to reporting institutions					Individuals and others 1/	CCC storage and drying facilities	Total real estate
	Farm Credit System	Farm Service Agency	Life insurance companies	Commercial banks	Total institutional			
Million dollars								
1980	33,225	7,435	11,998	7,765	60,423	27,813	1,456	89,692
1981	40,298	8,096	12,150	7,584	68,128	29,318	1,342	98,788
1982	43,661	8,298	11,829	7,568	71,357	29,326	1,127	101,810
1983	44,318	8,573	11,668	8,347	72,906	29,388	888	103,182
1984	46,596	9,523	11,891	9,626	77,636	28,438	623	106,697
1985	42,169	9,821	11,273	10,732	73,994	25,775	307	100,076
1986	35,593	9,713	10,377	11,942	67,725	22,660	123	90,408
1987	30,646	9,430	9,355	13,541	62,972	19,380	46	82,398
1988	28,445	8,980	9,039	14,434	60,898	16,914	21	77,833
1989	26,896	8,203	9,113	15,685	59,898	16,068	12	75,978
1990	25,924	7,639	9,704	16,288	59,556	15,169	7	74,732
1991	25,305	7,041	9,546	17,417	59,308	15,632	4	74,944
1992	25,408	6,394	8,765	18,757	59,324	16,095	2	75,421
1993	24,900	5,837	8,985	19,595	59,317	16,719	0	76,036
1994	24,597	5,465	9,025	21,079	60,166	17,514	0	77,680
1995	24,851	5,055	9,092	22,277	61,275	18,012	0	79,287
1996	25,730	4,702	9,468	23,276	63,176	18,481	0	81,657
1997	27,098	4,373	9,699	25,240	66,409	18,950	0	85,359
1998	28,888	4,073	10,723	27,168	70,852	18,763	0	89,615
1999	30,302	3,872	11,490	29,799	75,463	18,763	0	94,226
2000	31,825	3,658	11,828	31,901	79,212	18,377	58	97,648
2001	35,253	3,586	12,003	33,358	84,200	18,687	123	103,010
2002P	40,359	3,371	12,287	35,544	91,561	19,127	153	110,841
Percent change in year								
1980	21.6	18.9	6.4	-0.4	14.8	8.4	4.7	12.5
1981	21.3	8.9	1.3	-2.3	12.8	5.4	-7.8	10.1
1982	8.3	2.5	-2.6	-0.2	4.7	0.0	-16.0	3.1
1983	1.5	3.3	-1.4	10.3	2.2	0.2	-21.2	1.3
1984	5.1	11.1	1.9	15.3	6.5	-3.2	-29.8	3.4
1985	-9.5	3.1	-5.2	11.5	-4.7	-9.4	-50.7	-6.2
1986	-15.6	-1.1	-7.9	11.3	-8.5	-12.1	-59.9	-9.7
1987	-13.9	-2.9	-9.8	13.4	-7.0	-14.5	-62.6	-8.9
1988	-7.2	-4.8	-3.4	6.6	-3.3	-12.7	-54.9	-5.5
1989	-5.4	-8.6	0.8	8.7	-1.6	-5.0	-43.9	-2.4
1990	-3.6	-6.9	6.5	3.8	-0.6	-5.6	-43.8	-1.6
1991	-2.4	-7.8	-1.6	6.9	-0.4	3.0	-41.8	0.3
1992	0.4	-9.2	-8.2	7.7	0.0	3.0	-47.6	0.6
1993	-2.0	-8.7	2.5	4.5	0.0	3.9	-100.0	0.8
1994	-1.2	-6.4	0.5	7.6	1.4	4.8	0.0	2.2
1995	1.0	-7.5	0.7	5.7	1.8	2.8	0.0	2.1
1996	3.5	-7.0	4.1	4.5	3.1	2.6	0.0	3.0
1997	5.3	-7.0	2.4	8.4	5.1	2.5	0.0	4.5
1998	6.6	-6.9	10.6	7.6	6.7	-1.0	0.0	5.0
1999	4.9	-4.9	7.2	9.7	6.5	0.0	0.0	5.1
2000	5.0	-5.5	2.9	7.1	5.0	-1.7	2/	3.6
2001	10.8	-2.0	1.5	4.6	6.3	2.0	112.0	5.5
2002P	14.5	-6.0	2.4	6.6	8.7	2.5	24.4	7.6

continued

Appendix table 2--Real estate farm business debt by lender, December 31, 1980-2002—continued

