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Farm Sector Financial Experience

The most important negative influence on farm profits in 1980 and 1981 has been the relative weakness of farm output prices while prices of inputs purchased from the nonfarm sector were rising with general inflation. A second depressant, which has received more recent publicity, has been higher interest rates on farm debt. To sort out the effects of each of these two factors on farm sector profits, the first part of this report discusses profits before the payment of interest. The second part then shows how profits have been affected by the use of debt and by higher interest rates.

In these analyses, the return to capital is used as the measure of farm profits. Because most farm labor and management is provided by owner-operators, the return to capital differs from the most widely used measure of farm income, operators' net farm income, which includes returns to operators' labor and management as well as capital. As the farming industry since 1950 has reduced its management force by about one-half and its labor man-hours by 74 percent, the combined income to all three factors of production is a poor indicator of profitability. However, credible USDA estimates that partition the total income return among these three factors are available, and are shown in the top panel of chart 1. The share of the total income return that can be considered as operators' labor earnings has fallen greatly since the mid-1950s, while the return to assets has risen to about three-fourths of the total. Thus, in the lower panel of chart 1, the total real income return has been relatively stagnant since the 1950s, while the return to assets has been rising

significantly, even in constant dollars. The longer-term trend in return to assets, estimated over 1954-81, shows an average real increase of 4.7 percent annually. Returns in 1978 and 1979 were just above this trend, but 1980 and 1981 results are substantially lower. This income return is before the payment of interest.

The established trend of real asset earnings is important because of its effect on farm land prices, the cornerstone of farm sector wealth. Chart 2 indicates that farm real estate has conformed to the principle that, other things equal, the price of an asset tends to rise or fall at the same rate as its earnings. Increases in farm real estate prices since the mid-1950s have outpaced the overall inflation rate by about 4.2 percent a year, about the same as the earnings growth rate. Furthermore, because an established earnings growth record logically generates expectations of continued future growth, an asset with rising real earnings is priced at an appropriately higher multiple of current earnings. The lower panel of chart 2 indicates that farm assets have been accorded a price/earnings ratio averaging about 25 over the last two decades. The payment of this multiple by land buyers is consistent with the combination of an expected continued 4 percent rate of real earnings growth and a desired total investment return of 8 percent. To the extent that farm land buyers thus pay in advance for future real capital gains that will result from projected earnings growth, such capital gains are not windfall gains but rather an integral part of the return to farm land.

These investment returns are shown in chart 3, which also indicates their cyclical and erratic nature. In the top panel, the rate of return in the form of current income--the inverse of the asset price/earnings ratio--has

averaged about 4 percent and is estimated at 3 percent for 1980 and 1981. In the next panel, the rate of return in the form of real capital gains--asset appreciation in excess of net investment and general inflation--is estimated as slightly negative in 1980 and 1981. In the lower panel, the rate of total return in 1980 and 1981 is thus 2 percent, compared with the longer-term average of about 8 percent.

The chart indicates that a short period of depressed returns is not unprecedented. The current experience follows a string of years with generally above-average returns, and as such resembles experience in 1952-54, when low returns followed many wartime years of high earnings. If significant real earnings growth is resumed before current expectations of such future growth begin to be seriously questioned and revised, farm real estate values would be preserved at their high multiple of earnings. In the 1950s and 1960s, productivity advances allowed real earnings growth to occur without increases in real farm output prices. Now, however, one source of past productivity gains--the reduction in labor requirements--has been about exhausted, and other types of productivity gains may prove more difficult or uncertain. Thus resumption of the real earnings growth trend may depend more on increases in real farm output prices.

The returns just discussed were before the use of debt is taken into account. Chart 4 compares the general trends of farm sector debt and interest charges with those of asset values and earnings. Outstanding farm debt, which began to increase at the end of World War II, rose faster than asset values until about a decade ago. Since then, assets and debt have risen at about the same pace. The income return to assets has, since the mid-1950s, generally

kept up with the rise in debt, except for the recent years of relatively low earnings. Prior to 1976, interest charges rose only slightly faster than the asset earnings from which they are paid. Since then, however, interest paid has risen sharply, absorbing a much larger share of the return to assets.

The next chart shows some ratios that bring these relationships and trends into sharper focus. The first two panels confirm that, over the longer term, farm debt has not been increasing greatly relative to either asset values or earnings. In the top panel, the debt/asset ratio since 1965 has remained in the 17 to 19 percent range--only slightly above the ratio of 15 percent in nonfarm noncorporate business in 1980, and much lower than the ratio of 41 percent in corporate nonfinancial business. The second panel shows that, with earnings currently depressed, the ratio of debt to asset earnings is now somewhat above its earlier range of from 3 to 5 times earnings.. But this change accounts for only part of the recent sharp rise in the relative burden of interest charges, shown in the lower panel. The rest is due to a higher average interest rate on outstanding farm debt, which has risen from 7.5 percent in 1977 to about 10.7 percent in 1981. The chart indicates that interest charges absorbed 64 percent of asset earnings in 1981, even though debt was only 18 percent of asset values.

Chart 6 shows the effects of credit use on farm sector profitability. In each panel, the difference between the solid line and the dashed line is the amount by which the use of debt changed the rate of return. Thus, in the upper panel, the use of credit generally reduced the rate of income return, because the average interest rate paid usually exceeded the rate of return to assets. In 1980 and 1981, this negative impact became more significant than

in earlier years. In most years, however, a higher rate of return from real capital gains resulted from the leverage provided by use of debt, as shown in the second panel. And in most years, as the lower panel indicates, this increase more than offset the reduction in the rate of income return, and so the rate of total return was enhanced by the use of credit. This was not the case in 1981, however, when sector credit use is estimated to have slightly reduced the total rate of return, which last happened in 1959 and 1960, and before that in 1952-54.

In summary, it is evident that while returns to farm capital are currently depressed, the rise in interest charges accounts for a relatively small part of the drop in the rate of total return. The present structure of farm asset values and returns is based on continuation of a significant upward trend, in real terms, in asset earnings. Unless productivity gains prove greater than now seems likely, such future real growth in asset earnings appears to depend on the advent of a rising trend in real farm output prices.