

BUSN 233 - Corp. Financial Management ①

Chapter 3

Financial Statement Analysis using Ratios

TOPICS:

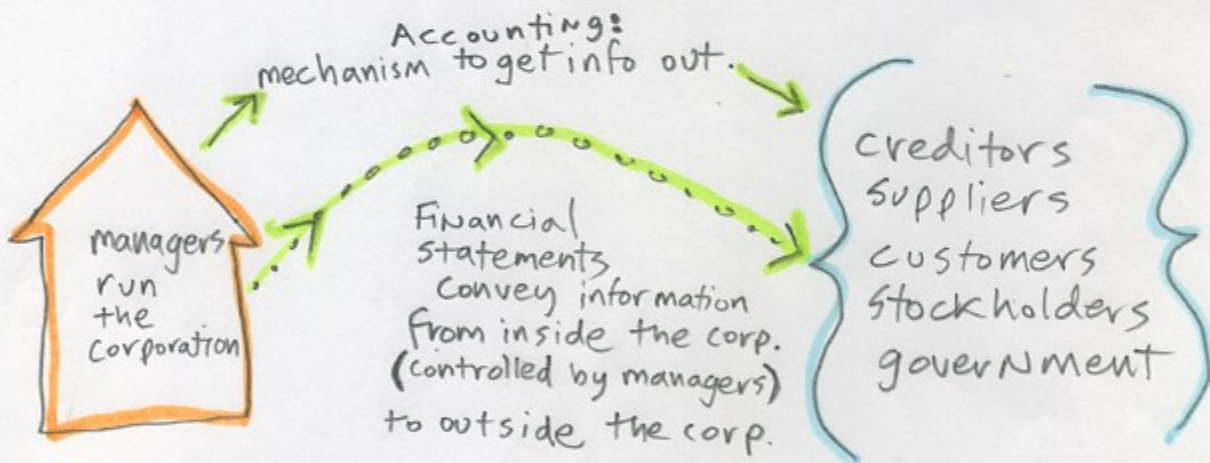
- ① Why use Financial statements?
- ② Problems with Financial Statement Analysis
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  - ② Ratios
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Financial statement Analysis with Ratios

1 Why use Financial Statements?

Financial statements such as the Balance sheet and Income Statement are accounting information.

Although financial managers would prefer market value information, accounting information is often the best information we have about the corporation.



2 Problems with Financial Statement Analysis:

- ① Accounting Rules in the United States allow for different firms to use different accounting procedures.
- ② International Rules can be very different.
- ③ some conglomerates do not have parallel peers or industries.
- ④ Analysts may use different techniques for calculating ratios
- ⑤ Accounting & Finance Tricks.

Sometimes comparing corps. is tricky

### ③ calculating Financial statement Ratios

#### what is a Ratio?

A ratio shows the relationship between between one number (and unit) and a second number (and unit) using division.

Example: Find the ratio of current assets to current liabilities

current Assets = CA = \$200  
Current Liabilities = CL = \$100

- ① to part goes in denominator
- ② number = 100
- ③ unit = CL in \$

$$\frac{\$200 \text{ CA}}{\$100 \text{ CL}}$$

- ① of part goes in numerator
- ② number = 200
- ③ unit = CA in \$

#### Most Important Hint:

If you keep the unit in the numerator & denominator the meaning of the ratio (its definition) will be obvious

$$\frac{\$200 \text{ CA}}{\$100 \text{ CL}} = \frac{\$2 \text{ CA}}{\$1 \text{ CL}}$$

$$\frac{\text{CA}}{\text{CL}} = \frac{\$200 \text{ CA}}{\$100 \text{ CL}} = \frac{\$2 \text{ CA}}{\$1 \text{ CL}} = \left\{ \begin{array}{l} \text{For every one} \\ \text{dollar of CL} \\ \text{we have } \$2 \\ \text{of CA} \end{array} \right.$$

#### Common sized Financial statements:

- ① A standardized Financial statement presenting all items in % terms.
- ② Balance sheet items are shown as a % of Total Assets (TA or TL + TE)
- ③ Income Statement items are shown as a % of Sales (Net sales)

Example:

