Audio:

Welcome to Getting on Track: Understanding Financial Performance. In this course you will learn how to analyze the health of your business using financial ratios.

Click the next arrow to start at the beginning of the course or click the Menu link to select a lesson from the Main Menu. We recommend that you view the lessons in order the first time through the course.

Lesson 6
Measures of Financial Efficiency
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Profitable & Sustainable Agricultural Systems
Western Farm Management Extension Committee
Colorado State University Extension
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Financial efficiency refers to whether or not the physical resources of your business are being utilized and combined in a profitable manner.

The Farm Financial Standards Council recommends five ratios for measuring financial efficiency; Asset Turnover, Operating Expense, Interest Expense, Depreciation Expense, and Net Farm Income from Operations.

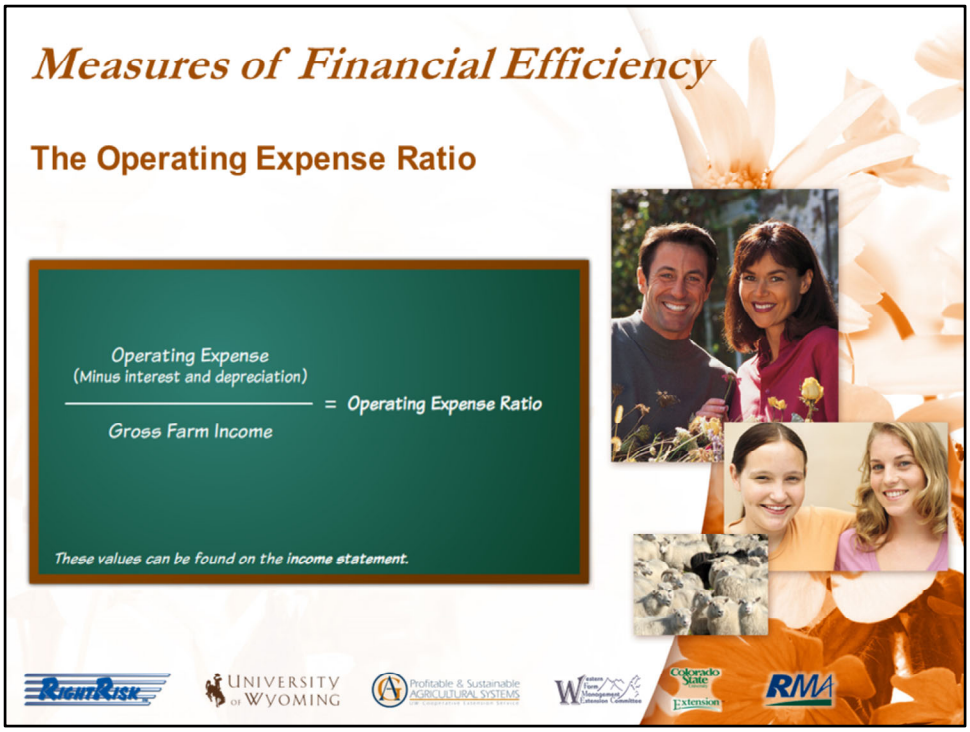
In this lesson, you will learn how to calculate and evaluate the Asset Turnover, Operating Expense, and Interest Expense ratios.

Audio:

The Asset Turnover ratio is calculated by dividing Gross Farm Income by Average Farm Assets.

These values can be found on the income statement and beginning and ending balance sheets for the reporting period.

The results of this calculation will help you assess how efficiently the business is using its assets to generate revenue.



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The Operating Expense ratio is calculated by dividing Operating Expense (excluding interest and depreciation) by Gross Farm Income.

These values can be found on the income statement.

