Topic D : Financial Statement Analysis

MHE5402

Accounting and Financial Management for Executives

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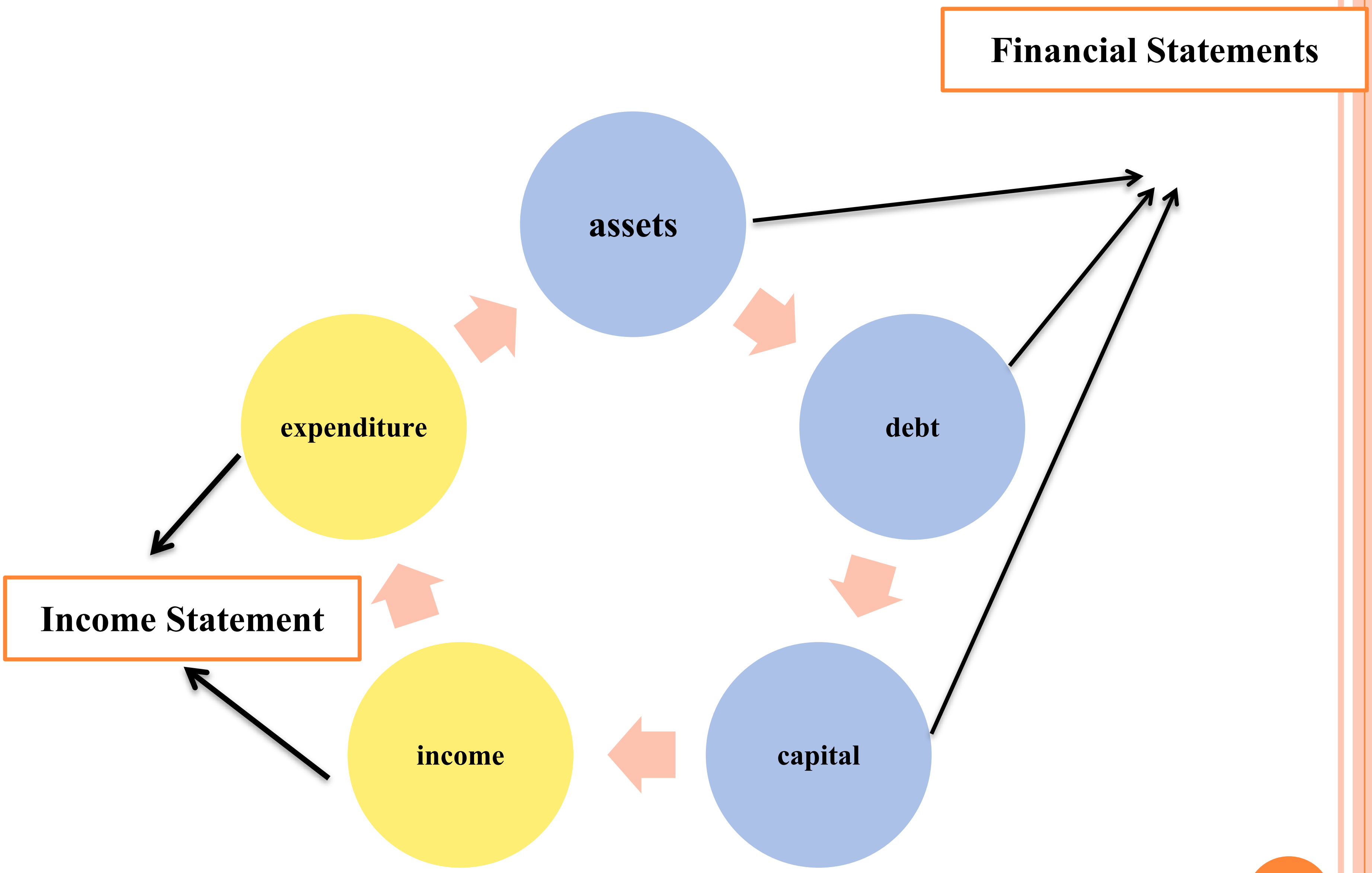
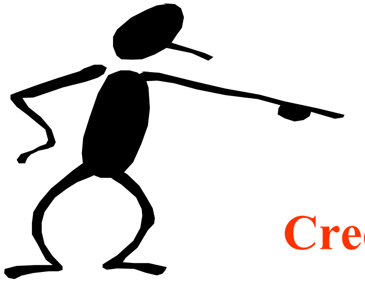
4/03/2023

PREAMBLE

- A financial statement of an entity is considered as a source of information that shows the financial information of the business about assets, liabilities, and equities.
- The financial statements, called income statements (comprehensive income statements), are information about the company's performance by detailing the company's income and expenses.
- Financial statements are financial information derived from the compilation of trades that occur during the year so that stakeholders can take advantage of the information available. To solve current business problems and to plan for future growth.


