



## Changes in Farm Debt

Bradley L. Zwilling and Dwight D. Raab

Illinois FBFM Association and Department of Agricultural and Consumer Economics  
University of Illinois

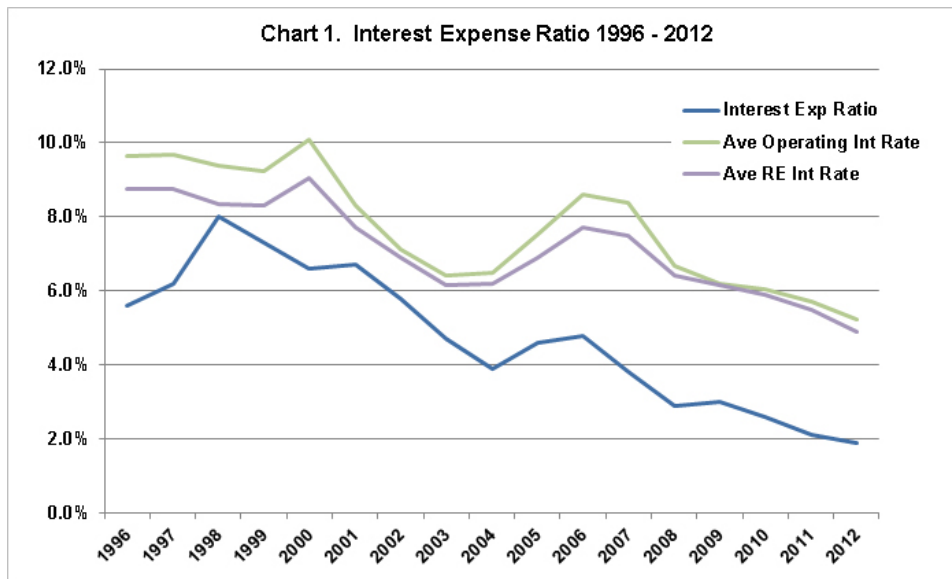
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The economic and financial environment that has been in place in the recent past has led to strong farm earnings. While some expense categories have been high, the combination of yields and prices has been such that earnings have exceeded expectations. While earnings have been good, there has been a record level of investment back into the farm; some of that has been with cash and some has been with borrowed funds. Today's post will look at the changes in leverage that have taken place from 1996 to 2012 as measured by the Interest Expense Ratio.



In Chart 1, the top pair of lines represent the Chicago Federal Reserve Banks' reported average operating loan interest rate and real estate loan interest rate. Over the 16 year period, these two tend to move together but the spread between these two interest rates narrowed markedly in the last four years. The single line below that marks the percentage of gross farm income devoted to paying accrual interest

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expense – more commonly known as the Interest Expense Ratio. This ratio reflects the relationship of interest expense to gross revenue on an accrual basis and is one of the financial efficiency ratios commonly used in farm financial analysis. The Interest Expense Ratio is a means of measuring the amount of financial leverage present but does so using information from the Accrual Income Statement rather than the Balance Sheet. The Balance Sheet measure of measuring financial leverage is the Debt-to-Asset ratio.

Let's look at the calculation to see how the two components of the Interest Expense Ratio exert their influence. The Interest Expense Ratio has a numerator (the top number) and a denominator (the bottom number). Gross Farm Returns as the denominator of this ratio exerts much influence. The recent past has seen farm gross income at high levels. If interest paid remains the same and gross farm returns increase, the resulting ratio decreases...not because there was a lesser amount of interest paid, but because there was an increasing amount of revenue available to pay that interest.

The recent past has also seen interest rates offered by lenders to those in production agriculture and dealer financing pushed to historically low levels. In some instances, introductory interest rates of 0% can be part of a machinery purchase transaction. This creates the instance where the dollar level of interest paid could be steady or even decreasing.

Couple these two, low interest rates and the resulting lower level of dollars devoted to interest expense with larger gross farm revenues and one can experience a decreasing Interest Expense Ratio while their dollar level of debt is increasing. These two facts would seem to contradict each other but could be very true. Use your own accrual income statement and calculate your Interest Expense Ratio. For even more fun, calculate your Interest Expense Ratio for the last five years and see what the trend has been for your farm business. If your Interest Expense Ratio exceeds 4%-5% it might be a good idea to review your balance sheet and debt-to-asset ratio trends. A group of 2,536 balance sheets in 2012 reveal a median Interest Expense Ratio of 1.9%.

The authors would like to acknowledge that data used in this study comes from the local Farm Business Farm Management (FBFM) Associations across the State of Illinois. Without their cooperation, information as comprehensive and accurate as this would not be available for educational purposes. FBFM, which consists of 5,700 plus farmers and 60 professional field staff, is a not-for-profit organization available to all farm operators in Illinois. FBFM staff provide counsel along with recordkeeping, farm financial management, business entity planning and income tax management. For more information, please contact the State FBFM Office located at the University of Illinois Department of Agricultural and Consumer Economics at 217.333.5511 or visit the FBFM website at [www.fbfm.org](http://www.fbfm.org).