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FUTURE PROSPECTS FOR FARM FINANCIAL CONDITIONS

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Farm financial conditions depend on farm income over time and wealth at some point in time. Therefore, this paper looks briefly at some factors that are influencing farm income and wealth and will do so in the future.

Income Issues

Farm income depends upon prices and costs. The trends in these factors illustrate the pressures facing American production agriculture.

Prices for undifferentiated agricultural commodities are determined by global supply and demand factors, and prices are declining as global output expands. The USDA's Index of Prices Received for agricultural output decreased 7% in nominal terms from 1990 to 2000. Global agricultural output is increasing due to expanded production in nearly all parts of the world.

Total costs of production are determined by local supply and demand factors for inputs, and in America those costs are going up as competition for resources expands with alternate uses. The USDA's Index of Prices Paid by farmers for inputs increased 19% from 1990 to 2000. Production costs per unit of output are also influenced by productivity.

Productivity improvements (e.g., yield increases) in American agriculture lower costs per unit of output, but contribute to the global surplus, thus adding downward pressure on prices. Therefore, farm income is the net result of a "race" between falling prices and producers' ability to lower production costs per unit through adoption of new technologies and other means of improving efficiencies.

National Totals. The national trend in farm income has been a source of confusion. Many analysts have focused on either nominal sales revenues or "net farm income" and concluded that agriculture's performance was strong. It is an easy mistake to make. For example, in the top portion of Table 1 are reported the USDA's recent values for some of the income statement items. Over that short, 5-year period cash receipts increased most years. And, in fact, until the 2002 forecasts were released, it looked like net farm income was on a steady upward trend in recent years. However, those trends are misleading. As shown in Table 1, much of the reported net farm income came from sources such as "direct government payments" which, when removed, leave a much less optimistic view of farm income. The adjusted production income calculated here (Table 1) is substantially lower.

It is necessary to adjust economic data into real terms when assessing long-run trends. Blank (2001a) did so for adjusted production income and found that the trend has been downward for half a century. He showed that, in real terms, 1973 was the only year over the last 50 to have a higher income than the year 1951.

Table 1. U.S. Farm Income, 1998-2002

	1998	1999	2000	2001F	2002F
	<i>\$ billion</i>				
Crop receipts	101.7	92.6	94.1	95.8	97.9
Livestock receipts	94.1	95.6	99.5	106.1	106.4
Total cash receipts	195.8	188.1	193.6	201.9	204.3
Net farm income	42.9	44.3	46.4	49.3	40.6
Direct government payments	12.4	21.5	22.9	21.1	10.7
Adjusted production income*	30.5	22.8	23.5	28.2	29.9
	<i>\$ per farm operator household</i>				
Net cash farm income	14,357	13,194	11,175	10,888	8,006
Earnings from farming	7,106	6,359	2,598	2,447	-198
Off-farm earnings	52,628	57,988	59,349	59,943	59,343
Average farm household income**	59,734	64,347	61,947	62,390	59,145

Source: USDA 2002 F = forecast

* This is calculated as net farm income minus direct government payments.

** This is the sum of "earnings from farming" and "off-farm earnings."

The farm income totals have not done well when converted into investment performance measures. Blank (2001a) also showed that the average return on equity in American agriculture has trended downward over the last 40 years, from 2.5% in 1960 to 1.5% in 2000.

Farm-level Averages. Converting the national total income data into averages per farm operator household reveals another downtrend. The bottom portion of Table 1 shows that net cash farm income and earnings from farming (which is calculated by subtracting various costs from net cash farm income) are both declining. One alarming result is that, for the first time, earnings from farming are expected to be *negative* in 2002 (USDA 2002). This means farm operators, on average, would be better off if they went out of business!