I/S	
Net sales	\$100
COGS	25
Other EX	15
EBIT	60
Int	10
Tax	17
NI	33

$$\begin{aligned}
 100 \div 100 &= 1 \Rightarrow 100\% \\
 25 \div 100 &= .25 \Rightarrow 25\% \\
 15 \div 100 &= .15 \Rightarrow 15\% \\
 60 \div 100 &= .60 \Rightarrow 60\% \\
 10 \div 100 &= .10 \Rightarrow 10\% \\
 17 \div 100 &= .17 \Rightarrow 17\% \\
 33 \div 100 &= .33 \Rightarrow 33\%
 \end{aligned}$$

I/S	
Net sales	100%
COGS	25%
Other EX	15%
EBIT	60%
Int	10%
Tax	17%
NI	33%

# Why do we use Ratios to Analyze

## Financial statements:

① We can see relationships between numbers.

Example: Net sales = \$5000 and NI = \$200

$$\left\{ \begin{array}{l} \text{Profit} \\ \text{Margin} \end{array} \right\} = \frac{\$ \text{Net Income}}{\$ \text{Net Sales}} = \frac{\$ 200 \text{ NI}}{\$ 5000 \text{ NS}} = \frac{\$ .04 \text{ NI}}{\$ 1.00 \text{ NS}}$$

meaning: "For every \$1 we sell, we earn \$.04 in profit"

② We can see trends over time without the distortions of different number sizes.

Cash 2001 = \$200

Total Assets 2001 = \$2000

Cash 2008 = \$600

Total Assets 2008 = \$5000

Although the cash is 3 times bigger in 2008 (200 \* 3 = 600)

$$\frac{\text{Cash 2001}}{\text{TA 2001}} = \frac{\$ .1 \text{ cash}}{\$ 1 \text{ TA}} \text{ or } 10\%$$

$$\frac{\text{cash 2008}}{\text{TA 2008}} = \frac{\$ .12 \text{ cash}}{\$ 1 \text{ TA}} \text{ or } 12\%$$

meaning: "Although the cash amount in 2008 is 3 times bigger than in 2001, as a % of total assets it has gone from 10% in 2001 to 12% in 2008: there has not been much change."

③ We can compare small and big companies without the distortions of different number sizes (compare different size companies)

2006  
MFST cash = 23 B.

MFST TA = 63 B.

GOOG cash = 11 B.

GOOG TA = 19 B.

Although Microsoft has twice as much cash as Google

$$\frac{23}{63} \approx .37 \text{ or } 37\%$$

$$\frac{11}{19} \approx .58 \text{ or } 58\%$$

meaning: "Although MFST has twice as much cash as GOOG, MFST has only 37% of its assets in cash, compared to GOOG's 58%."

4) we can compare Financial statements that are in different currencies (but be careful of different Accounting methods)

company 1 Equity = \$ 1018.74	} dollars	$\frac{\$ 2037.49 TA}{\$ 1018.74 E} = \frac{\$ 2 TA}{\$ 1 E} \text{ or } 200\%$
company 1 TA = \$ 2037.49		
company 2 Equity = £ 500	} pounds	$\frac{£ 1000 TA}{£ 500 E} = \frac{£ 2 TA}{£ 1 E} \text{ or } 200\%$
Company 2 TA = £ 1000		

meaning: "Although the currencies are different we can see that both companies have 2 units of Assets for every 1 unit of Equity. In other words, because of the use of debt (2 TA = 1 D + 1 E), both corporations have "leveraged up" by 200%."

5) Ratio Analysis & common sized Financial Statements are a convenient way to look at and compare financial Statements for different companies and across time. Many people use Ratio Analysis & common sized Financial statements, such as:

All use ratios to figure out where to look more closely:  
"Management by Exception"

- creditors: "should we loan?"
- Stockholders: "Are managers doing a good job?"
- Auditors: "where do we need to look closely?"
- Suppliers: "should we extend credit?"
- employees: "Should we work for this company?"
- stock brokers: "should we invest?"
- Investment Bankers: "should we underwrite?"
- Research Analysts: "Is this company good?"
- contract writers: "Debt contracts & Manager compensation contracts use Ratios"

