

# Australian Shareholders' Association STANDING UP FOR SHAREHOLDERS

## **THE TOP 15 FINANCIAL RATIOS**

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# Contents

Introduction	3
Chapter 1: Background	4
Chapter 2: Why use ratios?	5
Chapter 3: Liquidity ratios	6
Chapter 4: Leverage ratios	10
Chapter 5: Profitability ratios	14
Chapter 6: Valuation ratios	19
About the Author	22



# Introduction

or ordinary investors, the task of determining the health of a listed company by looking at financial ratios may seem daunting. Yet, it doesn't require special training or countless hours of research. Even the novice investor can make sense of a listed company's balance sheet, profit and loss and cash flow statement by using financial ratios.

By financial ratios we mean taking a financial figure and looking at it relative to another financial figure. These ratios

simplify the process of determining the health of a listed company and make reported financial information more meaningful and useful for investors.

In this e-book we cover 15 ratios that measure a company's liquidity, leverage, profitability and share price value. Understanding these ratios will go a long way to providing you with an idea of how a company is performing in relation to key measures of business success.





## Chapter 1

#### A BACKGROUND ON FINANCIAL RATIO ANALYSIS

inancial ratio analysis has been used to assess company performance for almost as long as modern sharemarkets have been around.

The methods are based on tried-andtrue accounting ratios, which have been around for even longer. The theory of financial ratio analysis was first popularised by Benjamin Graham who is considered by many to be the father of fundamental analysis. Benjamin Graham, who from 1928 was a professor at Columbia Business School as well as a very successful investor in his own right, was mentor and teacher to Warren Buffett.

"Fundamental analysis and financial ratio analysis must form the basis of all investment decisions, because without knowing the true financial position of a company you are purely speculating." Fundamental analysis, of which financial ratio analysis is but one subset, looks at a company's financial statements, management, health and position in the competitive landscape to determine a share price valuation. It is different from the other commonly used methods of investment analysis – quantitative analysis and technical analysis – in that it looks from the bottom-up rather than from the top down, or – in the case of technical analysis – from what the charts say.

Financial ratios are tools to help with the interpretation of results and to allow for comparison to previous years, other companies and the industry sector. Fundamental analysis and financial ratio analysis must form the basis of all investment decisions, because without knowing the true financial position of a company you are purely speculating.



## Chapter 2 why use financial ratios?

undamental analysis and financial ratio analysis, as you can imagine, is a pretty powerful thing and is essential for successful investing.

Some people may opt for quantitative or technical analysis methods when it comes to sharemarket investing, depending upon their personalities, spare time and inclinations, but for most investors, fundamental analysis offers a sound, intellectual framework for making informed share investment decisions.

Within the broad discipline of fundamental analysis, financial ratio analysis in turn offers the clearest, easiest and most logical set of indicators for a sharemarket investor. Empirical and tested evidence suggests that fundamental and ratio analysis is a powerful ally in the hands of an active and savvy investor. "...fundamental analysis offers a sound, intellectual framework for making informed share investment decisions."



iquidity ratios indicate whether a company has the ability to pay off short-term debt obligations (debts due to be paid within one year) as they fall due. Generally, a higher value is desired as this indicates greater capacity to meet debt obligations.

#### 1. CURRENT RATIO

The Current ratio measures a company's ability to repay short-term liabilities such as accounts payable and current debt using short-term assets such as cash, inventory and receivables. Another way to look at it would be the value of a company's current assets that will be converted to cash over the next twelve months compared to the value of liabilities that will mature over the same period. The Current ratio is useful as it shows whether a company has adequate resources to repay short-term debt or if it will experience cash flow problems in the near term.

A ratio of 2:1 is usually considered the benchmark, however, this may vary across industries. A ratio of less than one suggests that the company may not have sufficient resources to settle its short-term debt obligations if they fell due today. In the example above, the company is considered sufficiently liquid as it has \$2 worth of assets for every \$1 worth of liability.

For a more conservative alternative, the numerator (Current assets) may be adjusted to remove inventory, as inventory may be viewed as not very readily convertible to cash. This is known as the Quick ratio.