A second alarming result visible in Table 1 is the reliance of farm operator households on off-farm sources of income. Clearly, with average earnings from farming of -\$198 in 2002, the financial condition of the "average" farm would be grim if it were not for off-farm income. On average, agriculture is being subsidized by farmers' other activities. This has been true for decades, but the scale of the subsidy has grown in recent years. This raises the question of how long farm operators will be willing to continue paying the subsidy to support their "hobby." The ability of farm operators to

subsidize agriculture depends, in part, on the availability of off-farm sources of income in a region. That means if the general economy of a region weakens, causing off-farm income to decrease, the effects on agriculture could be magnified as operators are forced to leave the industry. That exodus would adversely affect farmland values as farms are sold. In turn, the resulting decline in the agricultural economy of the region could spiral back to add to the general economy's decline in the area. This phenomena has already been observed in remote rural regions (Goetz and Debertin 1996, 2001).

Both of the alarming results noted above are due to the structure of American agriculture. In general, large-scale farms are profitable, on average, while deriving most of their income from agriculture, and small-scale farms lose money on their agricultural activities, but depend on off-farm sources for their primary income. "Commercial farms," defined by the USDA as those having annual sales of \$250,000 or more, represent only 8.2% of U.S. farm businesses. They are expected to have average net cash income of \$117,800 in 2002, compared to their 1996-2000 average of \$141,800 (USDA 2002). Still, for large family farms (i.e., those with sales of \$250,000 to \$499,999) "about 50 percent of the operator households reported that either the operator or the spouse did some off-farm work" (USDA 2002). "Intermediate farms" (defined as those with sales below \$250,000 yet whose operators report farming as their major occupation) represent 28.9% of U.S. farm businesses and are expected to have average net cash income of \$7,200 in 2002, compared to their 1996-2000 average of \$12,300 (USDA 2002). "Rural residence farms" account for the remaining 62.9% of farms and are expected to have average net cash income of -\$2,800 in 2002, compared to their 1996-2000 average of -\$1,800 (USDA 2002).

Implications for Agriculture. The structure of American agriculture and the declining income trends combine to create some significant implications for future farm financial conditions. First, in the case of commercial farms, they often cannot afford to diversify their income sources to include substantial off-farm investments, thus they must diversify and shift their on-farm income sources: the crops produced. Most commercial producers need to reinvest profits back into their operations to expand or maintain their economies of scale in an effort to remain cost competitive. Therefore, commercial operators must look for crops that will provide income levels sufficient to meet their financial obligations. In other words, the portfolios of most commercial farmers include investments in crops and little else. As Blank (2001b) showed, income pressures (aided by technological advances and globalization of markets) are pushing farmers to increasingly shift resources from the production of low-value field crops into the production of high-value specialty crops (e.g. fruits and vegetables). Specialty crops do generate higher average income levels. Unfortunately, high-value crops are more risky in that there is much more volatility in the income streams over time. Therefore, the necessary cropping changes of large farms are gradually making those farms more risky.

Ironically, small farms are less risky despite the fact that they lose money on average! The reason? They are diversified such that a large majority of their income (>100%) comes from off-farm sources, which may be much less volatile than agricultural markets.

Wealth Issues

Farm wealth is reflected by the equity value listed on a balance sheet for a point in time. Table 2 shows national total farm equity increasing in recent years. However, some inconsistencies in the income and equity trends may signal future trouble for farm financial conditions.

Most farm equity is in farmland. As shown in Table 2, real estate represents 78.9% of farm assets and 53.2% of total farm debt in 2002. Of interest is that 95% of the increase in farm equity reported over the 1998-2002 period comes from increased equity in farm real estate. That means farmland values have

been increasing despite declining earnings from farming. If agricultural income has not been strong, as indicated by the falling real cash rents observed over the last two decades, then what has been pushing up farmland values in recent years? One answer was provided by the USDA (2000 p. 30):

“Although average agricultural land values nationally are determined primarily by the income earning potential of the land, nonagricultural factors appear to be playing an important role in many local areas. To some extent, the buoying effect of these nonagricultural factors on agricultural land values could be partially offsetting the effect of lower returns from agricultural production.”

