SYLLABUS

Compulsory part
Basic ratio analysis

1. State the general functions of accounting ratios.
2. Calculate and interpret the following ratios:
   a. working capital/current ratio, quick/liquid/acid test ratio,
   b. gross profit ratio, net profit ratio and
   c. return on capital employed.
3. Evaluate the liquidity and profitability of a business using accounting ratios.

Elective module
Financial analysis

1. Calculate ratios and ***comment*** on a company's (i) **profitability**, (ii) **liquidity**, (iii) **solvency**, (iv) **management efficiency** and (v) **return on investment**:
   a. mark-up,
   b. inventory turnover,
   c. average trade receivables collection period & trade receivables turnover,
   d. average trade payables repayment period & trade payables turnover,
   e. earnings per share,
   f. total assets turnover,
   g. gearing ratio,
   h. dividend cover and
   i. price-earnings ratio.

   (Note: Paper 2A requires the in-depth application of the ratios in the Compulsory Part, i.e. working capital/current ratio, quick/liquid/acid test ratio, gross profit ratio, net profit ratio and return on capital employed)

2. Explain the functions and limitations of accounting ratios in financial analysis.

TOPIC I FUNDAMENTALS OF RATIO

- Industry averages comparison
  - Comparing (benchmarking) an item with **industry averages**
  - Providing information as to a company's relative performance within the industry
- Intercompany comparison
  - Benchmarking an item with one or more **competing companies**
  - Determining a company's competitive position
- Trend analysis of the same company
  - Compare the ratios of **prior year** and **current year** to identify movement during the year

TOPIC II RATIO ANALYSIS: LIQUIDITY

- Measure company's ability to meet its continuing (short-term) obligations when they arise
- Parties interested: short-term creditors (bankers and suppliers)
- Focusses on the relationship between: (1) **current assets**; and (2) **current liabilities**

RATIO	FORMULA	REMARKS
1. Working capital	Current assets – Current liabilities	• Measures potential excess ***sources*** of cash (from current assets) over its upcoming ***uses*** of cash (from current liabilities)
2. Current ratio	$\frac{\text{Current assets}}{\text{Current liabilities}}$: 1	• Measures **short-term debt-paying ability** • The **higher** the ratio, the **more liquid** the company appears to be • *Possible misinterpretation: high current ratio just due to slow turnover in inventory*
3. Acid-test ratio	$\frac{\text{Current assets - inventories}}{\text{Current liabilities}}$: 1	• Measures **immediate** short-term debt-paying ability (more demanding) • Includes only ***most liquid*** current assets • Excludes less liquid inventory (readily saleable?)

Illustration (HKDSE/BAFS/Sample Paper/1B/Question 6(b))

TOPIC III RATIO ANALYSIS: MANAGEMENT EFFICIENCY

- Measure how **efficiency** a company utilises its operating assets and manages its resources

RATIO	FORMULA	REMARKS
1A. Trade receivables turnover (times)	Credit sales / Average trade receivables	• Measures **how quickly** receivable is **converted** into cash • Expresses the **number of times** the company collects (average) receivables • The **higher** the turnover rate, the **more liquid** the company's receivables • *Risk of having low turnover rate: incurrence of bad debt expenses*
1B. Average trade receivables collection period	365 / Trade receivables turnover (times)	• Expresses the average **number of days** an account receivable remains outstanding before it is collected • *Uses to assess the effectiveness of credit and collection policies (compare against the credit term granted)*
2A. Inventory turnover (times)	Cost of goods sold / Average inventory	• Measures **liquidity** of inventory • Expresses the **number of times** the company is able to sell a quantity of goods equal to its average inventory • The **higher** the turnover rate, the more **quickly** the inventory **can be sold** • *Risk of having low turnover rate: higher chance of inventory obsolescence (application of LCM over inventory valuation)*
3A. Trade payables turnover (times)	Credit purchases / Average trade payables	• Measures **how quickly** payables are **settled** with the suppliers • Expresses the **number of times** the company settles (average) its payables • The **lower** the turnover rate, the **slower** the company is paying its suppliers • *Indication of having low turnover rate: slow payment may indicate worsening financial performance; may lead to dissatisfaction of suppliers which may demand quicker payments*
3B. Average trade payables repayment period	365 / Trade payables turnover (times)	• Expresses average repayment **time**