#### FORMULA:

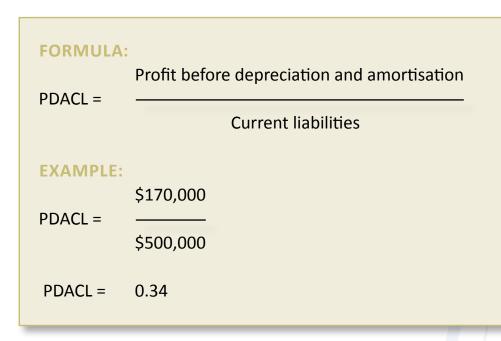
	Current assets
Current ratio =	Current liabilities
EXAMPLE:	Current nabilities
	\$1,000,000
Current ratio =	
	\$500,000
	2
Current ratio =	2



#### 2. PROFIT BEFORE DEPRECIATION AND AMORTISATION TO CURRENT LIABILITIES (PDACL)

Profit before depreciation and amortisation to current liabilities is defined as net operating profit before tax plus non-cash charges in relation to short-term debt obligations. This is a powerful ratio because it depicts a company's margin of safety to meet short-term commitments using cash flow generated from trading operations.

Lower risk companies exhibit a higher margin of safety, whereas higher risk companies exhibit a lower margin of safety. Should the company need to call on resources to meet short-term debt obligations, a lower margin of safety may be an issue. "This is a powerful ratio because it depicts a company's margin of safety to meet short-term commitments using cash flow generated from trading operations."





#### 3. OPERATING CASH FLOW TO CURRENT LIABILITIES (OCFCL)

perating cash flow to current liabilities pertains to the cash generated from the operations of a company (revenues less all operating expenses, plus depreciation), in relation to short-term debt obligations. Operating cash flow is a more accurate measure of a company's profitability than net income because it only deducts actual cash expenses and therefore demonstrates the strength of a company's operations.

Consistently negative operating cash flow implies a business is going backwards in relation to the cost to conduct ordinary operations. A positive operating cash flow is vital to support ongoing operations. The OCFCL ratio is significant because it shows the ability of a company to meet short-term debt obligations from internally generated cash flow.

The higher the value of the OCFCL ratio, the lower the level of risk. A high value indicates that the company generates sufficient cash from its operations to cover short-term liabilities. Conversely, a lower value for OCFCL denotes higher risk.

"Consistently negative operating cash flow implies a business is going backwards in relation to the cost to conduct ordinary operations."

FORMULA OCFCL =	Operating cash flow
EXAMPLE: OCFCL =	\$180,000  \$500,000
OCFCL =	0.36



## 4. CASH BALANCE TO TOTAL LIABILITIES (CBTL)

his ratio shows a company's cash balance in relation to its total liabilities. Cash is the most liquid asset a business has. A negative cash balance (caused by overdrafts) raises a warning signal and failure to address such an issue will likely result in liquidity problems.

Lower risk firms typically have a higher value CBTL, because they have more cash that can be used to pay suppliers, banks or any other party that has provided the company with a product or service. Higher risk companies typically have a lower value CBTL, which means the company's ability to meet its debt obligations is significantly hampered. "A negative cash balance (caused by overdrafts) raises a warning signal and failure to address such an issue will likely result in liquidity problems."

#### FORMULA:

CBTL =	Cash balance  Total liabilities
EXAMPLE: CBTL =	\$280,000  \$800,000
CBTL =	0.35

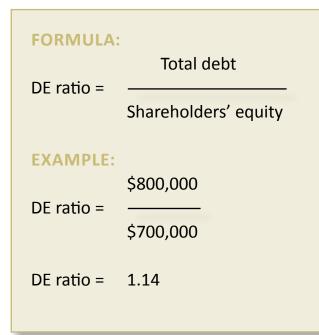


## Chapter 4 LEVERAGE RATIOS

everage ratios, also referred to as gearing ratios, measure the extent to which a company utilises debt to finance growth. Leverage ratios can provide an indication of a company's long-term solvency. Whilst most financial experts will acknowledge that debt is a cheaper form of financing than equity, debt carries risks and investors need to be aware of the extent of this risk.