	Debt owed to reporting institutions						CCC storage and drying facilities	Total real estate
	Farm Credit System	Farm Service Agency	Life insurance companies	Commercial banks	Total institutional	Individuals and others 1/		
	Percentage distribution of debt							
1980	37.0	8.3	13.4	8.7	67.4	31.0	1.6	100.0
1981	40.8	8.2	12.3	7.7	69.0	29.7	1.4	100.0
1982	42.9	8.2	11.6	7.4	70.1	28.8	1.1	100.0
1983	43.0	8.3	11.3	8.1	70.7	28.5	0.9	100.0
1984	43.7	8.9	11.1	9.0	72.8	26.7	0.6	100.0
1985	42.1	9.8	11.3	10.7	73.9	25.8	0.3	100.0
1986	39.4	10.7	11.5	13.2	74.8	25.1	0.1	100.0
1987	37.2	11.4	11.4	16.4	76.4	23.5	0.1	100.0
1988	36.5	11.5	11.6	18.5	78.2	21.7	0.0	100.0
1989	35.4	10.8	12.0	20.6	78.8	21.1	0.0	100.0
1990	34.7	10.2	13.0	21.8	79.6	20.3	0.0	100.0
1991	33.8	9.4	12.7	23.2	79.1	20.9	0.0	100.0
1992	33.7	8.5	11.6	24.9	78.7	21.3	0.0	100.0
1993	32.8	7.7	11.8	25.8	78.0	22.0	0.0	100.0
1994	31.7	7.0	11.6	27.1	77.5	22.6	0.0	100.0
1995	31.3	6.4	11.5	28.1	77.3	22.7	0.0	100.0
1996	31.5	5.8	11.6	28.5	77.4	22.6	0.0	100.0
1997	31.8	5.1	11.4	29.6	77.8	22.2	0.0	100.0
1998	32.2	4.5	12.0	30.3	79.1	20.9	0.0	100.0
1999	32.2	4.1	12.2	31.6	80.1	19.9	0.0	100.0
2000	32.6	3.7	12.1	32.7	81.1	18.8	0.1	100.0
2001	34.2	3.5	11.7	32.4	81.8	18.1	0.1	100.0
2002P	36.4	3.0	11.1	32.1	82.6	17.3	0.1	100.0

P = Preliminary. 1/ Including Farmer Mac loans. 2/ Infinite.

Sources: American Council of Life Insurers, Investment Bulletin: Mortgage Loan Profile; Board of Governors of the Federal Reserve System, Report of Condition and Report of Income files; Federal Farm Credit Banks Funding Corporation Reports and Farm Credit Administration LARS database; Farm Service Agency, 616 Direct Borrowers Delinquency Report; U.S. Census of Agriculture Finance Surveys; and U.S. Department of Agriculture farm operator surveys.

Appendix table 3--Nonreal estate farm business debt by lender, December 31, 1980-2002

	Debt owed to reporting institutions				Individuals and others	Total nonreal estate	CCC crop loans
	Commercial banks	Farm Credit System	Farm Service Agency	Total institutional			
	Million dollars						
1980	29,986	19,750	10,029	59,765	17,367	77,132	3,836
1981	31,215	21,268	12,706	65,189	18,404	83,593	6,888
1982	34,322	20,558	12,977	67,857	19,139	86,996	15,204
1983	37,075	19,392	12,855	69,322	18,566	87,888	10,576
1984	37,619	18,092	13,740	69,451	17,640	87,091	8,428
1985	33,738	14,001	14,714	62,453	15,070	77,523	17,598
1986	29,678	10,317	14,425	54,420	12,143	66,563	19,190
1987	27,589	9,384	14,123	51,096	10,916	62,012	15,120
1988	28,309	8,766	12,899	49,974	11,760	61,734	8,902
1989	29,243	9,544	10,843	49,631	12,250	61,881	5,225
1990	31,267	9,848	9,374	50,490	12,740	63,230	4,377
1991	32,854	10,222	8,213	51,289	12,985	64,274	3,579
1992	32,912	10,346	7,143	51,401	13,230	63,631	4,771
1993	34,939	10,540	6,239	51,717	14,210	65,927	3,170
1994	36,730	11,180	6,020	53,930	15,190	69,120	6,237
1995	37,748	12,472	5,092	55,312	16,170	71,482	2,979
1996	38,344	14,015	4,614	57,355	17,444	74,417	3,508
1997	41,713	15,243	4,283	59,263	18,816	80,054	1,982
1998	42,842	16,812	3,993	63,647	19,600	83,247	5,230
1999	41,993	15,916	4,011	61,919	20,286	82,205	5,681
2000	44,573	16,757	3,874	65,204	21,300	86,504	4,000
2001	44,404	19,164	3,792	67,360	21,658	89,017	5,000
2002P	43,985	20,832	3,696	68,513	22,540	91,053	4,200
	Percent change in year						
1980	2.2	9.4	22.5	7.6	6.7	7.4	3.3
1981	4.1	7.7	26.7	9.1	6.0	8.4	79.6
1982	10.0	-3.3	2.1	4.1	4.0	4.1	120.7
1983	8.0	-5.7	-0.9	2.2	-3.0	1.0	-30.4
1984	1.5	-6.7	6.9	0.2	-5.0	-0.9	-20.3
1985	-10.3	-22.6	7.1	-10.1	-14.6	-11.0	108.8
1986	-12.0	-26.3	-2.0	-12.9	-19.4	-14.1	9.0
1987	-7.0	-9.0	-2.1	-6.1	-10.1	-6.8	-21.2
1988	2.6	-6.6	-8.7	-2.2	7.7	-0.4	-41.1
1989	3.3	8.9	-15.9	-0.7	4.2	0.2	-41.3
1990	6.9	3.2	-13.5	1.7	4.0	2.2	-16.2
1991	5.1	3.8	-12.4	1.6	1.9	1.7	-18.2
1992	0.2	1.2	-13.0	0.2	1.9	-1.0	33.3
1993	6.2	1.9	-12.7	0.1	7.4	3.6	-33.6
1994	5.1	6.1	-3.5	4.3	6.9	4.8	96.8
1995	2.8	11.6	-15.4	2.6	6.5	3.4	-52.2
1996	1.6	12.4	-9.4	3.7	7.9	4.1	17.8
1997	8.8	8.8	-7.2	3.3	7.9	7.6	-43.5
1998	2.7	10.3	-6.8	7.4	4.2	4.0	163.9
1999	-2.0	-5.3	0.4	-2.7	3.5	-1.3	8.6
2000	6.1	5.3	-3.4	5.3	5.0	5.2	-29.6
2001	-0.4	14.4	-2.1	3.3	1.7	2.9	-25.0
2002P	-0.9	8.7	-2.5	1.7	4.1	2.3	-16.0

