

FINANCIAL RATIO ANALYSIS AND BUDGET PREPARATION

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CONSOLIDATED INCOME STATEMENT 綜合損益表

'Function of Expense' method

- Classifies expenses according to their function as cost of sales, selling and distribution costs, or administrative expenses
- This method can provide more relevant information to users than the classification of expenses by nature, but allocating costs to functions may require arbitrary allocations and involve considerable judgment

Sample Income Statement 損益表範例

	2014 (\$)	2013 (\$)
Revenue 營業收益	450,000	300,000
Cost of sales 銷售成本	(380,000)	(250,000)
Gross profit 毛利	70,000	50,000
Depreciation 折舊	(1,000)	(1,000)
Amortization 攤銷	(1,000)	(1,000)
Distribution cost 分銷費用	(5,000)	(4,000)
Administration expenses 行政開支	(30,000)	(20,000)
Operating profit 營運盈利	33,000	24,000

Sample Income Statement 損益表範例 (cont' 續)

	2014 (\$)	2013 (\$)
Operating profit 營運盈利	33,000	24,000
Finance costs 財務成本	(1,500)	(1,500)
Profit before taxation 稅前盈利	31,500	22,500
Taxation 稅金	(5,000)	(3,000)
Profit for the year 全年盈利	26,500	19,500

CONSOLIDATED BALANCE SHEET 綜合資產負債表

Terms	Definition	Examples
Assets 資產	Economic resources owned by the reporting entity (會計主體)	Property, plant & equipment, Inventories, Trade receivables (應收貨款), Cash
Equity 權益	Claims by shareholders	Capital and reserves
Liabilities 負債	Claims by persons other than its shareholders	Loan, Trade payables (應付貨款)

Assets 資產

Non-Current Assets 非流動資產

- Long useful lives
- Currently used in operations (營運)
- **Depreciation (折舊)** - allocating the cost of assets to its useful years
- **Accumulated depreciation (累積折舊)** - total amount of depreciation expensed thus far in the asset's life

Assets 資產

Current Assets 流動資產

- Assets that a company expects to **convert (轉換) to cash or use up within one year** or the operating cycle, whichever is longer.
- **Operating cycle (營運週期)** is the average time it takes from the purchase of inventories to the collection of cash from customers.

SO 6 Identify the sections of a classified Statement of Financial Position.

Equity 權益 and Liabilities 負債

Equity 權益

- Share Capital and Retained Earnings (保留盈利).

Non-Current Liabilities 非流動負債

- Obligations a company expects to pay after one year.

SO 6 Identify the sections of a classified Statement of Financial Position.

Equity 權益 and Liabilities 負債

Current Liabilities 流動負債

- **Obligations (負債)** a company is to pay within the coming year or its operating cycle, whichever is longer.
- **Liquidity (流動性)** - ability to pay obligations expected to be due within the next year.

SO 6 Identify the sections of a classified Statement of Financial Position.

Sample Balance Sheet 資產負債表範例

Non-Current Assets 非流動資產	2014 (\$)	2013 (\$)
Property, plant and equipment 房產, 廠房及機器	51,000	38,400
Accumulated depreciation 累積折舊	(12,000)	(10,000)
	39,000	28,400
Current Assets 流動資產		
Inventories 存貨	50,000	30,000
Trade receivables 應收貨款	100,000	85,000
Cash and cash equivalents 現金	1,000	1,100
	151,000	116,100

Sample Balance Sheet 資產負債表範例 (cont'續)

	2014 (\$)	2013 (\$)
Equity 股本		
Share capital 股本資本	22,000	22,000
Share premium 股本溢價	5,000	3,500
Other reserves 其他儲備	1,000	1,000
Retained earnings 保留利潤	40,000	15,000
	68,000	41,500

Sample Balance Sheet 資產負債表範例 (cont'續)

	2014 (\$)	2013 (\$)
Non-Current Liabilities 非流動負債		
Borrowings 借款	12,000	18,000
Current Liabilities 流動負債		
Trade payables 應付貨款	80,000	70,000
Non trade payables 其他應付貨款	30,000	15,000
	110,000	85,000

NOTES TO THE FINANCIAL STATEMENTS
財務報告附註

- Specified by the **Companies Ordinance (公司條例)**
- Supplemented by the **Hong Kong Accounting Standards (HKAS)** and the **Listing Rules (上市條例)**
- Significant Accounting Policies
- Schedule of breakdown of items on accounts
- Explanation and elaboration of details (詳細闡述)

