

Briefing Paper

Assessment of Company Profitability

February 2014

Introduction

Company profitability is often assessed by using ratios. Without using ratios it is only possible to see the actual level of profit. With ratios it is possible to see how that profit relates to other financial variables in the organisation and therefore to come to conclusions about the level of performance, areas of high and low performance, changes in performance over time and comparisons of performance between different organisations.

The most commonly used profitability ratios are:

- Return on capital employed (ROCE) (%)
- Return on equity (ROE) (%)
- Net Profit Margin (%)
- Gross Profit Margin (%)

However, there are other ratios in use including:

- Cash flow return on investment (CFROI)
- Return on Assets (ROA)
- Economic Value Added (EVA)
- Cash surplus value added (CSVA)

Return on Capital Employed (ROCE)

Return on Capital Employed is calculated as follows:

(Profit from operating activities / capital employed) x 100

Profit from operating activities is often referred to as 'Earnings before Interest and Tax' (EBIT).

Capital employed is the total investment in the business defined as:

- Shareholders' funds plus non-current liabilities, or
- Total assets less current liabilities

The return on capital employed quantifies the return the company is earning on the capital it uses. It shows us how efficiently the company uses the capital it has employed to generate a profit. It is often used as the 'headline' ratio.

The return on capital employed is used to prove the value the business gains from its assets and liabilities. A business that owns a lot of assets will have a smaller return on capital employed compared to a business that owns fewer assets but makes the same profit.

It can be used to show how much a business is gaining for its assets, or how much it is losing for its liabilities.



If a company wants to improve its return on capital employed it must improve either profitability or asset utilisation – increasing its profits or achieving the same profits with fewer assets.

The main drawback of the return on capital employed is that it measures return against the book value of assets in the business. As these are depreciated the return on capital employed will increase even though cash flow has remained the same. Thus, older businesses with depreciated assets will tend to have higher returns on capital employed than newer, possibly better businesses. In addition, while cash flow is affected by inflation, the book value of assets usually is not. Consequently revenues increase with inflation while capital employed generally does not (as the book value of assets is not affected by inflation unless the organisation revalues its assets).

Return on capital employed uses the reported (period end) capital numbers; if the average of the opening and closing capital for the period is used instead, the Return on Average Capital Employed (ROACE) is derived. This is often seen as a more accurate measure, especially where the book value of assets at the year-end is not typical of the value of assets that have been used during the year.

Return on Equity

Return on Equity is calculated as follows:

(Profit from operating activities / shareholders' funds) x 100

It is a measure of the return on the shareholders' investment only.

Return on equity measures the rate of return on the ownership interest (shareholders' equity – including paid up shares, accumulated surpluses and other reserves) of the common stock owners. It measures a firm's efficiency at generating profits from every unit of shareholders' equity (also known as net assets or assets minus liabilities). Return on equity shows how well a company uses investment funds to generate earnings growth. Returns on equity between 15% and 20% are generally considered good as this is a significantly higher return than can be gained from investing in government bonds or deposit accounts.

Return on equity is equal to a financial year's net income (after preferred stock dividends but before common stock dividends) divided by total equity (excluding preferred shares), expressed as a percentage. As with many financial ratios, return on equity is best used to compare companies in the same industry.

A high return on equity can yield no immediate benefit to shareholders. Since stock prices are most strongly determined by earnings per share (EPS), a shareholder will probably pay twice as much for a 20% return on Equity Company as for a 10% return on Equity Company.

The benefit comes from the earnings reinvested in the company at a high return on equity rate that in turn gives the company a high growth rate. The benefit can also come as a dividend on common shares or as a combination of dividends and reinvestment in the company. Return on equity is often considered irrelevant if the earnings are not reinvested.



Other points to note about return on equity are:

- The sustainable growth model shows that when firms pay dividends, earnings growth lowers. If the dividend payout is 20%, the growth expected will be only 80% of the return on equity rate.
- The growth rate will be lower if the earnings are used to buy back shares. If the shares are bought at a multiple of book value (say 3 times book), the incremental earnings returns will be only 'that fraction' of return on equity (return on equity / 3).
- New investments may not be as profitable as the existing business. Investors should ask 'what is the company doing with its earnings?'
- Return on equity is calculated from the company's perspective, on the company as a whole.

