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Professional Accounting Education

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ACCA F7

Financial Reporting(INT.)

财务报告（国际会计准则）

Chapter 17 Calculation and interpretation of accounting ratios and trends

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Calculation and interpretation of accounting ratio and trends

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The broad categories of ratio

Calculation and interpretation of accounting ratio and trends

- Profitability
- Liquidity
- Gearings
- Investors’ ratio

Profitability

Calculation and interpretation of accounting ratio and trends

Return on capital employed (ROCE) may be used by the shareholders or the Board to assess the performance of management.

ROCE=PBIT/(Total assets-current liability)

Profit before interest and tax is therefore:

(a) the profit on ordinary activities before taxation; **plus**

(b) interest charges on loan capital.

Capital employed: equity + long-term debt

Calculation and interpretation of accounting ratio and trends

Profit margin. A company might make a high or low profit margin on its sales. For example, a company that makes a profit of 25c per $1 of sales is making a bigger return on its revenue than another company making a profit of only 10c per $1 of sales.

Net Asset turnover=revenue/TALCL

TALCL = Total assets less current liabilities representing the net assets turned over.

Can also be calculated as debt + equity.

Calculation and interpretation of accounting ratio and trends

- ROE
- ROE=(PAT + Preference dividend)/equity

liquidity

Calculation and interpretation of accounting ratio and trends

Current ratio=current asset/current liability

Quick ratio=(current asset-inventory)/current liability

Inventory days=inventory/cost of sales *365

Trade receivable=T.R/Sales * 365

Trade payable = T.P/cost of sales * 365

Gearing

Calculation and interpretation of accounting ratio and trends

Gearing or leverage is concerned with a company's **long-term capital structure**. We can think of a company as consisting of non-current assets and net current assets (ie working capital, which is current assets minus current liabilities). These assets must be financed by long-term capital of the company.

Calculation and interpretation of accounting ratio and trends

Gearing

Debt/Equity =interest bearing debt/equity

Debt/ (debt + equity) =interest bearing debt/interest bearing debt + equity or (Total asset – current liability)

Interest bearing debt = long-term debt on which the company is required to pay interest. In some instances a persistent bank overdraft is classed as long-term debt.

Calculation and interpretation of accounting ratio and trends

Interest cover=PBIT/Interest payable

Investors’ ratio

Calculation and interpretation of accounting ratio and trends

Dividend ratio=DPS/Share price

Dividend cover=EPS/DPS

P/E (Price/earning)=share price /EPS

Calculation and interpretation of accounting ratio and trends

Example

Calculation and interpretation of accounting ratio and trends

Xpand is a publicly listed company which has experienced rapid growth in recent years through the acquisition and integration of other companies. Xpand is interested in acquiring Hydan, a retailing company, which is one of several companies owned and managed by the same family.

The summarised financial statements of Hydan for the year ended 30 September 2014 are:

STATEMENT OF PROFIT OR LOSS

	$'000
Revenue	70,000
Cost of sales	(45,000)
Gross profit	25,000
Operating costs	(7,000)
Directors' salaries	(1,000)
Profit before taxation	17,000
Income tax expense	(3,000)
Profit for the year	14,000

STATEMENT OF FINANCIAL POSITION

	$'000	$'000
ASSETS		
Non-current assets		
Property, plant and equipment		32,400
Current assets		
Inventory	7,500	
Bank	100	
		7,600
Total assets		40,000
EQUITY AND LIABILITIES		
Equity		
Equity shares of $1 each		1,000
Retained earnings		18,700
		19,700
Non-current liabilities		
Directors' loan accounts (interest free)		10,000
Current liabilities		
Trade payables	7,500	
Current tax payable	2,800	
		10,300
Total equity and liabilities		40,000

Calculation and interpretation of accounting ratio and trends

From the above financial statements Xpand has calculated for Hydan the ratios below for the year ended 30 September 20X4. It has also obtained the equivalent ratios for the retail sector average which can be taken to represent Hydan's sector

	Hydan	Sector average
Return on equity (ROE) (including directors' loan accounts)	47·1%	22·0%
Net asset turnover	2·36 times	1·67 times
Gross profit margin	35·7%	30·0%
Net profit margin	20·0%	12·0%

From enquiries made, Xpand has learned the following information:

(i) Hydan buys all of its trading inventory from another of the family companies at a price which is 10% less than the market price for such goods.