TOPIC IV RATIO ANALYSIS: SOLVENCY

- Measures the company's ability to survive over a **long period of time**
- Parties interested: long-term creditors and stockholders
- Focusses on: (1) ability to meet its **interest** requirements; and (2) ability to repay the **principal** of the debt when it falls due

RATIO	FORMULA	REMARKS
1. Gearing ratio	$\dfrac{\text{Non-current liabilities + Preference share capital}}{\text{Non-current liabilities + Shareholders' fund}} \times 100\%$ *(including Ordinary share capital (including share premium), Preference share capital and retained earnings)*	- Indicates the degree of **leverage** - Depicts the relationship between **equity capital** and **fixed-interest loan capital** (including preference share capital) - The **lower** the ratio, the **smaller** the ***risk*** business may become unable to pay its debts (margin of protection to creditors contributed by shareholders is higher)

Illustration (HKDSE/BAFS/Sample Paper/2A/Question 8(b))

TOPIC IV RATIO ANALYSIS: PROFITABILITY & RETURN ON INVESTMENT

- Measure company's income (**earning power**) and **operating success** (including ability to obtain debt and equity financing)
- Parties interested: all parties including creditors and investors
- Focusses mainly on income statement items: (1) profit; and (2) sales

RATIO	FORMULA	REMARKS
1. Gross profit margin	Gross profit / Sales x 100%	• Measures percentage of sales contributing to gross profit • Indicates management's ability to **control cost of good sold** and to retain a reasonable portion of its sales as **gross profit**
2. Net profit margin	Net profit before tax / Sales x 100%	• Measures percentage of sales contributing to net profit before tax • Indicates management's ability to **control expenses** and to retain a reasonable portion of its sales as **profit**
3. Return on capital employed (ROCE)	Profit before interest and tax / Average capital employed x 100%	• Measures the ability to earn a **return** on funds supplied from **all sources** (i.e. long-term creditors and shareholders) • Indicates the **overall profitability** and **efficiency** with which its capital is employed
4. Total asset turnover (time)	Sales / Total assets	• Measures **how efficiently** a company uses its assets to generate sales • Indicates for each dollar of asset invested, how much of sales will be produced
5. Earnings per share (EPS)	Net profit after tax – Preference dividend / Number of **ordinary** shares ***issued***	• Measures the amount of **net income** applicable to **each share** of **common stock** • Useful in making investment decision (compare the amount invested against: [i] EPS; and [ii] annual dividend per share to decide whether the investment price is reasonable)
6. Dividend cover for ordinary shares (times)	Net profit after tax – preferred dividend / Ordinary dividend paid	• Measures the number of times annual ordinary dividend is covered by annual profit attributable to ordinary shareholders • The **higher** the ratio, the more likely that the **dividend** can be **maintained** in the future (Note: High-growth companies reinvest most of the net income into the business)
7. Price-earnings ratio (P-E ratio)	Current price per ordinary share / Earnings per share	• Measures relationship between market price of common stock and EPS • Indicates outlook for future earnings (i.e. **growth**)

Illustration (HKDSE/BAFS/Sample Paper/1B/Question 6(a))

Illustration (HKALE/PA/2009/Paper 1/Question 4)
Extension: Consider adding preference shares to the question to test students' ability in classifying preference shares as debt-like in gearing ratio.

Comprehensive Illustration (HKDSE/BAFS/2013/2A/Question 7)

TOPIC V LIMITATIONS OF RATIO ANALYSIS

- The effectiveness of ratios depends on the **quality** of underlying **financial information**:
  - Misleading results if the underpinning financial information is poor (e.g. poor estimation on depreciation and allowance for doubtful debts)
- **Timeliness** of financial information:
  - Ratio is based on past financial information, however, past performance of a firm does not necessarily **indicate its future performance**
- **Different judgment** on the **accounting policies** to be used for certain transactions:
  - With different accepted accounting policies used for the same transaction by different companies, it is difficult to compare and draw conclusion on their performance.
- Ratios can only identify the symptoms, but **not the causes**:
  - Different interpretations can be drawn by different people.
- Adhere to the **money measurement concept**:
  - Non-monetary but significant items, such as quality of goods, management, the diversity of product, could not be reviewed.