

How Much Debt Can a Farm Carry?



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For a farm business, liabilities are usually divided into two general categories:

1. Current liabilities (less than 1 year) — Loans for feed, fertilizer, supplies, purchased feeder livestock, etc.
2. Noncurrent liabilities (greater than 1 year) — Loans for machinery, breeding livestock, equipment, buildings and land.

A question often asked is: How much debt can a farm business carry with reasonable safety? Although the question is too general for a specific answer, some guidelines can be provided for certain debts where repayment plans are known.

Numerous factors affect the debt-servicing capability of a farm business. Important factors to be considered when estimating the amount of debt that can be repaid are:

- Income available annually.
- Length of loan repayment period.
- Interest rate.
- Current liquidity and solvency position.
- Stability of income (price and yield stability).
- Skill and experience of operator.
- Age and health of operator.

Cash Flow (Income Available)

Income Available for Capital Replacement and Term Debt Repayment can be used to examine the farm's repayment capacity. This measure should be compared to projected capital and term debt payment needs. A farm with a low amount of income available for these uses will have limited ability to expand their operation or repay term debt.

An example computation of this measure is as follows:

| | |
|----------------------------|------------------|
| Net Farm Income Operations | \$ 108,994 |
| + Total Nonfarm Income | \$ 13,642 |
| + Depreciation Expense | \$ 33,595 |
| - Taxes Paid | \$ 8,978 |
| - Unpaid Family Labor | \$ 50,945 |
| Income Available | \$ 96,308 |

Length of Repayment Period and Rate of Interest

The longer the repayment period and the lower the rate of interest, the greater the debt that can be carried by any level of funds available for loan repayment. Table 1 illustrates this fact on the basis of annual principal and interest payments required per \$1,000 borrowed at varying interest rates and number of years.

Table 1. Payments per \$1,000 Borrowed with Equal Annual Principal and Interest¹

| Years for Repayment | INTEREST RATE | | | |
|---------------------|---------------|---------|---------|---------|
| | 6% | 8% | 10% | 12% |
| 1 | \$1,060 | \$1,080 | \$1,100 | \$1,120 |
| 3 | 374 | 388 | 402 | 416 |
| 5 | 237 | 250 | 264 | 277 |
| 7 | 179 | 192 | 205 | 219 |
| 10 | 136 | 149 | 163 | 177 |
| 20 | 87 | 102 | 117 | 134 |
| 30 | 73 | 89 | 106 | 124 |
| 40 | 66 | 84 | 102 | 121 |

¹Rounded to nearest dollar.

The major factor in determining debt capacity for a farm business is length of the repayment period. For example, given an interest rate of 8 percent for a one-year loan, the total payment required would be \$1,080 per \$1,000 borrowed. However, for a 7-year loan, the annual payment on \$1,000 borrowed at 8 percent would be only \$192.

Table 2 indicates the loan size that can be serviced with \$1,000 receipts available for debt payment each year. For example, given an interest rate of 8 percent, annual receipts of \$1,000 available for debt repayment, and a loan period of 20 years; \$9,818 could be borrowed now and repaid in 20 years with payments of \$1,000 per year.

Table 2. Maximum Debt That Can Be Serviced per \$1,000 Annual Income Available at Various Interest Rates and Loan Lengths

| Years for Repayment | INTEREST RATE | | | |
|---------------------|---------------|--------|--------|--------|
| | 6% | 8% | 10% | 12% |
| 1 | \$ 943 | \$ 926 | \$ 909 | \$ 893 |
| 3 | 2,673 | 2,577 | 2,487 | 2,402 |
| 5 | 4,212 | 3,993 | 3,791 | 3,605 |
| 7 | 5,582 | 5,206 | 4,868 | 4,564 |
| 10 | 7,360 | 6,710 | 6,145 | 5,650 |
| 20 | 11,470 | 9,818 | 8,514 | 7,469 |
| 30 | 13,765 | 11,257 | 9,427 | 8,055 |
| 40 | 15,046 | 11,924 | 9,779 | 8,243 |

The interest rate makes a large difference in the debt carrying capacity on loans, and becomes very important as the length of repayment period increases. Thus, at 8 percent interest, \$1,000 will service a loan for \$926 if for one year and only a \$893 loan at 12 percent. On a 30-year loan, \$1,000 per year will service a loan for \$11,257 at the 8 percent interest rate, but will service only \$8,055 loan at 12 percent interest.

Liquidity and Solvency Position

Farms with a solid liquidity and solvency position have more flexibility regarding increases in debt levels. A farm with a solid liquidity position has sufficient current assets to cover current liabilities as well as a potential increase in current liabilities. A farm with a solid solvency position has sufficient current and noncurrent assets to cover current debt obligations as well as potential increases in debt levels. More information on liquidity and solvency can be found in Farm Management Guide MF-270, *Financial Ratios Used in Financial Management*.

Stability of Income

Income risk varies widely between different farms and enterprises. Price, weather, and disease are all risk factors.

When heavy debt loads are necessary, the operator should reduce risks as much as possible. The greater the weather or price risk for an enterprise, the more conservative the amount of the loan should be. Where insurance can be used to reduce risk, its use should be considered. Also, the greater the risk, the greater the importance of doing the best job possible. When everything is done well and on time, prospects for success are greatly improved, and risk is reduced.

Effect of Skill and Experience

The value of the operator's skill and experience is very important. Superior performance resulting from excellent management may be the most important factor influencing debt carrying capacity. Superior management will cause income prospects to be increased, while the possibility of losses to be reduced.

Age and Health of Operator

These factors are, of course, relative ones. Younger, more ambitious operators, who also have the advantage of good health, can expect to meet fairly heavy debt repayment demands to better advantage than anyone lacking in good health and vigor.

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