PROFITABILITY RATIOS 盈利能力比率

- How management is doing at **controlling costs (成本控制)**, so that a large proportion of the goods sold dollar is converted into profit
 - Mark up 加成
 - Gross profit ratio 毛利率
 - Operating profit ratio 營運利潤率
 - Net profit ratio 淨利率
 - Return on capital employed (ROCE) 運用資金報酬率
 - Return on equity (ROE) 股本回報率
 - Return on assets (ROA) 總資產回報率

Mark Up 加成

= Gross profit / Cost of goods sold

	2014 (\$)	2013 (\$)
Gross profit	70,000	50,000
Cost of goods sold	380,000	250,000
Mark Up ↓	18.42%	20.00%

- Profit earned for each one dollar of cost of goods sold

Gross Profit Ratio 毛利率

= Gross profit / Sales

	2014 (\$)	2013 (\$)
Gross profit	70,000	50,000
Sales	450,000	300,000
Gross Profit Margin ↓	15.56%	16.67%

- Profit earned for each one dollar of goods sold before operating expenses

Operating Profit Ratio 營運利潤率

= Operating profit / Sales

	2014 (\$)	2013 (\$)
Operating profit	33,000	24,000
Sales	450,000	300,000
Operating Profit Margin ↓	7.33%	8.00%

- Operating profit from goods sold

Net Profit Ratio 淨利率

= Net profit before tax / Sales

	2014 (\$)	2013 (\$)
Profit for the year	26,500	19,500
Sales	450,000	300,000
Net Profit Margin ↓	5.88%	6.50%

- Profit earned for each one dollar of goods sold after all operating expenses

Return on Capital Employed (ROCE)
運用資金報酬率

= Profit after interest and tax / Capital employed

	2014 (\$)	2013 (\$)
Profit for the year	26,500	19,500
Equity	68,000	41,500
Borrowings	12,000	18,000
Capital employed	80,000	59,500
ROCE	33.13%	32.77%

- Rate of return based on the book value of long term capital investment made in the business

Return on Equity (ROE) 股本回報率

= Profits after interest and tax / Equity

	2014 (\$)	2013 (\$)
Profit for the year	26,500	19,500
Equity	68,000	41,500
ROE	38.97%	46.99%

- Rate of return based on the book value of equity

Return on Assets (ROA) 總資產回報率

= Profit after interest and tax / Total assets

	2014 (\$)	2013 (\$)
Profit for the year	26,500	19,500
Non-Current assets	39,000	28,400
Current assets	151,000	116,100
Total assets	190,000	144,500
ROA	13.95%	13.49%

- Rate of return based on the book value of assets

Equity Multiplier 權益乘數

= Total assets / Total equity

	2014 (\$)	2013 (\$)
Non-Current assets	39,000	28,400
Current assets	151,000	116,100
Total assets	190,000	144,500
Equity	68,000	41,500
Equity Multiplier	2.79	3.48

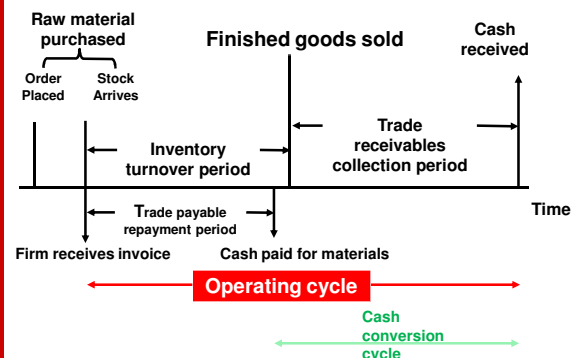
- A lower equity multiplier means the company is relying less on debt to finance its assets

Return on Equity (ROE) 股本回報率

= Return on assets (ROA) 資產回報率
 x Equity Multiplier 權益乘數

- Good ROE could be achieved with either a high ROA, or by employing more assets in the company's operations
- In our example, despite the improved ROA, the ROE has declined due to reduced usage of assets by the company

OPERATING CYCLE 營運週期 / CASH CONVERSION CYCLE 現金轉換週期



ASSET UTILIZATION RATIOS 資產使用比率

- How effective is a firm using its total asset base to produce goods sold

Operating cycle = Inventory turnover period + Trade receivables collection period

Cash conversion cycle = Inventory turnover period + Trade receivables collection period - Trade payables repayment period

Total assets turnover = Sales / Total assets

Inventory Turnover Period 存貨周轉期限

= Inventory / Cost of goods sold x 365

	2014 (\$)	2013 (\$)
Inventories	50,000	30,000
Cost of goods sold	380,000	250,000
Inventory Turnover Period	48 days	44 days

- Measures the number of days' worth of inventories that a company has on hand at any given time.