What the USDA report called “urban influence” affects only about 17% of U.S. farm acreage, but that acreage is scattered around the country. The USDA classifies only 515 counties in the U.S. as being both completely rural (contains no part of a city with at least 2,500 residents) and not adjacent to a metro area. In all remaining counties, the USDA says there is some degree of urban influence on land values.

Urban influence has a significant impact on farmland values. The USDA estimated that during 1994-96 the value of farmland that was not urban-influenced was \$640 per acre, compared to \$1,880 for urban-influenced farmland. Thus, they concluded that 66% of urban-influenced farmland market value was due to nonagricultural factors.

“The market value for undeveloped farmland in these areas often begins to rise above its value based on agricultural returns alone, reflecting anticipation of eventual nonagricultural uses.” (USDA 2000 p. 30)

This explains why New Jersey has the nation’s highest average farm real estate value at over \$7,000 per acre. In some areas, the amount of urban influence on farmland values can be extreme. For example, in California’s Ventura County a 35-acre parcel of farmland was recently valued at about \$300,000 per acre, due almost entirely to its development potential. Such examples can skew the distribution of farmland values within a state and quickly raise the average.

Table 2. U.S. Farm Balance Sheet, 1998-2002

	1998	1999	2000	2001F	2002F
	<i>\$ billion</i>				
Farm assets	1,085.3	1,140.8	1,188.3	1,216.6	1,228.1
Real estate	840.4	886.4	929.5	957.3	968.8
Total farm debt	172.9	176.4	184.0	192.8	196.5
Real estate	89.6	94.2	97.5	103.1	104.6
Farm equity	912.4	964.4	1,004.3	1,023.8	1,031.6

Source: USDA 2002 F = forecast

In summary, the conflicting trends of decreasing farm earnings and increasing farmland values match the pattern of 1973-1983 during which American agriculture slid into its worst financial crisis of the past half-century. During that decade, optimistic farmers borrowed heavily on their inflated equity to expand the scale of their operations. What is different now is that lending is based on income, rather than equity, and that is keeping debt ratios in a conservative range (the USDA forecasts an average debt-to-equity ratio of 19.1 for 2002). In the future, it seems clear that debt management will be key as agriculture's income continues to decline and farmers seek the funds necessary to shift into the higher-value crops. Specialty crops require substantially more money invested per acre and that investment is at risk for longer periods of time, raising the risk exposure of the industry.

Concluding Comments

To assess future prospects for farm financial conditions, three topics need attention. (1) *Government support*: U.S. agriculture's financial condition depends heavily on government support. Direct and indirect government payments have become a significant portion of total farm income in recent years. Those forms of support are unstable and under attack. They are unstable in amount. They are under attack because they are inefficient and increasingly unnecessary. (2) *Market globalization*: Technological advances have created a global market that is providing alternative sources of commodities for U.S. consumers and declining prices for U.S. agricultural producers. The increased supplies available to consumers are making government support of agriculture unnecessary; Americans eat well and cheaply. However, the lower global prices are making American farmers argue that government support is more necessary. (3) *Portfolio risk*: Cropping pattern changes are making agriculture more risky and having impacts on the value of farmland, but crop diversification is more important. Diversified agricultural producers, and geographic regions, have stronger financial conditions, on average. For example, the USDA (2002) says "average net cash income is expected to fall in each region in 2002", but "the smallest declines occur in the Basin and Fruitful Rim" regions which are diversified in their agricultural production. Regions that depend upon a few crops have much more volatility in their income levels.

All three of the topics listed above point to relatively weak future prospects for Midwestern farm financial conditions, compared to the more diversified regions of the country. In most of the Midwest, agriculture focuses on grain production because that is the crop for which the area has a regional comparative advantage. Unfortunately, (1) grain crops receive most of the government payments, (2) global grain markets face increasing surpluses, and (3) few Midwestern grain farmers can diversify into other commodities. This means there will be increased income and wealth pressures to diversify into more profitable industries. Thus, America can expect the shift of resources out of production agriculture to continue.

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