Return on capital employed is more commonly used when assessing overall profitability and efficiency but return on equity is useful to shareholders as it focuses on their investment.

The DuPont formula, also known as the strategic profit model, is a common way to break down return on equity into three important components. Essentially, return on equity will equal the net margin multiplied by asset turnover multiplied by financial leverage. Splitting return on equity into three parts makes it easier to understand changes in return on equity over time. For example, if the net margin increases, every sale brings in more money, resulting in a higher overall return on equity. Similarly, if the asset turnover increases, the firm generates more sales for every unit of assets owned, again resulting in a higher overall return on equity financial leverage means that the firm uses more debt financing relative to equity financing. Interest payments to creditors are tax deductible, but dividend payments to shareholders are not. Thus, a higher proportion of debt in the firm's capital structure leads to higher returns on equity. Financial leverage benefits diminish as the risk of defaulting on interest payments increases. So if the firm takes on too much debt, the cost of debt could increase as creditors demand a higher risk premium, and return on equity decreases. Increased debt will make a positive contribution to a firm's return on equity only if the matching return on assets of that debt exceeds the interest rate on the debt.

The formulae that are used in the analysis are:

- (Net income / sales)
- (sales / Total assets)
- (Total assets / Shareholder equity)

The three ratios multiplied together equal the return on equity.

Example of Return on Capital Employed and Return on Equity

An example of the calculation of return on capital employed and equity follows:

Data required:

- Profit on operating activities £1,000,000
- Sales £12,000,000
- Total Assets £10,000,000
- Current Liabilities £2,000,000
- Long-term loans £3,000,000
- Shareholders' funds £5,000,000



Calculation:

- ROCE = (£1,000,000 / £8,000,000) x 100 = 12.5%
- ROE = (£1,000,000 / £5,000,000) x 100 = 20%
- Net income / sales = 8.3%
- Sales / assets = 120%
- Assets / equity = 200%
- 8.3% x 120% x 200% = 20%

Gross Profit Margin

The gross profit margin is calculated as follows:

(Gross profit / revenue) x 100

It tells us how much of every £1 in revenue the company retains in gross profit (i.e. before direct expenses). It tells us how well the cost of sales is being controlled. It is compared with net profit margin to understand cost behaviour.

The Gross profit margin is the difference between revenue and costs before accounting for certain other costs. Generally, it is calculated as the selling price of an item, less the cost of goods sold.

The purpose of margins is to determine the value of incremental sales, and to guide pricing and promotion decisions. Margin on sales represents a key factor behind many of the most fundamental business considerations, including budgets and forecasts. All managers should, and generally do, know their approximate business margins. Managers differ widely, however, in the assumptions they use in calculating margins and in the ways they analyse and communicate these figures.

The gross profit margin is the difference between selling price and cost. This difference is typically expressed either as a percentage of selling price or on a per-unit basis and can be calculated for specific products as well as for the organisation as a whole. Managers need to know margins for almost all marketing decisions. Margins represent a key factor in pricing, return on marketing spending, earnings forecasts, and analyses of customer profitability. A fundamental variation in the way people talk about margins lies in the difference between percentage margins and unit margins on sales. The difference is easy to reconcile, and managers should be able to switch back and forth between the two.

Cost of sales (also known as cost of goods sold or COGS) includes variable costs and fixed costs directly linked to the sale, such as material costs, labour, supplier profit, shipping-in costs (cost of getting the product to the point of sale, as opposed to shipping-out costs which are not included in the cost of goods sold). It does not include indirect fixed costs like office expenses, rent or administrative costs.

Higher gross margins for a manufacturer reflect greater efficiency in turning raw materials into income. For a retailer it will be their markup over wholesale. Larger gross margins are generally considered beneficial for most companies.

The two related metrics are unit margin and margin percent:

- Unit margin (£) = Selling price per unit (£) Cost per unit (£)
- Margin (%) = Unit margin (£) / Selling price per unit (£)



Percentage margins can also be calculated using total sales revenue and total costs. When working with either percentage or unit margins, it is possible to perform a simple check by verifying that the individual parts sum to the total.