#### 5. DEBT TO EQUITY RATIO (DE RATIO)

The debt to equity ratio provides an indication of a company's capital structure and whether the company is more reliant on borrowings (debt) or shareholder capital (equity) to fund assets and activities.



Contrary to what many believe, debt is not necessarily a bad thing. Debt can be positive, provided it is used for productive purposes such as purchasing assets and improving processes to increase net profits.

Acceptable debt to equity ratios may also vary across industries. Generally, companies that are capital intensive tend to have higher ratios because of the requirement to invest more heavily in fixed assets.

The DE ratio example shown below indicates that for every \$1 of shareholder ownership in the company, the company owes \$1.14 to creditors. A higher ratio generally indicates greater risk. Greater debt can result in volatile earnings due to additional interest expense as well as increased vulnerability to business downturns.

But as with all other ratios, the DE ratio will be more meaningful when compared over a period of time. For instance, in the example above, 1.14 is high when taken independently but it could actually be low and considered good if the company has historically maintained a debt to equity ratio of 1.5. Such a change in ratios could mean that previous investments are starting to pay off, leading to higher retained earnings and, therefore, higher shareholder equity.



## Chapter 4 Leverage ratios

#### 6. TOTAL LIABILITIES TO TOTAL TANGIBLE ASSETS (TLTAI)

his ratio provides the relationship between a company's liabilities and tangible assets. Tangible assets are defined as physical assets, such as property, cash, inventory and receivables. This classification excludes intangible assets, or those assets that cannot be physically touched like the value of a brand, franchise, patent or trademark.

The use of tangible assets, as opposed to total assets, is more conservative because it considers only those assets that can be easily valued and, therefore, easily liquidated to cover liabilities. The higher the value of the TLTAI ratio, the higher the level of risk. In this case, the company is exposed to a high level of risk because it has \$1.60 in liabilities for every \$1 in tangible assets.

"The higher the value of the TLTAI ratio, the higher the level of risk."

Formula: Tltai =	Total liabilities Total tangible assets
EXAMPLE:	
	\$800,000
TLTAI =	
	\$500,000
TLTAI =	1.60

## Chapter 4 Leverage ratios



#### 7. INTEREST COVER RATIO

company's interest cover ratio measures its ability to meet interest expenses on debt using profits. Generally, a ratio of greater than two is regarded as a healthy position to cover interest. "A company's interest cover ratio measures its ability to meet interest expenses on debt using profits."

FORMULA:	Net profit before tax + interest  Interest
EXAMPLE:	\$10,000 + \$5,000
Step 1	
Interest cover =	\$5,000
Step 2	\$15,000
Interest cover =	\$5,000
Interest cover =	3

In this case, an interest cover ratio of three is considered good. It may be interpreted that the company is able to cover its interest expenses three times over using earnings.

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## Chapter 5 PROFITABILITY RATIOS

Profitability ratios measure a company's performance and provide an indication of its ability to generate profits. As profits are used to fund business development and pay dividends to shareholders, a company's profitability and how efficient it is at generating profits is an important consideration for shareholders.

#### 8. EARNINGS PER SHARE (EPS)

A company's earnings per share (EPS) ratio allows us to measure earnings in relation to every share on issue. This is done by dividing the company's net income by the average weighted number of shares on issue.

This ratio is important because, as a shareholder, you are a part owner in a company and each share is reflective of this. EPS indicates how much each share you own has earned (or will earn if we are referring to prospective EPS).

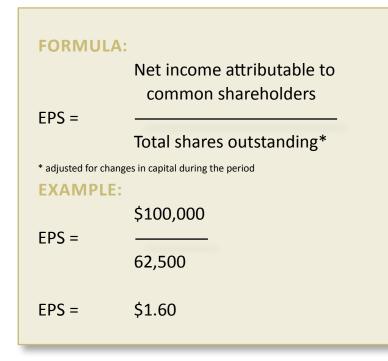
However, just looking at net income figures for EPS is insufficient and could in fact be deceptive. For example, if two companies have the same net income, they won't necessarily have the same EPS due to a difference in the number of shares on issue. The greater the number of shares issued, the lower the EPS.

