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# Agriculture

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## AN EIGHTH DISTRICT PERSPECTIVE

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### Do Income Trends Contradict the Farm Crisis?

The "farm crisis" of the 1980s is well documented. Newsmagazine covers have indelibly etched it into popular awareness. Farm-Aid concerts, featuring well-known musical performers, have raised relief funds in a manner akin to fundraising efforts for the starving in Africa. Hollywood also has immortalized the plight of America's family farmers on film. The farm sector is widely acknowledged to have been "in crisis" since 1981 when agricultural exports and farmland values began to fall.

Given this backdrop, one would have expected that measures of financial performance, such as net farm income, would have registered dramatic declines during the crisis. It is, therefore, surprising to find that net farm income has reached record levels in the past three years. It rose from its recent low of \$12.7 billion in 1983 to near-record levels of \$32 billion in 1984 and 1985. In 1986, it rose to a record of \$37.5 billion; forecasts for 1987 project another record of more than \$41 billion. This article uses net farm income data for the nation and the Eighth District<sup>1</sup> to investigate the unlikely combination of a crisis in the midst of record earnings.

#### Net Farm Income - A Measure of Profitability

Net farm income is a comprehensive measure of the net profit of farm production in a given year. It is calculated as the difference between gross farm income (including government payments and inventory changes) and total expenses (including interest payments and depreciation). Net farm income is generally regarded as a long-term measure of the viability of a farm business because it includes the influence of depreciation and adjusts for inventory changes. It is also aggregated to measure the profitability of the entire farm sector.

<sup>1</sup>The Eighth District includes all of Arkansas and parts of Illinois, Indiana, Kentucky, Mississippi, Missouri and Tennessee. This article uses data for all of these seven states in representing the District.

#### A Long-Term Perspective

The combination of widespread declarations of a "farm crisis" and the sharp increases in net farm income over the past three years appears to be a contradiction. The apparent contradiction is largely due to a reliance on only short-term farm income trends that have not been adjusted for the effects of inflation.

The chart on the following page presents net farm income, adjusted for inflation, since 1949 for the nation and the District. The graph tells a number of stories. First, the "farm crisis" of the 1980s is not a phantom. In 1983, real net farm income fell to its lowest point since the 1930s in both the District and the nation. Thus, even after three years of increases to record levels, farm income in 1986 was not high by historical standards, after correcting for inflation. Secondly, while the crisis is real, the data suggest that rather than starting in the 1980s, the downturn began in the 1940s with only a brief respite of rising income in the 1970s.

This secular decline since the 1940s can be interpreted to mean that the profitability of the farm sector has been falling. Falling profitability of the farm sector has been associated with the characteristics of the supply and demand for food and farm products. The demand for food is generally inelastic. This means that the amount of food purchased does not vary much when the price of food changes. The supply of farm products, however, has expanded greatly due to increased productivity and increased worldwide production. This increased supply has resulted in lower prices. The result of the inelastic demand and the increasing supply of farm products is lower total revenue. Furthermore, farm resources such as farmland do not routinely flow out of the farm sector as they might out of other sectors experiencing falling profitability.



#### Government Payments to Farmers

One of the most important factors in the recent farm income growth has been direct government payments to farmers. These





payments have risen sharply in the 1980s; this rise, however, is not unprecedented. When adjusted for inflation, direct government payments in the late 1960s were as high as payments in 1986 both in the District and the nation. The late 1960s were a period for the farm sector similar to the current situation of large grain surpluses.

The price support programs that offer farmers a guaranteed price if they agree to reduce acreage account for most direct government payments. In recent years, this "target price" has been well above market prices. Other direct government payments are made for programs that pay farmers to remove resources from farming. The dairy Whole Herd Buyout and the Conservation Reserve are two examples of programs that do this. The relative importance of the payments has been increasing as well. In 1981, direct payments amounted to only 7 percent of net farm income. By 1987, direct payments of more than \$15 billion are expected to account for 37 percent of net farm income.

In addition to direct payments, farmers benefit from a wide array of other subsidies that support farm income. These other subsidies include price support loans and subsequent crop storage costs, government purchases of milk to support prices, government payments to enhance exports of U.S. commodities and foreign aid shipments of commodities. In 1986, for example, the value of all government subsidies for farmers amounted to \$26 billion, while direct payments to

farmers were \$12 billion.

The significance of government payments is large. Many analysts believe that the crisis has "bottomed out" as farm land values stabilize. A major reason for the stabilization, however, is that farm income has increased due to government payments. The level of these payments currently is under public scrutiny. Actions to reduce payment levels could lead to lower agricultural asset values.

The other important reason for recent strength in nominal farm income is an unprecedented large drop in production expenses. Lower feed and input prices, lower interest expense, government programs and farmers' decisions to use fewer inputs have lowered the cost of producing crops. Feed costs have declined substantially as grain prices have fallen in recent years. Lower oil prices directly affect the cost of fertilizers and other chemical inputs. Farmers also have been more frugal with the application of chemical inputs. Reduced interest expense is due to both lower interest rates and a reduction in farmers' use of debt. Farmers' participation in government price support programs is contingent upon reducing acreage which directly lowers costs. In coming years, cost savings from lower input costs may not be as large as in the last two years, as both oil prices and interest rates have risen.