continued

Appendix table 3--Nonreal estate farm business debt by lender, December 31, 1980-2002—continued

	Debt owed to reporting institutions			Total institutional	Individuals and others	Total nonreal estate	CCC crop loans 1/
	Commercial banks	Farm Credit System	Farm Service Agency				
Percentage distribution of debt							
1980	38.9	25.6	13.0	77.5	22.5	100.0	
1981	37.3	25.4	15.2	78.0	22.0	100.0	
1982	39.5	23.6	14.9	78.0	22.0	100.0	
1983	42.2	22.1	14.6	78.9	21.1	100.0	
1984	43.2	20.8	15.8	79.7	20.3	100.0	
1985	43.5	18.1	19.0	80.6	19.4	100.0	
1986	44.6	15.5	21.7	81.8	18.2	100.0	
1987	44.5	15.1	22.8	82.4	17.6	100.0	
1988	45.9	14.2	20.9	81.0	19.0	100.0	
1989	47.3	15.4	17.5	80.2	19.8	100.0	
1990	49.5	15.6	14.8	79.8	20.1	100.0	
1991	51.1	15.9	12.8	79.8	20.2	100.0	
1992	51.7	16.3	11.2	79.5	20.8	100.0	
1993	53.0	16.0	9.5	78.4	21.6	100.0	
1994	53.1	16.2	8.7	78.0	22.0	100.0	
1995	52.8	17.5	7.1	77.4	22.6	100.0	
1996	51.5	18.8	6.2	76.7	23.4	100.0	
1997	52.1	19.0	5.4	74.0	23.5	100.0	
1998	51.5	20.2	4.8	76.5	23.5	100.0	
1999	51.1	19.4	4.9	75.3	24.7	100.0	
2000	51.5	19.4	4.5	75.4	24.6	100.0	
2001	49.9	21.5	4.3	75.7	24.3	100.0	
2002P	48.3	22.9	4.1	75.3	24.8	100.0	

P = Preliminary. 1/ CCC crop loans are included as an exhibit to show their size vis-a-vis regular farm nonreal estate debt. CCC crop loans are not considered a part of regular nonreal estate farm borrowing conducted by institutional lenders plus individuals and others (merchants and dealers).

Sources: Board of Governors of the Federal Reserve System, Report of Condition and Report of Income files; Federal Farm Credit Banks Funding Corporation Reports and Farm Credit Administration LARS database; Farm Service Agency, 616 Direct Borrowers Delinquency Report; U.S. Census of Agriculture Finance Surveys; and U.S. Department of Agriculture farm operator surveys.