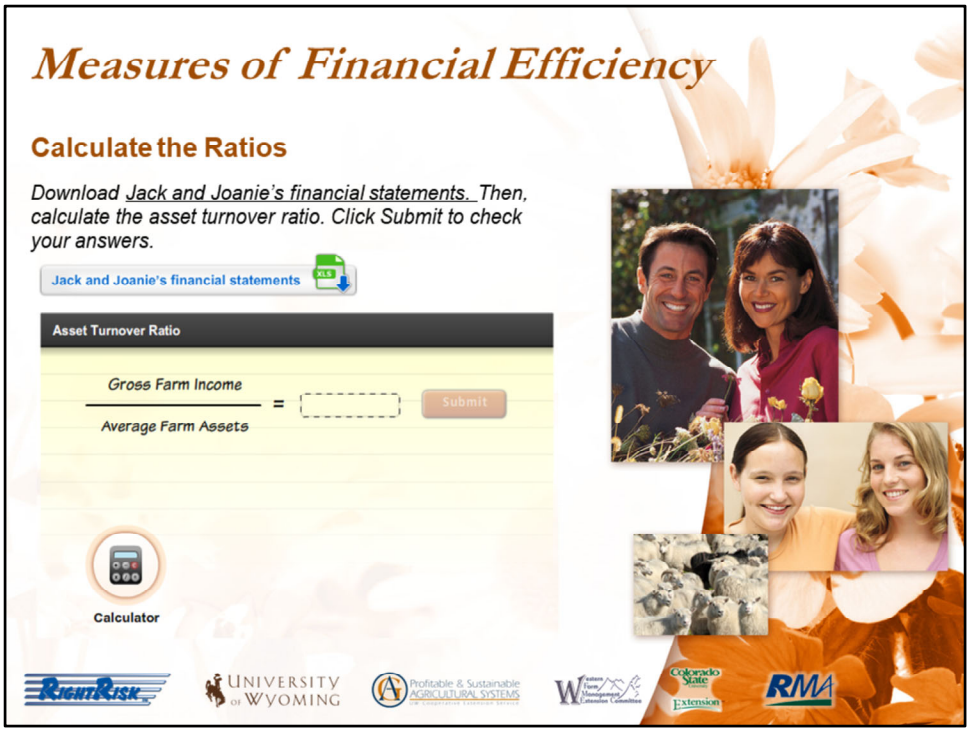
The Operating Expense ratio measures how efficiently the business is using operating inputs to generate income.

Audio:

The Interest Expense ratio is calculated by dividing Interest Expense by Gross Farm Income.

These values can be found on the income statement.

The Interest Expense ratio measures the amount of gross farm income used to pay for interest on borrowed capital.



Audio:

Now, try calculating the ratios. Click on the link to download Jack and Joanie's financial statements. Then, calculate Jack and Joanie's asset turnover ratio. Click the calculator icon to access a calculator tool.

Click Submit to check your answer.

Measures of Financial Efficiency

Calculate the Ratios

Download Jack and Joanie's financial statements. Then, calculate the asset turnover ratio. Click Submit to check your answers.

Jack and Joanie's financial statements

Asset Turnover Ratio

$$\frac{\text{Gross Farm Income}}{\text{Average Farm Assets}} = .41$$

Submit

That's correct!. You have correctly calculated Jack and Joanie's asset turnover ratio.

Calculator

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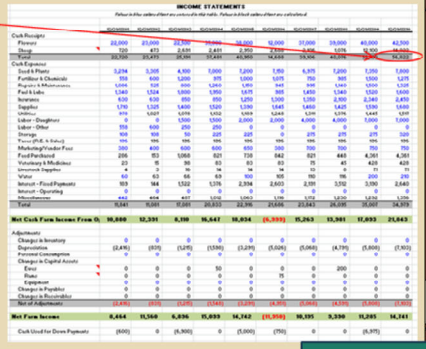
Measures of Financial Efficiency

Calculate the Ratios, Cont.

Calculating the Asset Turnover Ratio X

Step 1:
Locate the gross farm income value on Jack and Joanie's income statement.



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Measures of Financial Efficiency

Calculate the Ratios, Cont.

Calculating the Asset Turnover Ratio

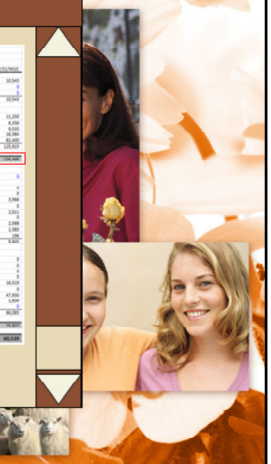
X

Step 2:
Determine the average farm assets on Jack and Joanie's balance sheet by adding the total assets from the past two reporting periods and dividing it by 2.

$$\frac{139{,}544 + 136{,}466}{2} = 138{,}005$$

Step 3:
Divide the gross farm income by this value.

$$\frac{56{,}822}{138{,}005} = 0.41$$



Audio:

Now, try calculating Jack and Joanie's operating expense ratio, using information from the income statement and book value balance sheet for example year 10.

Click the calculator icon to access a calculator tool.

Click Submit to check your answer.

Measures of Financial Efficiency

Calculate the Ratios

Download Jack and Joanie's financial statements. Then, calculate the asset turnover ratio. Click Submit to check your answers.

Operating Expense Ratio

$$\frac{\text{Operating Expense (Minus interest and depreciation)}}{\text{Gross Farm Income}} = .44$$

Submit

That's correct! You have correctly calculated Jack and Joanie's operating expense ratio.