Trade Receivables Collection Period 除銷期限

= Trade receivables / Credit sales x 365

	2014 (\$)	2013 (\$)
Trade receivables	100,000	85,000
Sales	450,000	300,000
Trade Receivable Collection Period	81 days	103 days

- Indicates average length of time in days that a company must wait to collect a credit sale (除銷).

Trade Payables Repayment Period 除購期限

= Trade payables / Credit purchases x 365

	2014 (\$)	2013 (\$)
Trade payables	80,000	70,000
Purchases	380,000	250,000
Trade Payables Repayment Period	77 days	102 days

- Indicates average length of time in days within which a company must pay for its credit purchases (除購).

Total Assets Turnover 總資產周轉率

= Sales / Total assets

	2014 (\$)	2013 (\$)
Sales	450,000	300,000
Non-Current assets	39,000	28,400
Current assets	151,000	116,100
Total assets	190,000	144,500
Total Asset Turnover	2.37	2.08

Return on Assets (ROA) 資產回報率

= Net Profit Ratio (營運利潤率)

x Total Asset Turnover (總資產周轉率)

- Good ROA could be achieved with either a high Net profit ratio, or by making its assets work hard
- In our example, the Total Asset Turnover has been improved significantly to offset the fall in Net profit ratio

Asset Utilization Ratios 資產使用比率

- Whether these days are good or bad depends on the company goals
- A company may have long trade receivables period by granting customers long credit period in order to gain market share

SOLVENCY RATIOS 償債能力比率

- Long Term Solvency Ratios (長期償債能力比率)
 - Gearing ratio (槓桿比率)
 - Debt to equity ratio (債務股本比率)
- Earnings ratios (市盈率)
 - Debt to Earnings before Interest, Tax, Depreciation and Amortization (EBITDA) (稅息折舊及攤銷前利潤)
 - Interest cover 利息保障倍數

Gearing / Leverage

- Gearing (槓桿比率) = Debt / Equity
- Debt to equity ratio (債務股本比率) = Debt / Debt + Equity
- Debt is generally cheaper than equity, because it is less risky and lenders require a lower rate of return
- But too much debts creates financial risk

Gearing / Leverage

	2014 (\$)	2013 (\$)
Borrowings	12,000	18,000
Equity	68,000	41,500
	80,000	59,500
Gearing ↓	17.65%	43.38%
Leverage ↓	15%	30.25%

Debt to EBITDA

= Debt / EBITDA (稅息折舊及攤銷前利潤)

- Ability of the company to generate cash available to lenders (貸方)
- Ratios varies according to economic conditions, and may run up to 6 or 7 times for a high leverage business
- In our example, the Debt to EBITDA is very low, so the Company could easily take on more debts to finance future growth

Debt to EBITDA

	2014 (\$)	2013 (\$)
Borrowings	12,000	18,000
Operating profit	33,000	24,000
Depreciation	1,000	1,000
Amortization	1,000	1,000
EBITDA	35,000	26,000
Debt to EBITDA ↓	0.34	0.69

Interest Cover 利息保障倍數

= Operating profit / Finance costs

- How easily is the company able to make its interest payments from this year's profits
- Lowest acceptable figure is clearly a matter of judgment
- Volatility (波動幅度) of profits and interest rates need to be considered

Interest Cover 利息保障倍數

	2014 (\$)	2013 (\$)
Operating profit	33,000	24,000
Finance costs	1,500	1,500
Interest cover	22 times	16 times

- The number of times earnings plus other expenses are above the interest expenses

LIQUIDITY RATIOS 流動資金比率

- Ability to meet future short-term financial obligations (短期債務)
 - Current Ratio 流動比率
 - Quick Ratio 速動比率

Current Ratio 流動比率

= Current Assets / Current Liabilities

- Current ratio vary widely according to the type of business
- While a high current ratio indicates good liquidity, it may be a symptom of poor working capital (營運資金)

Current Ratio 流動比率

	2014 (\$)	2013 (\$)
Current assets	151,000	116,100
Current liabilities	110,000	85,000
Current Ratio –	1.37	1.37