Appendix table 4--Interest rates on short- and intermediate-term loans, 1960-2002

Year	Agricultural nonreal estate								
	Prime rate	12-month T-Bill 1/	Commercial banks			Farm Credit System	FSA 2/		Average on outstanding debt 3/
			All banks	Large banks	Other banks		Regular	Limited resource	
Percent									
1960	4.82	NA	NA	NA	NA	NA	5.00	NA	6.58
1965	4.54	NA	NA	NA	NA	NA	5.00	NA	6.38
1970	7.91	6.90	NA	NA	NA	9.45	6.88	NA	7.84
1975	7.86	6.78	NA	NA	NA	9.11	8.63	NA	8.21
1980	15.27	12.00	15.20	16.70	15.00	12.74	11.00	6.82	11.70
1981	18.87	14.80	18.50	19.80	18.10	14.46	14.04	8.13	13.34
1982	14.85	12.27	16.70	16.10	17.00	14.58	13.73	10.75	13.31
1983	10.79	9.58	13.50	12.10	14.10	11.95	10.31	7.31	12.14
1984	12.04	10.91	14.10	13.10	14.40	12.47	10.25	7.25	11.88
1985	9.93	8.42	12.80	11.20	13.40	12.40	10.25	7.25	10.61
1986	8.33	6.45	11.50	9.60	12.10	11.23	8.66	5.66	10.23
1987	8.21	6.77	10.60	9.20	11.30	10.10	8.12	5.27	10.53
1988	9.32	7.65	11.20	10.20	11.60	10.56	9.02	6.02	10.50
1989	10.87	8.53	12.50	12.10	12.70	11.68	9.10	6.10	10.64
1990	10.01	7.89	11.40	10.90	12.30	11.16	8.90	5.82	10.76
1991	8.46	5.86	9.80	9.00	11.30	10.10	8.25	5.00	9.86
1992	6.25	3.89	7.80	6.80	9.40	8.20	6.79	5.00	8.59
1993	6.00	3.43	7.50	6.70	8.70	8.09	5.88	5.00	8.29
1994	7.15	5.32	7.70	7.10	8.75	8.23	6.46	5.00	8.91
1995	8.83	5.94	9.50	9.10	10.45	8.89	7.38	5.00	9.56
1996	8.27	5.52	8.50	7.80	10.10	8.55	6.58	5.00	9.61
1997	8.44	5.63	9.25	8.69	10.03	8.92	6.73	5.00	9.17
I	8.24	5.65	9.10	8.60	9.80	8.94	6.50	5.00	NA
II	8.50	5.85	9.30	8.60	10.10	8.94	6.67	5.00	NA
III	8.50	5.54	9.40	8.90	10.10	8.92	7.00	5.00	NA
IV	8.50	5.48	9.20	8.60	10.10	8.87	6.75	5.00	NA
1998	8.35	5.05	8.95	8.28	9.78	8.59	5.92	5.00	8.89
I	8.50	5.31	9.10	8.20	9.90	8.80	6.25	5.00	NA
II	8.50	5.41	9.20	8.50	9.90	8.58	6.00	5.00	NA
III	8.50	5.09	9.00	8.50	9.90	8.62	6.00	5.00	NA
IV	7.92	4.39	8.50	7.90	9.40	8.41	5.42	5.00	NA
1999	8.00	5.08	8.80	8.15	9.45	8.41	5.63	5.00	8.79
I	7.75	4.67	8.20	7.40	9.40	8.40	5.00	5.00	NA
II	7.75	4.88	8.80	8.10	9.30	8.42	5.25	5.00	NA
III	8.10	5.16	9.00	8.40	9.60	8.50	6.00	5.00	NA
IV	8.37	5.61	9.20	8.70	9.50	8.33	6.25	5.00	NA
2000	9.23	6.11	9.78	9.38	10.25	9.09	6.73	5.00	8.98
I	8.68	6.19	9.20	8.70	9.80	9.43	6.58	5.00	NA
II	9.25	6.22	9.70	9.40	10.10	9.38	7.00	5.00	NA
III	9.50	6.13	10.20	9.70	10.60	9.27	6.83	5.00	NA
IV	9.50	5.90	10.00	9.70	10.50	8.66	6.50	5.00	NA
2001	6.91	3.49	7.80	7.10	8.90	6.90	5.35	5.00	7.81
I	8.62	4.60	9.10	8.50	9.80	7.86	5.83	5.00	NA
II	7.34	3.78	8.30	7.80	9.00	7.16	5.33	5.00	NA
III	6.57	3.30	7.70	7.10	8.70	6.68	5.25	5.00	NA
IV	5.16	2.24	6.20	5.30	7.70	5.98	4.92	5.00	NA
2002P	4.67	2.00	5.90	4.90	7.20	6.04	4.50	5.00	6.95
I	4.75	2.32	6.30	5.10	7.30	6.42	4.75	5.00	NA
II	4.75	2.34	6.20	5.30	7.20	5.90	4.92	5.00	NA
III	4.75	1.81	5.70	4.80	7.30	5.87	4.83	5.00	NA
IV	4.45	1.53	5.50	4.40	7.10	5.96	3.50	5.00	NA

NA = Not available. P = preliminary for the Farm Credit System. 1/ Constant maturity. 2/ New operating loans. 3/ Average on outstanding farm business debt. Note: Because of changes in the practices of agricultural lenders over time and differences in the types of loans used to calculate each lender's interest rate series, interest rates across columns and over time are roughly rather than exactly comparable.