Calculator

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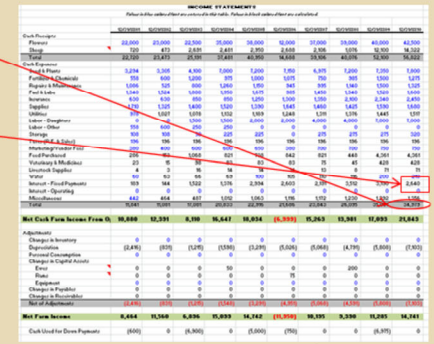
Measures of Financial Efficiency

Calculate the Ratios, Cont.

Calculating the Operating Expense Ratio X

Step 1:
Locate the total operating expenses on Jack and Joanie's income statement.

Step 2:
Locate the interest expense on Jack and Joanie's income statement.



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Measures of Financial Efficiency

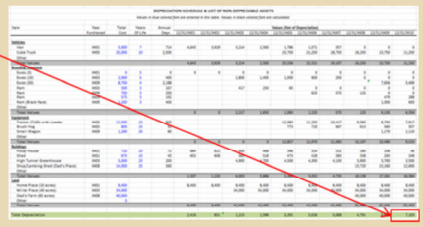
Calculate the Ratios, Cont.

Calculating the Operating Expense Ratio X

Step 3:
Locate the total depreciation expense on Jack and Joanie's depreciation schedule.

Step 4:
Subtract the interest and depreciation expenses from the total operating expenses.

39,979 – 2,640 – 7,103
= 25,236



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Measures of Financial Efficiency

Calculate the Ratios, Cont.

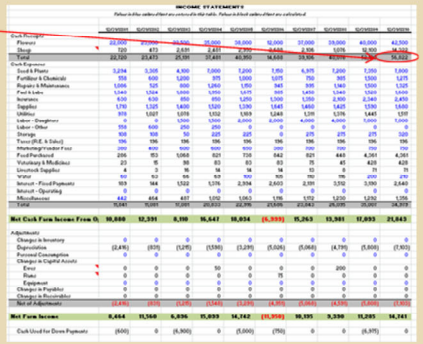
Calculating the Operating Expense Ratio

X

Step 5:
Locate the gross farm income value on Jack and Joanie's income statement.

Step 6:
Divide the result of Step 4 by the gross farm income.

$$\frac{25,236}{56,822} = 0.44$$



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Audio:

Now, try calculating Jack and Joanie's interest expense ratio, using information from the income statement and book value balance sheet for example year 10.

Click the calculator icon to access a calculator tool.

Click Submit to check your answer.

Measures of Financial Efficiency

Calculate the Ratios

Download Jack and Joanie's financial statements. Then, calculate the asset turnover ratio. Click Submit to check your answers.

Interest Expense Ratio

$$\frac{\text{Interest Expense}}{\text{Gross Farm Income}} = .05$$

Submit

That's correct!. You have correctly calculated Jack and Joanie's interest expense ratio.

Calculator

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Measures of Financial Efficiency

Calculate the Ratios, Cont.