Financial Statements
assets
debt
capital
income
expenditure
Income Statement

Those interested in analyzing the ratio



Creditors Group

The company will pay attention to liquidity and interest payment capability of the business first, followed by interest in the profitability of the business, which creditors want to ensure that the business is stable and able to continue to operate with experience. The result was achieved with

Management & Shareholders Group

Pay attention to analysis from the same perspective, i.e. pay attention to the financial position of the business.

Data sources used to analyze financial statements

- **financial statements,**
- **comprehensive income statements,**
- **equity change statements,**
- **cash flow statements**
- **notes to Financial Statements**

FINANCIAL INSTRUMENTS USED IN THE ANALYSIS OF FINANCIAL STATEMENTS

1. Basic Financial Statement Analysis

1.1 Horizontal analysis

1.2 Vertical analysis

2. Ratio analysis

HORIZONTAL ANALYSIS

year	ปีที่ 6	5	4	3	2	1
circulation	360,000	288,000	264,000	256,800	249,600	240,000
Net Profit	18,360	11,640	17,160	15,360	12,480	12,000

Analysis formula $= \dfrac{\text{Current year}}{\text{Base year}}$ (%)

year	ปีที่ 6	5	4	3	2	1
circulation	150%*	120%	110%	107%	104%	100%
Net Profit	153%**	97%	143%	128%	104%	100%

* $\dfrac{360{,}000 \times 100}{240{,}000} = 150\%$

** $\dfrac{18{,}360 \times 100}{12{,}000} = 153\%$

Vertical Analysis

Wanchanok Public Company Limited

Financial Statements

As of December 31, 2011 and 25X2

$$\frac{(920 \times 100)}{3,000}$$

	25X2 Amount (Million Baht)	25X1 Amount (Million Baht)
assets		
Current assets		
cash	10	90
Securities in market demand	10	30
Accounts receivable	560	470
Inventories	920	620
Total current assets	**1,500**	**1,210**
Non-current assets		
Net non-current assets	1,500	1,305
Total assets	**3,000**	**2,515**

Ratio analysis

- Financial ratios are a representation of the relationship between two numerical data from a business's financial statements.

Types of financial ratios

- Liquidity ratios
- Activity ratios or Asset management ratios
- Leverage ratios or Debt management ratios
- Profitability ratios
- Market value ratios

Wanchanok Public Company Limited

Financial Statements

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Debt and Equity		
Current Liabilities		
Trade creditors	295	215
Bill of Arms	165	90
Accrued expenses	5	25
Total current liabilities	**465**	**330**
Long-term debt		
Long-term debentures	1,131	870
Total Liabilities	**1,596**	**1,200**
Equity		
Preferred Stock (600,000 shares)	35	60
Ordinary Shares (2,000,000 Shares)	200	200
Retained earnings	1,169	1,055
Total equity	**1,404**	**1,315**
Debt and equity included	**3,000**	**2,515**

Wanchanok Public Company Limited

Income Statement

For the one-year period ended December 31, 2011 and 25X2

	25X2 Amount (Million Baht)	25X1 Amount (Million Baht)
Net Sales	4,500	4,275
break Cost of sales	2,616	2,422
Gross margin	1,884	1,853
break Operating expenses	1,500	1,500
Earnings before interest and taxes	384	353
Less interest	134	93
Profit before tax	250	260
Tax deduction (20%)	50	52
Profit after tax	200	208
Less preferred stock dividends	6	6
Ordinary equity profit	194	202
Less dividends on ordinary shares	80	60
Increased retained earnings	114	142

*Depreciation is included in the cost of sales of 150 million baht.

1. Liquidity Ratios refers to the ratios used to measure the ability to pay short-term debts according to the obligations of the business.

