Commentary: Farm income and returns to assets and equity

In this section, past issues of the Databook have presented several USDA farm income series, including "operators' net farm income" adjusted for inflation. Recently, many commentators on farm financial developments have noted that this series has fallen to about the same level as in the latter years of the Great Depression. From this, they have inferred that recent farm income and financial conditions are equivalent to those of the Depression. But persons with any knowledge of farm conditions now and in the Depression realize that this is an analytical travesty. The discussion and tables that follow indicate why the "operators' net farm income" series gives such a misleading comparison. They also provide data better suited for that purpose.

The principal problem with using "operators' net farm income" for historical comparisons results from the combined effect of two factors. First, farm businesses are primarily proprietorships, and so such income is a combined return to the labor, management, and investment of the proprietors. (In corporate business, the analogous "income" would be the sum of wages, salaries, and profits.) Second, over the past three decades the farming industry has greatly reduced its labor requirements. The number of farm operators is now about 36 percent of the Depression level. Most simply stated, therefore, if total operators' real net farm income is equal to the Depression level, then each operator's real income is, on average, 2.75 times the Depression level.

USDA series on returns to farm assets and equity provide a more rigorous analytical treatment of this consideration. On page 60, these series are shown after adjustment for inflation (using the implicit price deflator for personal consumption expenditures). The second column of the table shows how much of the total farm income could be regarded as having been earned by operators for their labor and management work, if they had paid themselves at going hourly and percentage rates for these services. The rest of the income--the return to assets before interest payments--in 1981 was over three times (16.1 vs. 4.8) the level in 1940, the last year of the farm Depression. Even after interest payments, real profits were double the 1940 level (7.0 vs. 3.5).

Farm asset prices did not keep up with general inflation during 1981, and thus real capital gains were negative and total return to investment did not fare well. However, total returns during the preceding decade were extraordinary, whether viewed in total constant dollars (last column, page 60) or as a percentage return on investment (last column, page 61). As a result of these and earlier years of favorable returns on investment, real wealth represented by farm assets has risen to more than four times that of 1940 (414.9 vs 98.5; third column, page 61).

(continued on page 62)

Returns to farm production assets and equity
(Billions of 1972 dollars)

	Returns to production assets, operators' labor, and management services	Less: Returns imputed to operators' labor and management services	Equals: Residual income to production assets	Less: Interest on production debt	Equals: Residual income to equity in production assets	Plus: Real capital gains on equity in production assets	Equals: Total return to equity in production assets
1940......	16.7	11.9	4.8	1.3	3.5	-.5	3.0
1941......	22.3	13.5	8.8	1.3	7.5	5.1	12.6
1942......	29.8	16.6	13.2	1.1	12.1	10.0	22.1
1943......	32.3	19.9	12.4	.9	11.4	7.5	19.0
1944......	30.3	22.6	7.7	.8	6.8	6.5	13.3
1945......	30.4	22.5	7.8	.8	7.1	5.9	13.0
1946......	34.3	22.0	12.4	.7	11.6	2.4	14.0
1947......	31.6	19.4	12.3	.7	11.5	-.6	10.9
1948......	33.9	19.0	14.9	.8	14.1	1.8	15.9
1949......	24.8	16.8	8.1	.9	7.2	1.9	9.1
1950......	26.2	15.6	10.6	.9	9.7	13.9	23.6
1951......	28.7	16.8	11.8	1.0	10.8	8.2	19.0
1952......	26.5	16.6	9.9	1.1	8.8	-9.0	-.2
1953......	22.5	15.8	6.7	1.1	5.6	-4.4	1.2
1954......	21.5	14.8	6.7	1.1	5.6	-5.2	.4
1955......	19.6	14.2	5.4	1.2	4.2	7.0	11.2
1956......	19.3	13.7	5.6	1.2	4.4	8.6	13.0
1957......	18.4	12.2	6.2	1.3	4.9	7.9	12.8
1958......	21.3	12.0	9.3	1.4	7.9	15.4	23.3
1959......	17.3	11.7	5.6	1.6	4.1	.6	4.7
1960......	18.3	11.0	7.4	1.7	5.7	-.4	5.2
1961......	19.1	10.5	8.7	1.8	6.9	8.4	15.3
1962......	19.3	9.9	9.4	1.9	7.5	6.1	13.6
1963......	19.1	9.7	9.4	2.1	7.3	6.4	13.7
1964......	17.4	9.1	8.3	2.3	6.0	8.8	14.8
1965......	20.7	8.4	12.3	2.5	9.9	14.0	23.8
1966......	21.9	8.3	13.6	2.7	10.9	9.7	20.6
1967......	19.5	8.6	10.9	2.9	8.0	6.9	14.9
1968......	19.0	8.5	10.5	3.0	7.5	5.3	12.8
1969......	20.7	8.5	12.2	3.1	9.1	1.5	10.6
1970......	20.1	8.0	12.0	3.3	8.7	.9	9.6
1971......	20.0	8.1	11.9	3.4	8.5	12.9	21.4
1972......	24.8	8.0	16.8	3.6	13.2	27.6	40.9
1973......	40.1	8.6	31.5	4.1	27.4	48.2	75.6
1974......	30.1	8.2	21.9	4.9	17.0	1.2	18.2
1975......	26.3	7.6	18.6	4.7	13.9	35.5	49.5
1976......	20.8	7.1	13.7	5.0	8.7	46.2	54.9
1977......	19.9	6.9	13.0	5.6	7.5	23.8	31.3
1978......	25.4	6.9	18.5	6.3	12.2	51.7	64.0
1979......	28.6	6.8	21.8	7.3	14.5	33.2	47.7
1980......	20.3	6.0	14.3	8.2	6.1	5.6	11.7
1981......	21.8	5.7	16.1	9.2	7.0	-7.7	-.8