When considering multiple products with different revenues and costs, it is possible to calculate overall margin (%) on either of two bases: Total revenue and total costs for all products, or the weighted average of the percentage margins of the different products.

Retailers can measure their profit by using two basic methods, markup and margin, both of which give a description of the gross profit. The markup expresses profit as a percentage of the retailer's cost for the product. The margin expresses profit as a percentage of the retailer's sales price for the product. These two methods give different percentages as results, but both percentages are valid descriptions of the retailer's profit. It is important to specify which method you are using when you refer to a retailer's profit as a percentage.

Some retailers use margins because they can easily calculate profits from a sales total. If the margin is 30%, then 30% of the sales total is gross profit. If the markup is 30%, the percentage of daily sales that are gross profit will not be the same percentage.

Some retailers use markups because it is easier to calculate a sales price from a cost using markups. If the markup is 40%, then the sales price will be 40% above the item cost. If the margin is 40%, the sales price will not be equal to 40% over cost (in fact, it will be approximately 67% above the item cost).

The equation for calculating the monetary value of gross margin is:

gross margin = sales – cost of goods sold

A simple way to keep markup and gross margin factors straight is to remember that:

- Percent of markup is 100 times the price difference divided by the cost.
- Percent of gross margin is 100 times the price difference divided by the selling price.

Most people find it easier to work with gross margin because it directly tells them how much of the sales revenue, or price, is gross profit.

In accounting, the gross margin refers to sales minus cost of goods sold. It is not usually net profit as other expenses such as sales, administrative, and financial costs must be deducted.

Given the cost of an item, it is possible to compute the selling price required to achieve a specific gross margin. For example, if the product costs £100 and the required gross margin is 40%, then the selling price would equal £100 / (1 - 40%) = £100 / 0.6 = £166.67.

Net Profit Margin

The net profit margin is calculated as follows:

(Profit from operating activities / revenue) x 100

It tells us how much of every £1 in revenue the company retains in net profit. It is impacted by revenue and expenses and consideration must be given to both elements when interpreting performance. It should be compared to gross profit margin to understand cost behaviour.



Profit margin, net margin, net profit margin or net profit ratio all refer to a measure of profitability. It is calculated by finding the net profit as a percentage of the revenue, where net profit is equal to revenue minus cost.

Profit margin is calculated with selling price (or revenue) taken as base times 100. Profit margin is the percentage of selling price that turned into profit, whereas 'Profit Percentage' or 'Markup' is the percentage of cost price that the company makes as profit on top of cost price. So while selling something a company should know what percentage of profit it will get on a particular investment. Companies therefore calculate profit percentage to check the ratio of profit on the basis of cost.

A low profit margin indicates a low margin of safety: higher risk that a decline in sales will erase profits and result in a net loss, or a negative margin.

Profit margin is an indicator of a company's pricing strategies and how well it controls costs. Differences in competitive strategy and product mix cause the profit margin to vary among different companies.

Example of Gross and Net Profit margins

An example of the calculation of net and gross profit margins follows:

Data required:

- Revenue £20,000,000
- Cost of sales £15,000,000
- Gross Profit £5,000,000
- Direct expenses £3,000,000
- Profit from operating activities £2,000,000

Calculation:

- Gross Profit Margin (£5,000,000 / £20,000,000) x 100 = 25%
- Net Profit Margin (£2,000,000 / £20,000,000) x 100 = 10%

Cash flow return on investment (CFROI)

Cash flow return on investment is a valuation model that assumes the stock market sets prices based on cash flow, not on corporate performance and earnings. It is essentially the internal rate of return (IRR). Cash flow return on investment is compared to a 'hurdle rate' or target to determine if investment / product is performing adequately. The 'hurdle rate' is the total cost of capital for the company calculated by a mix of cost of debt financing plus investors' expected return on equity investments. The Cash flow return on investment must exceed the 'hurdle rate' to satisfy both the debt financing and the investors' expected return.

Return on Assets (ROA)

The return on assets percentage shows how profitable a company's assets are in generating revenue. The formula is:

ROA = Net Income / Average total assets



This number shows what the company can do with what it has, that is, how much earnings it derives from the assets it controls. It's a useful number for comparing competing companies in the same industry. The number will vary widely across different industries. Return on assets gives an indication of the capital intensity of the company that will depend on the industry; companies that require large initial investments will generally have lower return on assets. Returns on assets of over 5% are generally considered good.