(ii) After the acquisition, Xpand would replace the existing board of directors and need to pay remuneration of $2·5 million per annum.

(iii) The directors' loan accounts would be repaid by obtaining a loan of the same amount with interest at10% per annum.

(iv) Xpand expects the purchase price of Hydan to be $30 million.

Calculation and interpretation of accounting ratio and trends

Required

(a) Recalculate the ratios for Hydan after making appropriate adjustments to the financial statements for notes (i) to (iv) above. For this purpose, the expected purchase price of $30 million should be taken as Hydan's equity and net assets are equal to this equity plus the loan.

(b) In relation to the ratios calculated in (a) above, and the ratios for Hydan given in the question, comment on the performance of Hydan compared to its retail sector average.

15 marks)

Calculation and interpretation of accounting ratio and trends

For comparison

	Hydan adjusted	Hydan as reported	Sector average
Return on equity (ROE)	21·7%	47·1%	22·0%
Net asset turnover	1·75 times	2·36 times	1·67 times
Gross profit margin	28·6%	35·7%	30·0%
Net profit margin	9·3%	20·0%	12·0%

Hydan's adjusted ratios:

On the assumption that after the purchase of Hydan, the favourable effects of the transactions with other companies owned by the family would not occur, the following adjustments to the statement of profit or loss should be made:

	$'000
Cost of sales (45,000/0·9)	50,000
Directors' remuneration	2,500
Loan interest (10% x 10,000)	1,000

These adjustments would give a revised statement of profit or loss:

Revenue	70,000
Cost of sales	(50,000)
Gross profit	20,000
Operating costs	(7,000)
Directors' remuneration	(2,500)
Loan interest	(1,000)
Profit before tax	9,500
Income tax expense	(3,000)
Profit for the year	6,500

In the statement of financial position:

Equity would be the purchase price of Hydan (per question)	30,000
The commercial loan (replacing the directors' loan) would now be debt	10,000

From these figures the adjusted ratios above are calculated as:

Return on equity	((6,500 /30,000) x 100)	21·7%
Net asset turnover	(70,000/(30,000 + 10,000))	1·75 times
Gross profit margin	((20,000)/70,000) x 100)	28·6%
Net profit margin	((6,500/70,000) x 100)	9·30%

Calculation and interpretation of accounting ratio and trends

An analysis of Hydan's ratios based on the financial statements provided reveals a strong position, particularly in relation to profitability when compared to other businesses in this retail sector.

Hydan has a very high ROE which is a product of higher-than-average profit margins (at both the gross and net profit level) and a significantly higher net asset turnover.

Thus, on the face of it, Hydan is managing to achieve higher prices (or reduced cost of sales), has better control of overheads and is using its net assets more efficiently in terms of generating revenue.

Calculation and interpretation of accounting ratio and trends

However, when adjustments are made for the effects of its favourable transactions with other companies owned by the family, the position changes somewhat.

The effect of purchasing its inventory from another family owned supplier at favourable market prices means that its reported gross profit percentage of 35·7% is *flattered*; had these purchases been made at market prices, it would fall to 28·6% which is below the sector average of 30·0%. The effects of the favourable inventory purchases carry through to net profit.

Calculation and interpretation of accounting ratio and trends

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Calculation and interpretation of accounting ratio and trends

Based on Xpand's estimate of future directors' remuneration, it would seem the existing directors of Hydan are not charging commercial rates for their remuneration.

When Xpand replaces the board of Hydan, it will have to increase directors' remuneration by $1·5 million.

Additionally, when the interest free directors' loans are replaced with a commercial loan, with interest at 10% per annum, this would reduce net profit by a further $1 million.

Calculation and interpretation of accounting ratio and trends

The accumulation of these adjustments means that the ROE which Xpand should expect would be 21·7% (rather than the reported 47·1%) which is almost exactly in line with the sector average of 22·0%.

Similarly, when the asset turnover is calculated based on the equity purchase price and the commercial loan (equating to net assets), it falls from 2·36 times to 1·75 times which is above, but much closer to, the sector average of 1·67 times.

Calculation and interpretation of accounting ratio and trends

In summary, Hydan's adjusted results would still be slightly ahead of the sector averages in most areas and may well justify the anticipated purchase price of $30 million; however, Hydan will be nowhere near the excellently performing company suggested by the reported figures and Xpand needs to exercise a degree of caution in its negotiations.

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Thank You!