FINANCIAL RATIOS

PURPOSE:

- To understand the concept of financial ratios and their uses
- To identify the ratios most often used by funders to evaluate a business
- To become familiar with additional ratios and what they mean

MATERIALS:

- Yard sticks, rulers, or cloth tape measures (1 per pair of participants)
- Calculators (1 per person or group)
- Copies of handouts (1 per participant):
  "Body Ratios"
  "Financial Ratios Basics"
  "Ratios Chart"
  "Income Statement for XYZ Company"
  "Balance Sheet for XYZ Company"
- Ratio Solutions (for facilitator)

TIME: 50 minutes

EXPERIENCE:

1. Tell participants that this activity is designed to take the mystery out of a topic that baffles many people—financial ratios.
2. Ask everyone to find a partner, and give each pair a cloth tape measure (or string and ruler) and a "Body Ratios" worksheet. Ask them to take and record the measurements indicated for each person and calculate the ratios using the formulas provided. Allow 10-15 minutes.
3. Discuss the worksheet by asking these and similar questions:
   - Based on this example, what are **ratios**? (Comparison of two or more numbers, using a mathematical equation)
   - Who has the highest **Arm Asset ratio** in the class? The lowest? Compare yours to this range.
   - Doctors use the **Upper/Lower ratio** as a quick indication of bone density (the higher the ratio, the better). Should you be concerned about yours? How do you know? (You need to know the "standard" among your peers to know if yours is high, low, or in the middle.)
4. Explain that although the "Body Ratios" are just for fun, they illustrate the basic concepts

behind financial ratios in a simple way.

5. Distribute the "Financial Ratios Basics" sheet, and go over the information at the top together. Invite participants to ask questions about the information before you move on.
6. Distribute the remaining handouts (Ratios Chart, Income Statement, and Balance Sheet). Encourage participants to continue working in pairs and use the information they've been given to complete the chart on the "Financial Ratios Basics" sheet.

REFLECTION:

Allow time after the exercise to discuss these and other questions:

- Which of these ratios make the most sense to you? Which are unclear?
- Who can explain the terms "liquidity" and "solvency?" (Use the topic index if needed.)
- What are financial ratios, in your own words? And what do they tell us?

EXPANSION & APPLICATION:

- Introduce several other common financial ratios (gross profit margin, return on sales, etc.) and challenge participants to find out about them on their own. Extend the Ratios Chart to include the additional ratios.
- Find standard industry ratio information about businesses/industries that correspond to participants' proposed businesses. Ask them to interpret the information and its implications for their business planning.
- Invite bankers or creditors (possibly from your Community Support Team) to participate in this activity and to describe how they use ratios in their work.

Level 3

BODY RATIOS

You and your partner take turns measuring and recording the following measurements on each other. All measurements must be **in inches**.

Measurement	Partner 1	Partner 2
Height		
Wingspan (tip of nose to outstretched fingertips)		
Sole (heel to toe, wearing shoes)		
Calf circumference at widest point		
Shoulder to shoulder, across back		
Digits (total number of fingers plus toes)		

Calculate the following ratios, using the equations provided, for you and your partner.

Ratio	Formula	Partner 1	Partner 2
Base by Height	**Sole** divided by **Height**		
Arm Asset	(**Wingspan** times 2) subtract **Shoulder**		
Upper/Lower	**Wingspan** divided by (**Sole** plus **Calf**)		
Digits to Total Assets	**Digits** divided by (**Height** + **Wingspan** + **Sole** + **Calf** + **Shoulder**)		

FINANCIAL RATIOS BASICS

1. Financial statements such as the **balance sheet** and **income statement** contain figures that, on their own, don't tell us much. However, when we compare them to other figures and track changes over time, we can measure financial performance, compare our business to others in the same industry, and pinpoint improvements and potential problems in our business.
2. **Financial ratios** allow us to make those comparisons, using figures from the balance sheet and income statement plugged into simple mathematical formulas. The calculations are simple, but the results are a powerful tool for measuring a business's financial position.
3. Trade associations, business organizations, and your accountant may be able to provide data for **comparison** purposes (you can also buy this information from various sources). This allows you to compare your business to similar ones in your area and industry.
4. In addition to business owners who use them to track their finances, **banks** and **creditors** often use financial ratios to determine whether or not to loan money or extend credit to you.
5. Dozens of ratios can be calculated for a business. However, there are several **key ratios** that bankers and creditors rely on most. They appear below.

Use the Ratios Chart to understand how these ratios are derived and what they tell us. Use the balance sheet and income statement for XYZ Company to **calculate the ratios** in the chart below. Start by locating and **circling the figures** you will need on each statement.