Sources: Board of Governors of the Federal Reserve System, Agricultural Finance Databook; Economic Research Service; data collected from various Farm Credit District Banks; and Farm Service Agency.

Appendix table 5--Interest rates on long-term loans, 1960-2002

Year	Agricultural real estate							
	U.S. Treasury bond 1/	Commercial banks	Farm Credit System	Life insurance companies	FSA 2/		Average on outstanding debt 3/	Average on total farm debt 4/
					Regular	Limited resource		
Percent								
1960	NA	NA	NA	NA	5.00	NA	5.01	5.79
1965	4.28	NA	NA	NA	5.00	NA	5.36	5.84
1970	7.35	8.27	8.68	9.31	5.00	NA	5.88	6.73
1975	7.99	9.02	8.69	10.03	5.00	NA	6.98	7.55
1980	11.43	13.76	10.39	13.21	11.05	4.82	8.17	9.82
1981	13.92	16.75	11.27	15.42	13.00	5.50	8.91	10.95
1982	13.01	16.63	12.27	15.51	12.94	6.50	9.60	11.31
1983	11.10	13.76	11.63	12.47	10.79	5.27	9.70	10.83
1984	12.46	14.07	11.76	13.49	10.75	5.25	9.41	10.54
1985	10.62	12.96	12.24	12.61	10.75	5.25	8.73	9.57
1986	7.67	11.56	11.61	11.96	9.13	5.06	8.76	9.39
1987	8.39	11.07	11.10	10.21	8.90	5.00	8.94	9.62
1988	8.85	11.42	10.10	10.05	9.46	5.00	9.22	9.78
1989	8.49	12.08	10.93	10.47	9.46	5.00	9.52	10.02
1990	8.55	11.69	10.56	10.25	8.94	5.00	9.58	10.11
1991	7.86	10.76	9.85	10.01	8.73	5.00	8.93	9.36
1992	7.01	9.45	8.25	8.74	8.13	5.00	8.44	8.51
1993	5.87	8.64	7.83	7.64	7.29	5.00	7.75	8.00
1994	7.09	9.20	8.57	8.97	7.42	5.00	7.97	8.41
1995	6.57	9.97	8.95	8.57	7.96	5.00	8.01	8.74
1996	6.44	9.38	8.08	8.13	7.12	5.00	8.14	8.84
1997	6.35	9.38	8.28	8.09	7.23	5.00	7.92	8.52
I	6.56	9.42	8.21	8.06	7.00	5.00	NA	NA
II	6.70	9.50	8.41	8.43	7.17	5.00	NA	NA
III	6.24	9.34	8.25	7.77	7.50	5.00	NA	NA
IV	5.91	9.26	8.23	8.10	7.25	5.00	NA	NA
1998	5.26	9.07	8.13	7.49	6.29	5.00	7.70	8.27
I	5.59	9.18	8.34	7.51	6.58	5.00	NA	NA
II	5.60	9.24	8.35	7.56	6.50	5.00	NA	NA
III	5.20	9.12	8.28	7.47	6.17	5.00	NA	NA
IV	4.67	8.74	7.78	7.42	5.92	5.00	NA	NA
1999	5.65	8.85	7.95	7.82	6.15	5.00	7.62	8.11
I	4.98	8.64	7.65	7.23	5.75	5.00	NA	NA
II	5.54	8.74	7.87	7.51	5.75	5.00	NA	NA
III	5.88	8.94	8.13	8.05	6.33	5.00	NA	NA
IV	6.14	9.09	8.14	8.48	6.75	5.00	NA	NA
2000	6.03	9.64	8.61	8.50	6.85	5.00	7.83	8.31
I	6.48	9.42	8.61	8.69	7.00	5.00	NA	NA
II	6.18	9.72	8.67	8.55	7.08	5.00	NA	NA
III	7.56	9.76	8.67	8.33	6.83	5.00	NA	NA
IV	5.57	9.64	8.52	8.43	6.50	5.00	NA	NA
2001	5.02	8.22	6.73	7.36	6.11	5.00	6.94	7.35
I	5.05	8.92	7.36	7.69	6.17	5.00	NA	NA
II	5.27	8.46	7.04	7.36	6.00	5.00	NA	NA
III	4.98	8.00	6.67	7.29	6.17	5.00	NA	NA
IV	4.77	7.48	5.99	7.09	6.08	5.00	NA	NA
2002P	4.61	7.29	5.43	6.45	6.01	5.00	6.47	6.69
I	5.08	7.46	5.55	7.05	6.00	5.00	NA	NA
II	5.10	7.44	5.55	6.72	6.08	5.00	NA	NA
III	4.26	7.30	5.31	6.04	6.25	5.00	NA	NA
IV	4.01	6.96	5.29	6.03	5.71	5.00	NA	NA