The earnings for every share represent your slice of the pie. As earnings go up over time, the value of that piece of the company becomes more valuable and this is why the price will be bid up. Whilst there are not many truisms when it comes to share investing, one is that if earnings rise consistently over the long term, then the share price will follow.

#### Be aware that a change to the capital

base, such as a share issue, increases the amount of shares on the market, which will in turn have an effect on EPS. In this example, it would have a dilutionary or negative effect.

However, this negative effect can be offset if the capital raising is to fund business growth going forward. Although, in time, would need to be reflected by a rising EPS.





#### 9. GROSS PROFIT MARGIN

G ross profit margin tells us what percentage of a company's sales revenue would remain after deducting the cost of goods sold. This is important as it helps to determine whether the company would still have enough funds to cover operating expenses such as employee benefits, lease payments, advertising, and so forth.

A company's gross profit margin may also be viewed as a measurement of production efficiency. A company with a gross profit margin higher than that of its competitors, or the industry average, is deemed to be more efficient and is therefore, all things being equal, preferred. "Gross profit margin tells us what percentage of a company's sales revenue would remain after deducting the cost of goods sold."

# FORMULA:Sales - Cost of goods sold<br/>SalesGross profit margin =Sales<br/>500,000 - \$300,000<br/>\$500,000Gross profit margin = $\frac{500,000 - $300,000}{$500,000}$ Gross profit margin =40%

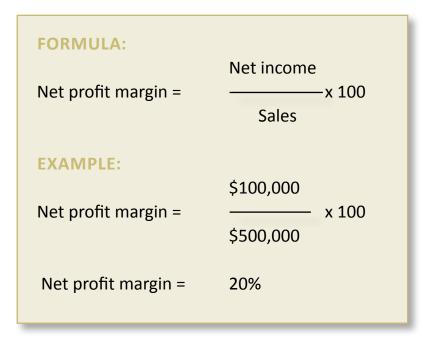
## Chapter 5 PROFITABILITY RATIOS



#### 10. NET PROFIT MARGIN

et profit margin meanwhile indicates what percentage of a company's sales revenue would remain after all costs have been taken into account. This is best compared with other companies in the same industry and analysed over time, considering that variations from year to year may be due to abnormal conditions.

To explain this further, a declining net profit margin ratio may indicate a margin squeeze possibly due to increased competition or rising costs. "Net profit margin meanwhile indicates what percentage of a company's sales revenue would remain after all costs have been taken into account."





## Chapter 5 profitability ratios

#### 11. RETURN ON ASSETS (ROA)

Return on assets, commonly referred to as ROA, is a measurement of management performance. ROA tells the investor how well a company uses its assets to generate income. A higher ROA denotes a higher level of management performance.

#### FORMULA:

ROA =	Net income ————————————————————————————————————
	Average total assets
EXAMPLE:	¢100.000
ROA =	\$100,000 
ROA =	12.5%

A rising ROA, for instance, may initially appear good, but turn out to be unimpressive if other companies in its industry have been posting higher returns and greater improvements in ROA. The ROA ratio may thus be more useful when compared to the risk free rate of return.

Technically, a company should produce an ROA higher than the risk free rate of return to be rewarded for the additional risks involved in operating the business. If a company's ROA is equal or even less than the risk free rate, investors should think twice as they would be better off just purchasing a bond with a guaranteed yield.

In this example, the company generates a 12.5% return on its assets. This may again be compared against other companies in the same industry and also observed over a period of time. "ROA tells the investor how well a company uses its assets to generate income."

## Chapter 5 PROFITABILITY RATIOS



#### 12. RETURN ON EQUITY (ROE)

Referred to as ROE, is another measurement of management performance. ROE tells the investor how well a company has used the capital from its shareholders to generate profits. Similar to the ROA ratio, a higher ROE denotes a higher level of management performance. "ROE tells the investor how well a company has used the capital from its shareholders to generate profits."