—Kenneth C. Carraro

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## EIGHTH DISTRICT AGRICULTURAL DATA

<u>Prices and Costs<sup>1</sup></u>	Jun. 1987	Jul. 1987	Aug. 1987	Average for 1986	Percent Change	
					Year-To-Date 1987 <sup>2</sup>	Same Month Year Ago
<b>CONSUMER PRICE INDEX (% change)</b>						
Nonfood	0.3%	0.3%	0.5%	0.1%	3.4%	4.5%
Food	0.9	-0.5	-0.1	0.3	2.0	3.2
<b>PRODUCTION COSTS FOR FARMERS (% change)</b>						
Agricultural machinery and equipment	0.1	0.0	-0.2	0.1	0.0	0.3
Mixed Fertilizers	0.3	0.8	0.5	-0.3	4.9	2.1
Other Agricultural chemicals	1.0	0.1	0.4	0.4	1.3	0.8
Gasoline	3.1	2.6	3.5	-4.3	35.8	38.2
<b>PRICES RECEIVED BY FARMERS (% change)</b>						
All products	1.6	-2.3	-2.3	-0.5	3.3	0.0
Livestock	1.4	-0.7	0.7	0.3	6.4	0.7
Crops	1.8	-4.5	-7.6	-1.4	-1.0	-3.0
<b>FEEDER CATTLE</b>						
Wholesale price - Kansas City (\$/cwt.)	\$74.00	\$76.20	N.A.	\$62.79	17.2	24.9
<b>FEEDER PIGS</b>						
Wholesale price - So. Missouri (\$/head)	\$45.89	\$45.60	\$48.05	\$45.61	0.8	-15.2
<b>BROILERS</b>						
Wholesale price - 12-city (¢/lb.)	45.33¢	46.85¢	52.63¢	56.90¢	5.4	-24.5
<b>TURKEYS</b>						
Wholesale price - New York, 8-16 lb. young hens (¢/lb.)	55.72¢	56.04¢	55.97¢	71.92¢	-18.0	-30.4
<b>CORN</b>						
Wholesale price - No. 2, yellow - St. Louis (\$/bu.)	\$ 1.92	\$ 1.79	\$ 1.65	\$ 2.08	-2.4	-1.2
<b>SOYBEANS</b>						
Wholesale price - No. 1, yellow - Central Illinois (\$/bu.)	\$ 5.63	\$ 5.47	N.A.	\$ 5.23	10.3	2.6
<b>WHEAT</b>						
Wholesale price - No. 1, hard winter - Kansas City (\$/bu.)	\$ 2.70	\$ 2.59	\$ 2.65	\$ 2.93	-1.1	6.9
<b>LONG-GRAIN RICE</b>						
Wholesale price - Arkansas (\$/cwt.)	\$11.75	\$11.75	N.A.	\$13.78	-1.1	-9.6
<b>COTTON</b>						
Average price received by U.S. farmers (¢/lb.)	71.50¢	71.70¢	N.A.	54.67¢	31.1	16.6
					Percent Change	
<u>U.S. Exports</u>	Jun. 1987	Jul. 1987	Aug. 1987	Average for 1986	Year-To-Date 1987 <sup>2</sup>	Same Period Year Ago
Corn (mil. bu.)	121.0	135.0	N.A.	89.8	21.6%	200.0%
Soybeans (mil. bu.)	37.9	54.3	N.A.	65.3	-38.4	104.1
Wheat (mil. bu.)	125.7	166.2	N.A.	82.1	186.1	50.5
Rice (rough equivalent, mil. cwt.)	3.6	N.A.	N.A.	6.3	-21.7	-44.6
Cotton (thou. bales)	468.0	575.0	N.A.	288.6	0.9	2400.0



### Non-Real-Estate Farm Debt Outstanding

	Banks			PCAs <sup>3</sup>		
	Outstanding (\$ millions)	Percent Change		Outstanding (\$ millions)	Percent Change	
		6/86 - 6/87	6/85 - 6/87		6/86 - 6/87	6/85 - 6/87
United States	\$30,435	- 11.0%	- 23.7%	\$10,649	- 16.2%	- 36.2%
Eighth District <sup>4</sup>	2,278	- 15.0	- 22.7	NA	NA	NA
Arkansas	467	- 8.0	- 10.7	176	- 26.0	- 47.5
Kentucky	423	- 29.6	- 31.9	181	- 25.6	- 45.5
Missouri	1,027	- 14.1	- 28.1	123	- 50.5	- 65.5
Tennessee	287	- 11.5	- 22.3	205	- 16.0	- 36.1

### Agricultural Bank Loan Performance<sup>5</sup>

	Percent of Farm Loans Overdue at Agricultural Banks			Percent of Net Loan Losses at Agricultural Banks		
	6/87	6/86	6/85	6/87	6/86	6/85
United States	2.7%	3.9%	3.6%	.57%	.98%	.82%
Eighth District <sup>4</sup>	3.9	4.3	4.3	.42	.60	.59
Arkansas	2.2	1.7	3.8	.22	.39	.41
Kentucky	4.8	5.4	3.6	.34	.44	.39
Missouri	3.5	3.8	4.6	.62	.91	1.18
Tennessee	3.6	1.4	3.5	.35	.56	.55

### Agricultural Production Loan Interest Rate<sup>6</sup>

	Banks		PCAs	
	8/87	8/86	9/87	9/86
Eighth District Average	10.0%	10.2%	11.1%	11.1%

<sup>1</sup> The consumer price index components are seasonally adjusted. All other data are not seasonally adjusted.

<sup>2</sup> Percent change from December of previous year, based on the most recent month available.

<sup>3</sup> Source: Farm Credit Banks of Louisville and St. Louis, Farm Credit Administration.

<sup>4</sup> Includes all of AR and parts of IL, IN, KY, MO, MS and TN.

<sup>5</sup> Agricultural banks are defined as those with more than 25 percent of total loans in agricultural loans.

<sup>6</sup> Interest rate data are for different dates. PCA rates are weighted averages for Arkansas and Missouri, not adjusted for stock purchase requirements.

Source: Farm Credit Banks of St. Louis.