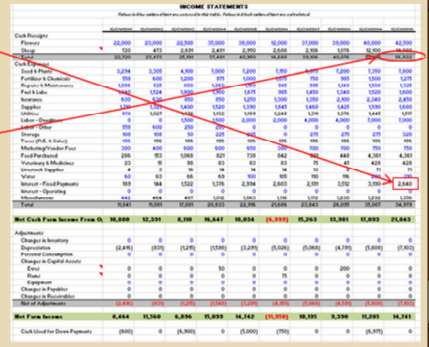
Calculating the Interest Expense Ratio

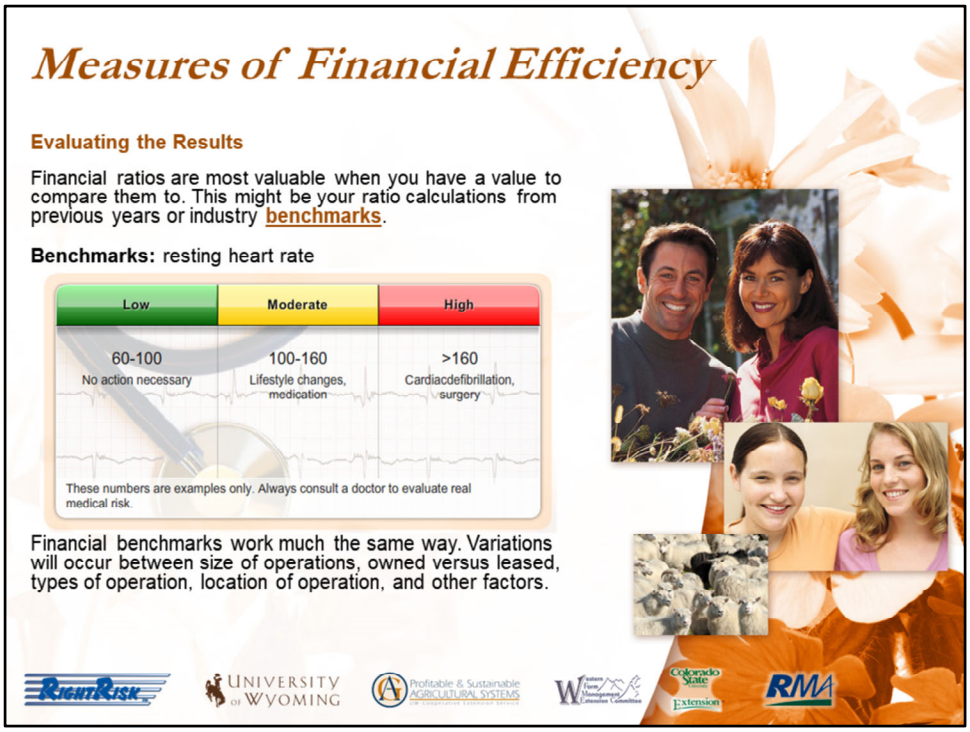
Step 1:
Locate the interest expense value on Jack and Joanie's income statement.

Step 2:
Locate the gross farm income value on Jack and Joanie's income statement.

Step 3:
Divide the first value by the second value.

2,640 ÷ 56,822 = 0.05





Audio:

Financial ratios are most valuable when you have something to compare them to. This might be ratio calculations from previous years or industry benchmarks.

Benchmarks are guidelines or general rules of thumb related to a specific industry. For instance, a normal heart rate is between 60 and 100 beats per minute.

However, heart rate can vary with age, athletic conditioning, exposure to stress and other variables. Thus, there is no single heart rate that can be considered normal. The benchmark range simply allows a doctor to interpret the measurement and to decide if further action is required.

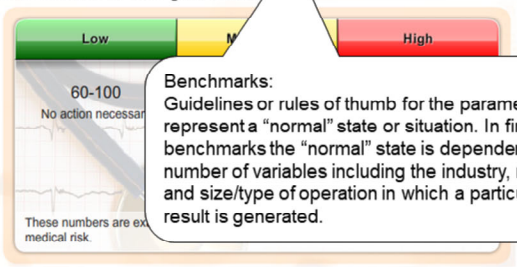
Financial benchmarks work much the same way.

Measures of Financial Efficiency

Evaluating the Results

Financial ratios are most valuable wh[illegible] you have a value to compare them to. This might be yo[illegible]atio calculations from previous years or industry benchmarks.

Benchmarks: resting heart rate



Benchmarks:
Guidelines or rules of thumb for the parameters that represent a "normal" state or situation. In financial benchmarks the "normal" state is dependent on a number of variables including the industry, market, and size/type of operation in which a particular result is generated.

Financial benchmarks work much the same way. Variations will occur between size of operations, owned versus leased, types of operation, location of operation, and other factors.

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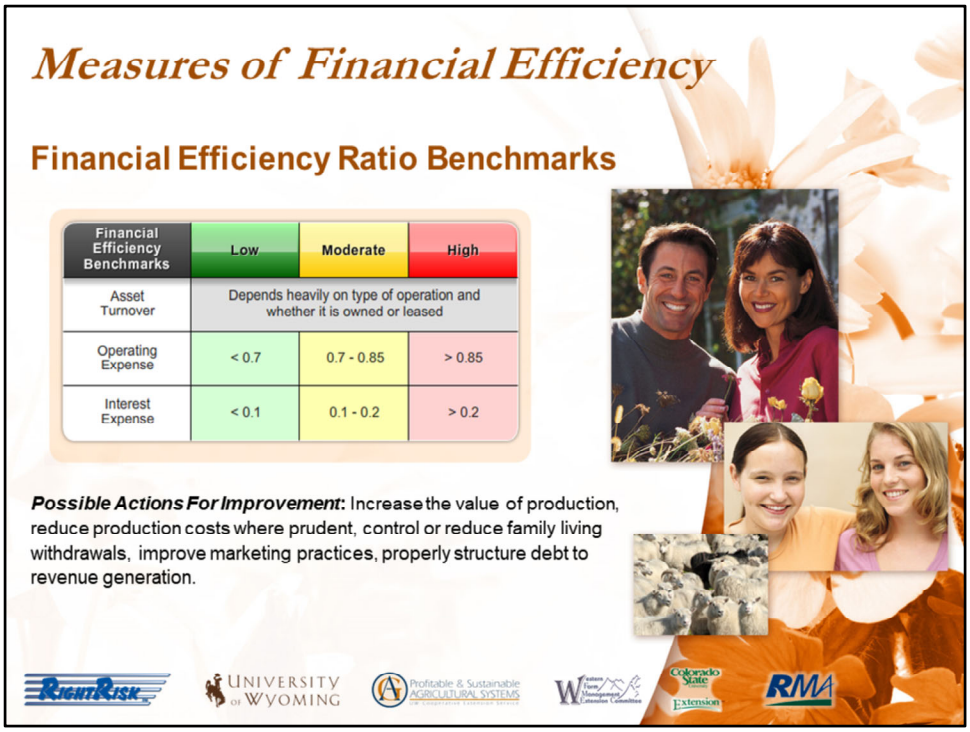