FORMULA: ROE =	Net income Average shareholders' equity	x 100
EXAMPLE: ROE =	\$100,000 x 100 \$450,000	
ROE =	22.22%	

In this example, the company generates a 22.22% return on its shareholders' equity. This may be compared to other companies in the same industry and observed over a period of time.



## Chapter 6 valuation ratios

aluation ratios are used by investors to determine whether the current share price of a company is high or low in relation to its true value. Valuation ratios also help us assess if a company is cheap or expensive relative to earnings, growth prospects and dividend distributions.

#### 13. PRICE TO EARNINGS RATIO (PE)

The price to earnings ratio (PE) shows the number of times the share price covers the earnings per share over a 12 month period. It is measured by taking a company's current share price and dividing this by earnings per share (EPS).

PE may also be interpreted as how much an investor pays for every \$1 dollar the company earns. PE is one of the most widely used ratios for assessing a company's value. A company's PE ratio should not be analysed as a standalone number. It may be interpreted in many ways depending on whether it is being compared with the company's historical PE, the industry PE or even the market PE.

In the case below, Company ABC may seem expensive because its PE of 15.625 represents a premium over its historical PE and that of Company XYZ. However, it is cheap when compared with the industry average PE of 18.555 and even cheaper when the broader market's average PE of 19.125 is considered.





## Chapter 6 valuation ratios

## 14. PRICE/EARNINGS TO GROWTH RATIO (PEG)

he PEG ratio is the PE ratio divided by the EPS growth figure for the last year. The PEG ratio should be considered for growth stocks where the PE ratio is above the industry average, in order to assess whether the premium price paid is justified given the current level of earnings growth.

A value of less than one implies that a stock may be undervalued and have further potential for share price appreciation. A value of more than one implies the stock is overvalued at current prices. "A value of less than one implies that a stock may be undervalued ."

FORMULA: PEG =	PE ratio EPS growth rate
EXAMPLE: PEG =	15.625  25%
PEG =	0.625

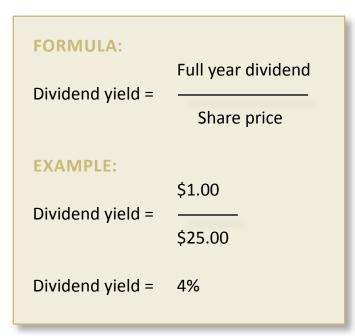


## Chapter 6 valuation ratios

#### 15. DIVIDEND YIELD

he dividend yield is a calculation of the dividends paid over the last 12 months as a percentage of a company's current share price. This dividend yield ratio is expressed as a percentage and can then be compared to current interest rates (such as the risk free rate of return) to determine whether the annual return is attractive to income seeking investors.

An investor should also consider whether the dividends are fully franked, partially franked or unfranked. "...determine whether the annual return is attractive to income seeking investors."





#### **ABOUT THE AUTHOR**

Lincoln's business. This includes heading the research and future development of Stock Doctor, Australia's premier fundamental analysis sharemarket investment software.



As Lincoln's primary educator, Elio regularly presents at investment industry events around Australia, including education workshops for the Australian Shareholders' Association. Elio is a sought-after market analyst and media commentator on programs such as Sky Business and ABC Lateline and writes and presents in a 'nononsense' style which is informative, relevant and highly engaging.

Prior to joining Lincoln in 2003 as a Stock Doctor Share Analyst, Elio was an Adviser's Consultant for National Financial Management (NAFM).

A fellow of the Financial Services Institute of Australia, Elio has a Bachelor of Business (Economics and Finance) from RMIT and Graduate Diploma of Applied Finance and Investment from the Securities Institute of Australia. He has also completed a Diploma in Technical Analysis and is qualified as a Certified Financial Technician.

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## THE TOP 15 FINANCIAL RATIOS

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- Pressure companies into acting in the interests of all shareholders, not just the big institutions
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