- **1.1 Working capital**

Working Capital) = Current Assets – Current Liabilities (Baht)

Working Capital) = 1,500 - 465 = 1,035 Million Baht

1.2 Current ratio

$$\text{Working capital ratio (Current Ratio)} = \frac{\text{Current assets}}{\text{Current Liabilities}}$$

$$\text{อัตราส่วนเงินทุนหมุนเวียน (Current Ratio)} = \frac{1{,}500}{465} = 3.23 \text{ เท่า}$$

1.3 Acid – test ratio or Quick ratio

$$\text{Fast working capital ratio (Quick Ratio)} = \frac{\text{Current Assets - Inventories -Prepaid expenses}}{\text{Current Liabilities}}$$

$$\text{อัตราส่วนเงินทุนหมุนเวียนเร็ว (Quick Ratio)} = \frac{1{,}500-920-0}{465} = 1.25 \text{ เท่า}$$

2. Activity ratios or Asset management ratios

- It is a ratio that shows the effectiveness of managing a business's assets, such as managing receivables, inventories, as well as fixed assets. There are 4 types.

2.1 Account receivable turnover

$$\text{Receivable turnover ratio (Account Receivable Turnover)} = \frac{\text{Trust sales per year}}{\text{Average net receivables}} \text{ (Times)}$$

$$\text{Receivable turnover ratio (Account Receivable Turnover)} = \frac{\text{Net sales}}{\text{Average net receivables}} \text{ (Times)}$$

อัตราส่วนการหมุนเวียนของลูกหนี้ (Account Receivable Turnover) $= \dfrac{4{,}500}{(470+560) / 2}$ =8.74 ครั้ง

is the ability to collect debts from debtors? By figuring out how long debt is collected. as follows

$$\text{Debt collection period} = \frac{\text{Number of days in a year}}{\text{Turnover rate of receivables.}} \quad \text{or} \quad \frac{\text{Average net receivables}}{\text{Average sales per day}} \quad \text{(Day)}$$

Average Collection Period (ACP)

$$\text{Debt collection period} = \frac{360}{8.74} = 41.19 \text{ days}$$

Average Collection Period (ACP)

2.2 Inventory turnover

$$\text{Turnover rate of inventories (Inventory Turnover)} = \frac{\text{Cost of sales}}{\text{Inventories Average}} = \text{(times)}$$

$$\text{อัตราการหมุนเวียนของสินค้าคงเหลือ (Inventory Turnover)} = \frac{2{,}616}{(920+620)\,/\,2} = 3.40 \text{ ครั้ง}$$

The Average Days Sales Period (DSP) shows how many days a company has purchased a product before it sells a product. It can be calculated as follows:

$$\text{Period of sale of inventories (Average Days Sales Period (DSP))} = \frac{360}{\text{Turnover rate of inventories}} \quad \text{(Day)}$$

$$\text{Period of sale of inventories (Average Days Sales Period (DSP))} = \frac{360}{3.40} = 105.88 \text{ days}$$

2.3 Fixed assets turnover

$$\text{Fixed Assets Turnover)} = \frac{\text{Net sales}}{\text{Net fixed assets}} \quad \text{(times)}$$

อัตราการหมุนเวียนของสินทรัพย์ถาวร (Fixed assets turnover) $= \dfrac{4{,}500}{1{,}500} = 3$ ครั้ง

2.4 Total assets turnover

$$\text{Total Assets Turnover)} = \frac{\text{Net sales}}{\text{Total Assets}} \text{ (times)}$$

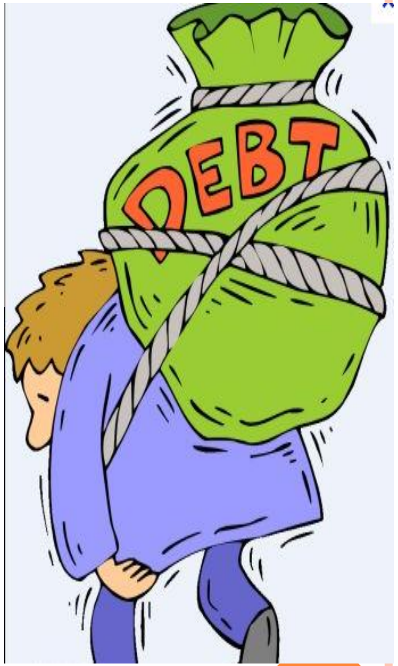
$$\text{อัตราการหมุนเวียนของสินทรัพย์รวม (Total assets turnover)} = \frac{4{,}500}{3{,}000} = 1.5 \text{ ครั้ง}$$

3. Leverage ratios or Debt management ratios)

- **3.1 Debt to assets ratio**

$$\text{Debt to Asset Ratio (Debt -to-Assets Ratio)} = \frac{\text{Total Liabilities}}{\text{Total Assets}} \; (\%)$$

$$\text{อัตราส่วนหนี้สินต่อสินทรัพย์ (Debt -to-Assets Ratio)} = \frac{(465+1{,}131) \times 100}{3{,}000} = 53.20\ \%$$