Quick Ratio 速動比率

= (Current Assets – Inventories) / Current Liabilities

	2014 (\$)	2013 (\$)
Trade receivables	100,000	85,000
Cash and cash equivalents	1,000	1,100
	101,000	86,100
Current liabilities	110,000	85,000
Quick Ratio ↓	0.92	1.01

Importance of Relative Financial Ratios

- In order to make sense of a ratio, we must compare it with some appropriate benchmarks
- Examine a firm's performance relative to:
 - Aggregate economy (經濟情況)
 - Its industry (行業)
 - Its major competitors within the industry
 - Its own past performance

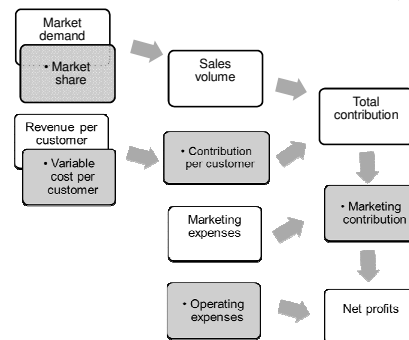
Importance of Relative Financial Ratios

- More importantly the focus is not on individual ratio, but rather to allow for trade off of one ratio against another:
 - A fall in sales may be compensated by a higher operating profit ratio
 - A high gearing may not be a great concern in light of good profitability
 - Poor profitability could be remedied (補救) by improved cash flows

SEGMENT ANALYSIS 分部分析

- Companies frequently operate in more than one line of business, where results of operations of the individual segments may vary
- An entity shall report a measure of total assets and liabilities for each reportable segment:
 - Analysis of segment data can be done in terms of ratios relating profits to sales or identifiable assets
 - Trend analysis can be carried out in terms of vertical and horizontal common size statements

BUDGETING



Sales Volume Budget

- First budget prepared
- Derived from the sales forecast
- Prepared by multiplying expected market demand times anticipated market share

Sales Volume Budget

Crystal Limited's sales forecast data are as follows:

Product	Market demand	Market share	Price
Small	20,000	25%	\$20
Large	60,000	10%	\$40

Sales volume for the year ended 31 March 2015:

Product	Market demand	Market share	Sales volume
Small	20,000	25%	5,000
Large	60,000	10%	6,000

Variable Cost: Direct Materials Budget

- Shows both the quantity and cost of direct materials to be purchased
- Budgeted cost of direct materials
 = Required units of direct materials x Anticipated cost per unit

Direct Materials Budget

Crystal's standard quantities and unit cost for each product are as follows:

Standard quantities	Labels	Packaging	Rubbers
Small	2	1	1
Large	2	2	1
Unit cost	\$ 1	\$ 2	\$ 3

	Labels	Packaging	Rubbers	Total
Small	\$ 2	\$ 2	\$ 3	\$ 7
Large	\$ 2	\$ 4	\$ 3	\$ 9

Variable Cost: Direct Labour Budget

- Shows both the quantity of hours and cost of direct labor necessary to meet production requirements
- Budgeted direct labour cost:
 = Direct labour time per unit x Direct labour cost per hour

Direct Labour Budget

Production manager has provided the standard times and hourly rates:

Standard minutes	Material handlers
Small	5
Large	10
Hourly rates	\$ 2

	Material handler hours	Direct labour rates	Direct labour costs
Small	5	\$ 2	\$ 10
Large	10	\$ 2	\$ 20

Marketing Expenses Budget

- Media: TV, newspaper, radio, direct mail
- Production: TV, newspaper, radio, direct mail
- Merchandising: signage, displays
- Selling expenses: sales incentives
- Research expenses: market research

Budgeted Income Statement

- Important end-product
- Indicates expected profitability

Important measures of marketing profitability	
Contribution margin	Total contribution Total revenue
Marketing contribution	Marketing contribution Total revenue
Profit margin	Net profit Total revenue

Budgeted Income Statement

Crystal has budgeted marketing expenses and operating expenses of \$ 38,000 and \$ 20,000 for the following year

There will not be any financing costs over the coming year

Budgeted Income Statement

	Small	Large	Total
Revenue per customer	\$ 20	\$ 40	
Direct materials	(\$ 7)	(\$ 9)	
Direct labour	(\$ 10)	(\$ 20)	
Contribution per customer	\$ 3	\$ 11	
Sales volume	5,000	6,000	
Total contribution	\$ 15,000	\$ 66,000	\$ 81,000
Marketing expenses			(\$ 38,000)
Marketing contribution			\$ 43,000
Operating expenses			(\$ 20,000)
Net profit for the year			\$ 23,000

THANK YOU
for listening!