Relative returns to equity in farm production assets

Year	Production assets, debt, and equity (billions of 1972 dollars)			Average interest rate on debt	Returns to equity as a percentage of equity		
	Assets	Debt	Equity	(percent)	Income	Capital gains	Total
1940......	125.5	27.0	98.5	4.9	3.6	-.5	3.0
1941......	124.1	26.7	97.4	5.0	8.0	5.4	13.4
1942......	130.3	24.6	105.7	5.0	12.0	10.0	22.0
1943......	140.3	20.7	119.5	4.9	10.0	6.6	16.6
1944......	149.4	17.6	131.8	5.0	5.3	5.1	10.4
1945......	156.9	15.6	141.3	5.0	5.1	4.3	9.4
1946......	161.9	14.6	147.3	5.0	8.2	1.7	9.9
1947......	166.0	14.7	151.4	5.0	8.0	-.4	7.6
1948......	167.1	14.8	152.3	5.1	9.4	1.2	10.7
1949......	173.0	16.1	156.9	5.2	4.6	1.2	-5.8
1950......	174.1	17.0	157.1	5.1	6.3	9.0	15.3
1951......	192.2	18.3	173.9	5.2	6.3	4.8	11.1
1952......	205.5	20.4	185.2	5.3	4.8	-4.9	-.1
1953......	197.3	21.1	176.1	5.3	3.2	-2.5	.7
1954......	188.7	20.3	168.4	5.2	3.3	-3.1	.2
1955......	193.0	21.5	171.5	5.2	2.5	4.1	6.6
1956......	197.4	23.3	174.1	5.3	2.6	5.0	7.6
1957......	204.7	23.8	180.9	5.3	2.7	4.4	7.2
1958......	211.0	25.0	186.0	5.3	4.3	8.4	12.6
1959......	228.7	27.4	201.3	5.4	2.0	.3	2.3
1960......	228.7	29.9	198.8	5.5	2.9	-.2	2.6
1961......	226.8	30.9	195.9	5.5	3.5	4.3	7.8
1962......	234.4	33.0	201.4	5.6	3.8	3.1	6.8
1963......	240.1	35.8	204.3	5.6	3.6	3.1	6.7
1964......	246.2	39.1	207.1	5.6	2.9	4.3	7.2
1965......	253.1	42.1	211.0	5.6	4.7	6.7	11.4
1966......	267.4	45.9	221.6	5.7	5.0	4.5	9.5
1967......	275.2	48.8	226.5	5.8	3.6	3.1	6.7
1968......	281.9	51.0	230.9	5.9	3.3	2.4	5.7
1969......	284.3	50.8	233.4	6.2	4.0	.7	4.7
1970......	283.2	51.3	231.9	6.5	3.8	.4	4.2
1971......	280.9	51.4	229.5	6.4	3.8	5.7	9.5
1972......	291.9	53.5	238.4	6.3	5.7	11.8	17.5
1973......	316.3	59.4	256.9	6.5	11.0	19.4	30.4
1974......	357.7	66.4	291.3	7.7	6.2	.4	6.6
1975......	342.4	62.5	280.0	7.4	5.2	13.2	18.4
1976......	376.1	65.6	310.5	7.3	2.9	15.2	18.1
1977......	414.0	70.5	343.5	7.5	2.2	7.1	9.4
1978......	435.0	77.5	357.4	7.8	3.6	15.1	18.6
1979......	480.1	81.8	398.3	8.7	3.8	8.7	12.5
1980......	506.8	86.3	420.5	9.5	1.5	1.4	2.9
1981......	502.1	87.2	414.9	10.3	1.7	-1.9	-.2

(continued from page 59)

This farm wealth position is another way in which current farm conditions differ markedly from those of the Depression. The Depression years were preceded by a decade of low farm income and falling land prices--the USDA index of farm real estate values fell during every year of the 1920s, for a total decline of 32.7 percent by 1929. In sharp contrast, the last two years of low farm income were preceded by many years of higher income, rising land prices, and sizable increases in real wealth of farmers.

What, then, is the nature of current farm financial difficulties? Indebted farmers often experience a cash flow problem even while making financial progress, as is evident from a comparison of the interest rates and rates of income and total return on page 61. Beginning in 1980, reduced income and higher interest rates greatly aggravated the cash flow gap, forcing some farmers to sell assets to meet debt service requirements. As also shown, however, the farming sector on average still made some profit even after subtracting interest payments and labor and management "earnings." Thus only a minority of farmers have been financially threatened by their cash flow situation: those with a debt/asset ratio substantially higher than the sector average of 17 percent, and/or those paying an average interest rate significantly higher than the sector average (10.3 percent in 1981, and probably about 11 percent in 1982).

For additional discussion, references, and data sources, see "Farm Sector Financial Experience," available from the author.

Emanuel Melichar
March 31, 1982

Note: The analyses and conclusions in this commentary are solely those of the author and do not necessarily reflect the views of the Board of Governors or of other members of its staff.