NA = Not available. P = preliminary for commercial banks and the Farm Credit System. 1/ 10-year constant maturity. 2/ New farm ownership loans. 3/ Average on outstanding farm business debt. 4/ Both real and nonreal estate loans. Note: Because of changes in the practices of agricultural lenders over time and differences in the types of loans used to calculate each lender's interest rate series, interest rates across columns and over time are roughly rather than exactly comparable.

Sources: Board of Governors of the Federal Reserve System, Agricultural Finance Databook; Economic Research Service; data collected from various Farm Credit District Banks; and Farm Service Agency.

Appendix table 6--Value of acquired property, 1984-2002 1/

Date 2/	Commercial banks	Farm Credit System	Life insurance companies	Farm Service Agency
Million dollars				
1984	224	496	NA	NA
1985	336	928	692	638
1986	441	1,093	1,442	758
1987	454	873	1,619	777
1988	426	661	1,226	633 3/
1989	388	461	1,110	609
1990	342	344	569	474
1991	341	409	413	404
1992	412	314	321	382
1993	247	187	135	344
1994	173	100	47	298
1995	149	59 4/	128	262
1996	132	50 4/	97	243
1997	94	29 4/	7	175
1998	67	31 4/	10	119
1999	81	20 4/	14	94
2000	85	41 4/	24	73
2001	76	35 4/	58	60
2002	79	36 4/	56	47

NA = Not available. 1/ Value of agricultural property acquired as the result of agricultural loan defaults and foreclosures. For commercial banks for 1984-91, the values were calculated by computing for each bank the ratio of outstanding farmland real estate loans to total outstanding loans and multiplying these ratios by the other real estate owned. Beginning in 1992 a direct measure of farmland owned is reported in bank Call Reports. For the Farm Credit System, excludes property held by the Banks for Cooperatives. 1984 figures are not exactly comparable because this was a transition year to new accounting principles. Also, Farm Credit System guidelines changed in 1990. 2/ Farm Credit System: December 31, 1984-2001, and September 30, 2002; Farm Service Agency: September 30, 1984-2002, (end of the Federal Government's fiscal year); and commercial banks and life insurance companies: December 31, 1984-2001, and June 30, 2002. 3/ Decrease from the previous period may reflect changes in reporting procedures. 4/ Does not include the CoBank Agricultural Credit Bank (ACB) or the St. Paul Bank for Cooperatives, although CoBank now services several Agricultural Credit Associations (ACAs) which are direct farm lenders.

Sources: American Council of Life Insurers, Investment Bulletin: Mortgage Loan Profile; Board of Governors of the Federal Reserve System, Report of Condition and Report of Income files; Federal Farm Credit Banks Funding Corporation, Farm Credit System Annual Information Statement; data provided by Farm Service Agency; and Economic Research Service, USDA.

Appendix table 7--Trends in the numbers of Farm Credit System Associations, 1983-2003

January 1	Federal Land Bank Associations 1/	Production Credit Associations 2/	Agricultural Credit Associations 3/	Federal Land Credit Associations 4/	Total
Number					
1983	474	421	0	0	895
1984	462	399	0	0	861
1985	436	362	0	0	798
1986	306	216	0	0	522
1987	232	155	0	0	387
1988	232	145	0	0	377
1989	154	94	33	0	281
1990	146	84	40	2	272
1991	120	111	44	18	293
1992	85	72	70	23	250
1993	77	70	69	27	243
1994	73	69	66	30	238
1995	71	69	60	32	232
1996	70	66	60	32	228
1997	60	65	61	31	217
1998	48	64	60	31	203
1999	39	63	54	33	189
2000	17	57	49	49	172
2001	0	28	67	38	133
2002	0	10	81	19	110
2003	0	0	86	13	99

1/ Farm Credit Banks (FCBs) make direct long-term agricultural loans secured by farm real estate through FLBAs, provide wholesale loan funds to direct lending associations: Production Credit Associations (PCAs), Federal Land Credit Associations (FLCAs), Agricultural Credit Associations (ACAs), and other financing institutions (OFIs). As of October 1, 2000, there no longer were any FLBAs and as of January 1, 2003 there were no longer any PCAs. 2/ Production Credit Associations have direct lending authority to make short- and intermediate-term loans to retail customers with funds obtained from FCBs. 3/ Agricultural Credit Associations have direct lending authority to make short-, intermediate-, and long-term loans to retail customers with funds obtained from FCBs or the CoBank, ACB. As of January 1, 2003, 84 of the ACAs have PCA and FLCA subsidiaries. 4/ Federal Land Credit Associations have direct lending authority to make long-term real estate loans to retail customers with funds obtained from FCBs.