Audio:

Some benchmarks for profitability ratio values are shown on screen.

The benchmarks are meant to be only a guideline for comparison purposes.

The correlated benchmarks are presented in terms of green, yellow, and red lights. A green light represents a financial strength with low risk. A yellow light corresponds to moderate risk, and a red light means weakness and high risk. A green light doesn't guarantee success, nor does a red light imply failure. A weakness in one area may be overcome by strengths in other areas.

Each farm operator should establish specific benchmarks for their specific farm situation.

Audio:

Check what you have learned about measures of financial efficiency by answering the questions on screen. Click Submit to check your answers.

Measures of Financial Efficiency
What Have You Learned?
Question 01 of 04
Select your answer(s) and click Submit for feedback.
According to industry benchmarks, what level of risk does Jack and Joanie's operating expense ratio indicate?
Low Risk
Moderate Risk
High Risk
Submit
Next Question
That's correct!
Jack and Joanie's operating expense ratio is in the low risk range.
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Measures of Financial Efficiency

What Have You Learned?

Question 02 of 04

Select your answer(s) and click Submit for feedback.

According to industry benchmarks, what level of risk does Jack and Joanie's interest expense ratio indicate?

- ○ Low Risk
- ○ Moderate Risk
- ○ High Risk

Submit

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Measures of Financial Efficiency

What Have You Learned?

Question 02 of 04

Select your answer(s) and click Submit for feedback.

According to industry benchmarks, what level of risk does Jack and Joanie's interest expense ratio indicate?

- ✓ Low Risk
- Moderate Risk
- High Risk

Submit | Next Question

That's correct!
Jack and Joanie's interest expense ratio is in the low risk range.

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Measures of Financial Efficiency

What Have You Learned?

Question 03 of 04

Select your answer(s) and click Submit for feedback.

What can Jack and Joanie do to improve their operating expense ratio?

- ☐ Reduce expenses in relation to revenues generated
- ☐ Reduce or eliminate unnecessary input purchases
- ☐ Decrease revenues from product sales
- ☐ Increase expenses where possible

Submit

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Measures of Financial Efficiency

What Have You Learned?

Question 03 of 04

Select your answer(s) and click Submit for feedback.

What can Jack and Joanie do to improve their operating expense ratio?

- [x] Reduce expenses in relation to revenues generated
- [x] Reduce or eliminate unnecessary input purchases
- [ ] Decrease revenues from product sales
- [ ] Increase expenses where possible

Submit | Next Question

That's correct!
Reducing expenses in relation to revenues and reducing or eliminating input purchases will improve the operating expense ratio.

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Measures of Financial Efficiency

What Have You Learned?

Question 04 of 04

Select your answer(s) and click Submit for feedback.

What actions will help you to reduce expenses in relation to revenues generated?

- ☐ Sell products at a lower market price
- ☐ Better manage to reduce expenses
- ☐ Select enterprises with higher net returns
- ☐ Increase expenses while reducing revenues

Submit

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Measures of Financial Efficiency

What Have You Learned?

Question 04 of 04

Select your answer(s) and click Submit for feedback.

What actions will help you to reduce expenses in relation to revenues generated?

- ☐ Sell products at a lower market price
- ✓ ☐ Better manage to reduce expenses
- ✓ ☐ Select enterprises with higher net returns
- ☐ Increase expenses while reducing revenues

Submit

That's correct!
Reducing expense and selecting enterprises with higher net returns will help you to reduce expenses in relation to revenues generated.

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