

# Comparative Analysis: Guidelines for Repayment Capacity

by Dr. Paul Ellinger

In March's *Ag Lender* I discussed guidelines for liquidity and solvency measures. I emphasized the importance of comparative analysis of these measures over time and relative to peer groups or industry norms.

Understanding the relationships among financial performance measures and producer characteristics gives a lender a valuable tool to interpret financial ratios and credit scores across a wide cross section of farms.

This article focuses on the debt repayment capacity ratio recommended by the Farm Financial Standards Council (FFSC). Data reported here come from year-end 1996 records from the Illinois Farm Business Farm Management (FBFM) program.

The ratio provides a measure of the ability of the farm or ranch to generate earnings sufficient to cover term debt and capital lease payments. The ratio is accrual based and does not measure the amount of cash generated or available to make payments. The calculation of the term debt and capital lease coverage ratio involves many terms from different financial statements.

<p><b>Term Debt and Capital Lease Coverage Ratio</b> = Net Business Income From Operations</p> <p>+ Total Non-Business Income</p> <p>+ Depreciation/Amortization Expense</p> <p>+ Interest on Term Debt</p> <p>+ Interest on Capital Leases</p> <p>- Total Income Tax Expense</p> <p>- Owner Withdrawals</p> <hr/> <p>Total divided by the sum of Annual Scheduled Principal and Interest Payments on Term Debt</p> <p>+ Annual Scheduled Principal and Interest Payments of Capital Leases</p>
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## Quality of Information

The quality of the information used to calculate the ratio is critical in obtaining a useful measure.

A lender should take specific cautions in interpreting the ratio and using the measure in credit scoring models. It is important to evaluate the historical trend in the ratio, since year-to-year variability of farm and non-farm income on some operations could cause large fluctuations in the ratio.

In addition to historical values, a lender should also evaluate pro-forma estimates of the ratio that include debt payments on any additional debt that is projected for the borrower.

A common problem associated with using the measure is a result of inadequate borrower information. The interest expense needs to be separated among operating debt, capital leases and term debt. A lender needs to be cautious of term debt that has been rolled into operating debt, especially if intending to roll over a "term-portion" of the operating note from year to year.

Another common mistake made in using the ratio occurs when historical income taxes paid are used as a proxy for current income tax expense. Due to the year-to-year variability of farm and ranch income, historical income tax values may not reflect current or projected accrual income.

Using accrual-based measures and financial statements that conform to the FFSC will provide more reliable measures to compare over time and across borrower characteristics.

## Distribution Is Important

Distribution of the term debt coverage ratio across the panel of Illinois FBFM farms is shown in the table. For each characteristic, the measures are reported at the quartile breaks. For example, the upper quartile for all producers is 4.17. This indicates that 25 percent of the farms in the sample have ratio values greater than 4.17.

<b>Term Debt and Capital Lease Coverage Ratio Across Selected Producer Characteristics</b>			
<b>Producer Characteristics</b>	<b>Upper Quartile</b>	<b>Median</b>	<b>Low Quartile</b>
All Producers	4.17	1.88	0.99
<b>Farm Revenue (value of farm production (\$000))</b>			
\$40 to \$75	2.53	1.31	-0.01
\$76 to \$150	4.28	1.56	0.84
\$151 to \$225	4.02	1.81	0.82
\$226 to \$300	4.35	2.06	1.20
> than \$300	4.23	2.18	1.36
<b>Farm Type</b>			
Hog farms	5.02	1.80	0.89
Grain farms	4.19	1.91	0.99
Dairy farms	2.15	1.11	0.87
Beef farms	1.47	1.03	-0.08
<b>Tenure (acres owned/acres operated)</b>			
< than 10%	4.10	2.07	1.01
11% to 25%	4.13	1.80	0.94
26% to 50%	4.31	1.86	1.05
51% to 75%	2.86	1.14	0.64
> than 75%	11.97	1.82	1.24

Source: *Illinois Farm Business Farm Management Assn.*

Term debt repayment capacity varies across farm and ranch operations. Debt repayment capacity tends to be higher for larger farms, grain farms and hog operations. There is no discernable pattern by tenure level. However, these trends often change from year to year based on commodity prices and production levels.

When calculated appropriately, the term debt coverage ratio is a valuable measure of the ability of a business to service term debt and capital leases.

Paul Ellinger is an associate professor at the University of Illinois. He can be reached at 217/333-5503 [pellinge@uiuc.edu](mailto:pellinge@uiuc.edu)  
 Article originally appeared in Doane Agricultural Service *AgLender*.  
 Subscription inquiries: 314-569-2700 [AgLender@doane.com](mailto:AgLender@doane.com)