Source: Data provided by the Farm Credit Administration.

Appendix table 8--Commercial bank real estate lending by type of bank, June 30, 2002

Bank group	Commercial banks	Real estate loans/total loans	Nonperforming real estate loans/total real estate loans 1/	Total nonperforming loans/total loans	Nonperforming real estate/nonperforming loans	Weak banks 2/
			Percent			Number
All banks	7,897	47.4	0.9	1.5	30.4	6
Agricultural	2,644	53.6	1.1	1.2	46.3	1
Small nonagricultural	4,548	68.9	0.8	1.0	60.5	5
Large nonagricultural	705	44.6	1.0	1.5	27.7	0
Urban	3,574	46.4	0.9	1.5	29.1	5
Rural	4,323	58.5	1.0	1.2	46.5	1

1/ Nonperforming loans are loans that are past due 90 days or more and still accruing interest plus loans in nonaccrual status. 2/ Weak banks are banks with total nonperforming loans in excess of total capital.

Source: Report of Condition and Report of Income files, Board of Governors of the Federal Reserve System.

Appendix table 9--Banks reporting nonperforming loans greater than capital, 1986-2002 1/

Year 2/	Agricultural banks		Nonagricultural banks		Total banks	
	Number	Percent	Number	Percent	Number	Percent
1986	154	3.27	247	2.63	401	2.84
1987	84	1.87	259	2.84	343	2.52
1988	55	1.26	239	2.75	294	2.25
1989	30	0.72	185	2.19	215	1.70
1990	15	0.37	133	1.62	148	1.21
1991	10	0.25	106	1.34	116	0.98
1992	6	0.16	56	0.74	62	0.54
1993	2	0.05	30	0.42	32	0.29
1994	2	0.06	19	0.28	21	0.20
1995	4	0.12	6	0.09	10	0.10
1996	5	0.15	4	0.06	9	0.09
1997	3	0.10	4	0.07	7	0.08
1998	2	0.07	6	0.10	8	0.09
1999	0	0.00	4	0.07	4	0.05
2000	1	0.04	3	0.05	4	0.05
2001	2	0.07	3	0.06	5	0.06
2002 2/	1	0.04	5	0.10	6	0.08

1/ Nonperforming loans are loans that are past due 90 days or more and still accruing interest plus loans in nonaccrual status. Total capital includes total equity capital, allowance for loan and lease losses, minority interest in consolidated subsidiaries, subordinated notes and debentures, and total mandatory convertible debt. 2/ The 2002 numbers are as of June 30, all others are December 31.

Source: Report of Condition and Report of Income files, Board of Governors of the Federal Reserve System.