3.2 Debt-to-equity ratio

$$\text{Debt-to-Equity Ratio)} = \frac{\text{Total Liabilities}}{\text{Equity}} \quad (\%)$$

$$\text{อัตราส่วนหนี้สินต่อส่วนของผู้ถือหุ้น (Debt-to-Equity Ratio)} = \frac{1{,}596 \times 100}{1{,}404} = 113.68\%$$

3.3 Time Interest Earned (TIE)

$$\text{Ability to pay interest (Time Interest Earned (TIE))} = \frac{\text{Earnings before interest and taxes}}{\text{Interest paid}} \text{ (times)}$$

$$\text{ความสามารถในการจ่ายดอกเบี้ย (Time Interest Earned (TIE))} = \frac{384}{134} = 2.87 \text{ เท่า}$$

4. Profitability ratios

4.1 Return on Sales

4.1.1 Net Profit Margin

$$\text{Net Profit Ratio (Net Profit Margin)} = \frac{\text{Net Profit}}{\text{Net sales}} \ (\%)$$

If the income statement contains dividends, preferred stock can be calculated as follows:

$$\text{et Profit Ratio (Net Profit Margin)} = \frac{\text{Net profit after tax - Preferred stock dividend}}{\text{Net sales}} = \frac{\text{Ordinary equity profit}}{\text{Net sales}} \ (\%)$$

$$\text{Net Profit Ratio (Net Profit Margin)} = \frac{194 \times 100}{4{,}500} = 4.31\ \%$$

4.1.2 Gross profit margin

$$\text{Gross margin ratio (Gross Profit Margin)} = \frac{\text{Gross margin}}{\text{Net sales}} = \frac{\text{Net Sales - Cost of Sales}}{\text{Net sales}} \ (\%)$$

$$\text{Gross margin ratio (Gross Profit Margin)} = \frac{(4{,}500-2{,}616) \times 100}{4{,}500} = 41.87\ \%$$

4.1.3 Operating profit margin

$$\text{Operating profit ratio (Operating Profit Margin)} = \frac{\text{Earnings before interest and taxes}}{\text{Net sales}} \; (\%)$$

$$\text{Operating profit ratio (Operating Profit Margin)} = \frac{384 \times 100}{4{,}500} = 8.53\ \%$$

4.2 Return on Investment (ROI)

$$\text{Return on investment (Return on Investment (ROI))} = \frac{\text{Net Profit}}{\text{Investment assets}} \ (\%)$$

4.2.1 Return on Total Assets (ROA) is a ratio calculated by dividing earnings by total assets .

$$\text{Return on total assets (Return on Total Assets (ROA))} = \frac{\text{Net Profit}}{\text{Total Assets}} \ (\%)$$

4.2.2 Return on Equity (ROE) or Return on Common Equity (ROCE)

$$\text{Return on equity (Return on Equity (ROE))} = \frac{\text{Ordinary equity profit}}{\text{Equity}} \ (\%)$$

$$\text{Return on equity (Return on Equity (ROE))} = \frac{194 \times 100}{1{,}404} = 13.82\ \%$$

5. Market value ratios

- It is a ratio related to the share price of the company that delivers profits.
- Earning Per Share (EPS) or Basic Earning Per Share (BEPS)

$$\text{EPS (Earning Per Share .EPS))} = \frac{\text{Ordinary equity profit}}{\text{Number of issued ordinary shares}} \quad \text{(Baht per share)}$$

5.2 Price/Earnings Ratio (P/E)

$$\text{Price/Earnings Ratio (P/E)} = \frac{\text{Market price per share}}{\text{EPS}} \quad \text{(times)}$$

Limitations of financial ratios

- **1. Ratio analysis is numerical analysis.**
- **2. Correct and acceptable accounting methods**
- **3. The end period of the financial statements of each business is different.**
- **4. The analysis does not take into account the current value of money.**

SUMMARIZE

- The financial statement of the business is considered as a source of information that shows the financial information of the business. Financial statements are financial information derived from the compilation of trades that occur during the year so that stakeholders can take advantage of the information available. To solve current business problems and to plan for future growth.

Exercise 6 : Financial Ratio Analysis

- View the following financial statements and analyze the financial ratios:
- Current ratio
- Account receivable turnover
- Debt to assets ratio
- Gross profit margin
- Return on total assets (ROA)

And explain what it means

Deadline

- **Exercise 6**
- **send to chumpon.ro@ssru.ac.th**
- **March 6, 2023**