Ratio Name	Formula	Result
Working Capital	Current Assets **minus** Current Liabilities	
Current Ratio	Current Assets **divided** by Current Liabilities	
Quick Ratio (Acid Test)	(Current Assets minus Inventory) **divided by** Current Liabilities	
Debt Ratio (Debt to Total Assets)	Total Liabilities **divided by** Total Assets	
Debt to Equity Ratio	Total Liabilities **divided by** Owner's Equity	
Inventory Turnover	Cost of Goods Sold **divided by** Average Inventory	

Industry Standards for XYZ Industry

Current ratio	2.0
Debt ratio	40%
Debt to Equity ratio	2.50
Inventory Turnover	5 times

Level 3

Income Statement for XYZ Company
For the year ended December 31, 2XXX

Sales revenues		190,821.85
Cost of goods sold:		
Beginning inventory	36,923.00	
Purchases	119,994.74	
	156,917.74	
Ending inventory	35,228.00	121,689.74
Gross profit		69,132.11
Operating expenses:		
Advertising	3,034.63	
Auto expense	1,509.63	
Bad debts	(439.83)	
Depreciation	1,580.49	
Freight, express, delivery	545.90	
Heat, light, power, and water	1,847.96	
Insurance	1,431.80	
Interest expense	064.25	
Legal and accounting	2,034.74	
Rent	11,220.40	
Repairs	528.98	
Salary	26,227.69	
Suppliers	5,138.11	
Payroll tax	1,656.18	
Income tax	604.62	
Telephone	784.67	
Dues and subscriptions	601.89	
Travel	1,066.09	65,438.20
Net Income		3,693.91

Level 3

Balance Sheet for XYZ Company
For the year ended December 31, 2XXX

ASSETS		
Current assets		
Cash	4,923.92	
Accounts receivable	21,306.42	
Inventory	35,228.00	
Cash value of life insurance	7,000.00	
Total current assets		68,458.34
Fixed assets		
Furniture and fixtures	37,749.94	
Auto and truck	9,500.00	
Real estate	20,000.00	
Boat and motor	2,000.00	
Office equipment	2,500.00	
Other machinery	2,000.00	
Gross fixed assets	73,749.94	
Less: Allowance for depreciation	(9,806.27)	
Net fixed assets		63,943.67
TOTAL ASSETS		132,402.01
LIABILITIES & EQUITY		
Current debt		
Accounts payable	30,413.12	
Accrued payroll tax	825.64	
Accrued sales tax	1,193.94	
Note payable – due in one year	9,420.00	
Note payable – real estate	10,700.00	
Note payable – auto	3,000.00	
Total current debt		55,552.70
Note payable – after one year	20,003.45	
Total debt		75,556.15
Equity		56,845.86
TOTAL LIABILITIES AND EQUITY		132,402.01

RATIOS SOLUTIONS

Ratio	Formula, Result, and Implications
Working Capital	Current Assets minus Current Liabilities 68,458.34 – 55,552.70 = **$ 12,905.64** **No standard**
Current Ratio	Current Assets divided by Current Liabilities 68,458.34 / 55,552.70 = **1.23** **Lower (worse) than Industry Standard**
Quick Ratio (Acid Test)	(Current Assets – Inventories) / Current Liabilities (68,458.34 – 35,228.00) / 55,552.70 **= 0.65 or 65%** **No Standard**
Debt Ratio (Debt to Total Assets)	Total Liabilities divided by Total Assets 75,556.15 / 132,402.01 = **0.57 or 57%** **Higher (worse) than Industry Standard**
Debt to Equity Ratio	Total Liabilities divided by Owner's Equity 75,556.15 / 56,845.86= **1.33** **Lower (better) than Industry Standard**
Inventory Turnover	Cost of Goods Sold divided by Average Inventory 121,689.74 / (35,228.00 + 36,923) / 2 = **3.37** **Lower (worse) than Industry Standard**

RATIOS CHART

Ratio Name	Description	Statements Used	Formula
Working Capital	What's left after all the current bills are paid. A business that is rich in working capital is better able to weather financial ups and downs than one with limited working capital. Measures liquidity.	Balance Sheet	Current Assets minus Current Liabilities
Current Ratio	Measures the business' ability to meet its current obligations and pay for current operations. The higher this number, the better (some analysts say should be >2). Measures short-term liquidity.	Balance Sheet	Current Assets divided by Current Liabilities
Quick Ratio (Acid Test)	A more stringent test of short-term liquidity than the Current Ratio. It measures a company's ability to pay all current liabilities if they became due immediately. This ratio should be at least 1. Measures short-term liquidity. (Notice that inventory is not included in the numerator. This is because it typically cannot be quickly converted into cash	Balance Sheet	(Current Assets minus Inventory) divided by Current Liabilities
Debt Ratio (Debt to Total Assets)	Shows the proportion of assets currently financed through debt. Generally, this ratio should be no more than 50%. A higher ratio may indicate potential problems paying off the debt. Measures long-term solvency.	Balance Sheet	Total Liabilities divided by Total Assets
Debt to Equity Ratio	Indicates the relative proportion of equity and debt used to finance a company's assets. Some sources use only long-term debt to calculate this ratio; others use total liabilities.	Balance Sheet	Total Liabilities divided by Owner's Equity
Inventory Turnover (Days Supply)	The number of times a business sells its inventory during a period. In general, the higher, the better. Average inventory = (beginning inventory + ending inventory) divided by 2	Balance Sheet, Income Statement	Cost of Goods Sold divided by Average Inventory