Appendix table 10--Commercial bank failures, 1982-2002 1/

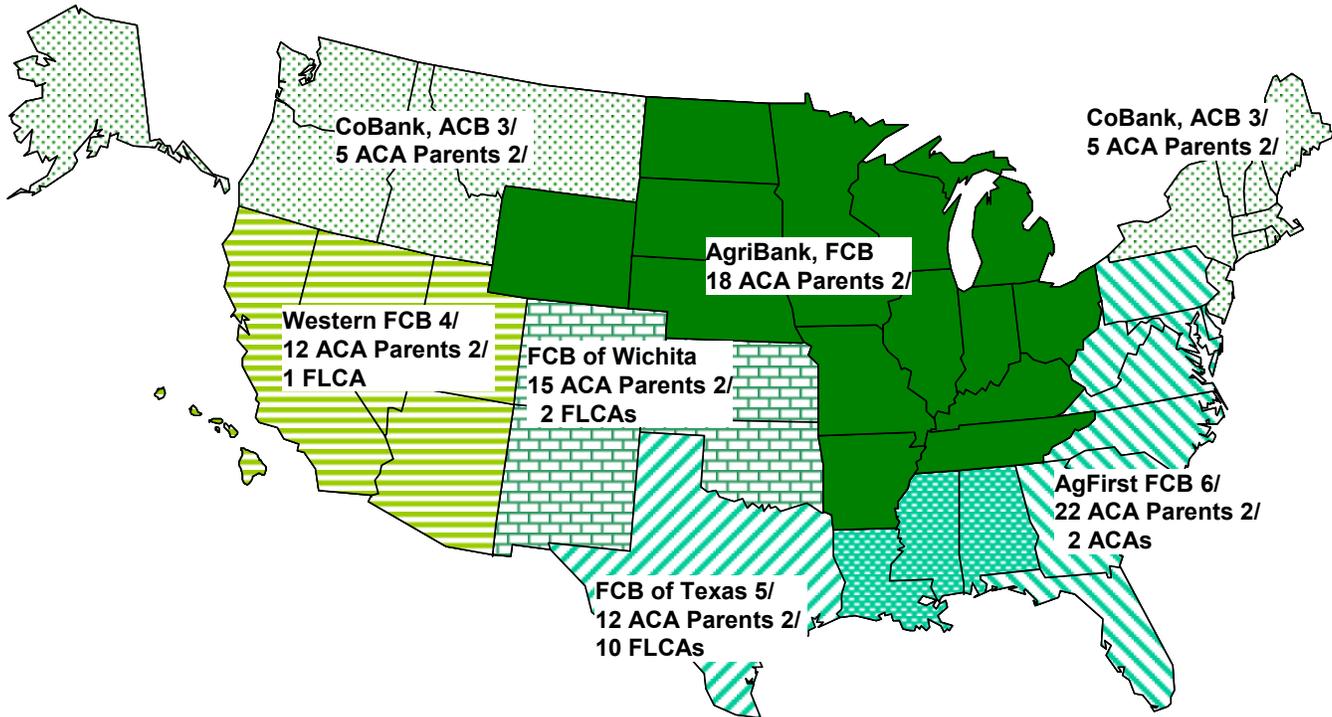
Year	Agricultural banks		Nonagricultural banks		Total banks	
	Number 2/	Percent 3/	Number	Percent 3/	Number	Percent 3/
1982	10	0.19	23	0.25	33	0.23
1983	7	0.14	37	0.40	44	0.31
1984	31	0.62	47	0.50	78	0.54
1985	69	1.42	49	0.52	118	0.83
1986	66	1.41	78	0.84	144	1.03
1987	75	1.67	127	1.41	202	1.50
1988	41	0.95	180	2.09	221	1.71
1989	22	0.53	184	2.18	206	1.63
1990	18	0.44	141	1.76	159	1.30
1991	10	0.25	98	1.24	108	0.91
1992	7	0.18	93	1.23	100	0.88
1993	3	0.08	33	0.46	36	0.33
1994	0	0.00	11	0.16	11	0.11
1995	0	0.00	5	0.08	5	0.05
1996	2	0.06	3	0.05	5	0.05
1997	1	0.03	0	0.00	1	0.01
1998	1	0.03	2	0.03	3	0.03
1999	1	0.03	6	0.11	7	0.08
2000	0	0.00	6	0.11	6	0.07
2001	0	0.00	3	0.06	3	0.04
2002 4/	2	0.08	8	0.15	10	0.13
Total	366	NA	1,134	NA	1,500	NA

NA=Not available. 1/ Counts of failures exclude mutual savings banks, savings and loan associations, commercial banks not insured by the FDIC, and banks headquartered in U.S. possessions and territories. Failures are those declared insolvent and closed by their chartering authorities plus those granted open bank assistance by the FDIC. 2/ Agricultural bank status is based on June loan data from the year prior to the bank's failure. 3/ Failures during the year as a percentage of total banks of this type remaining at the end of the year. 4/ Percentages for 2002 use June 30, 2002, data on numbers of banks in the denominators.

Sources: Calculated from information provided by the Federal Deposit Insurance Corporation and the Report of Condition and Report of Income files, Board of Governors of the Federal Reserve System.

Appendix figure 1

**Farm Credit System banks and associations, January 1, 2003 1/**



1/ AgAmerica no longer appears on the map because it merged with AgriBank on January 1, 2003. One of its associations (FCS of America, ACA) went to AgriBank but the other association (Northwest FCS, ACA) reaffiliated with CoBank. 2/ Designates ACAs that have PCA and FLCA subsidiaries. 3/ CoBank ACB serves cooperatives nationwide and ACAs in the indicated areas. 4/ Associations affiliated with Western, FCB, include 1 ACA in Idaho. 5/ Associations affiliated with Texas, FCB, include 1 ACA in New Mexico, 2 FLCAs in Alabama, 2 FLCAs in Mississippi, and 1 FLCA and 1 ACA in Louisiana. 6/ Associations affiliated with AgFirst, FCB, include 1 ACA in Ohio, 2 ACAs in Kentucky, 1 ACA in Tennessee, and 1 ACA serving Alabama, Mississippi, and most of Louisiana.

Source: Farm Credit Administration, Office of Policy and Analysis, Risk Analysis Division records.

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