Return on assets is an indicator of how profitable a company is before gearing. Gearing is a measure of the extent to which a company uses loans or shareholders' funds (paid up shares and reserves) to finance its capital. It is one of the elements used in financial analysis using the Du Pont identity (see above).

Economic Value Added (EVA)

In corporate finance, Economic Value Added is an estimate of a firm's economic profit – being the value created in excess of the required return of the company's investors (being shareholders and debt holders). Economic value added is the profit earned by the firm less the cost of financing the company's capital. The idea is that value is created when the return on the firm's economic capital employed is greater than the cost of that capital. This amount can be determined by making adjustments to GAAP accounting. There are potentially over 160 adjustments that could be made but in practice only five or seven key ones are made, depending on the company and the industry it competes in.

Cash surplus value added (CSVA)

Cash surplus value added is a measure of business profitability defined as the earnings before interest, taxation, depreciation and amortisation (EBITDA) after tax generated by the business less its required return. The required return is an annuity based on the purchase price of the assets in use in the business, inflated to today's value of money, the weighted average cost of capital (WACC) and the economic life of the assets.

Cash surplus value added can also be expressed as an index, where the Cash surplus value added is divided by the required return. An index of more than 1.0 will indicate profitability while an index below 1.0 will indicate value reduction.

Assessment of Profitability in a Non-Profit making organisations

Ratios that are used to assess company profitability can also be useful to organisations that do not aim to maximise profits because they are still concerned to monitor their performance and achieve value for money.

An example would be a housing association.



The accounts of a housing association for 2011 and 2012 are summarised below:

	2011 £,000	2012 £,000
Income & Expenditure Account		
Turnover	15,260	15,486
Cost of Sales and Operating Costs	13,037	13,007
Operating Surplus	2,223	2,479
Surplus on assets sold	42	327
Interest receivable	8	6
Interest payable	1,959	2,285
Surplus	313	526
Balance Sheet		
Fixed Assets	54,954	61,513
Current Assets	4,935	4,334
Current Liabilities	562	1,438
Total assets less current liabilities	54,392	60,075
Long-Term creditors (loans)	47,024	52,185
Capital and reserves	7,367	7,890
Profitability Ratios		
Return on Capital Employed	4.1%	4.1%
Return on Equity	30.2%	31.4%
Gross Profit Margin	14.6%	16.0%
Net Profit Margin	2.1%	3.4%

The association's return on capital employed could be considered to be low in relation to most commercial enterprises and even in relation to yields on government bonds and savings accounts. However, the association has charitable objectives, rents out homes at below market rents, provides other services to communities and does not aim to make a surplus above that which is required to provide sufficient cash balances and to manage risk.

Return on equity could be considered to be high. This is caused by the use of long-term loans rather than capital and reserves to finance the association's assets.



Gross Profit margin and net profit margin both increased from 2011 to 2012. Net profit margin, in particular, could be considered to be low in relation to most commercial enterprises, but, as has been noted it is not the purpose of the association to maximise profits.

Nonetheless the ratios do provide information about the performance of the association.

Conclusions

The Chartered Institute of Public Finance & Accountancy has stated that:

"The usefulness of the figures shown in the statement of comprehensive income and expenditure is greatly enhanced by expressing profit as a percentage of revenue or capital employed, thereby allowing comparison with previous years and other organisations. In addition, these ratios provide an indication of how well an organisation controls its costs."

Adrian Waite February 2014

All You Want to Know about Budgets and Management Accounts

March 2014

Do you think that a working knowledge of budgets and management accounts in the public sector would put you and your colleagues in a position of advantage?

Whether you are a non-Financial Manager, a Local Councillor or Board Member or are otherwise involved or interested in budgets and financial management in the public sector or even a member of a Finance Team, you could benefit from attending our seminar and workshop.

This session comes at a time when all public bodies are concerned to improve financial management in the face of austerity, including developing financial awareness among Members and Non-Financial Managers. If you are to be involved in preparing, approving or managing budgets this session is especially timely.

What the Session covers:

- How to understand budgets and accounts?
- How are Budgets put together?
- How are Budgets managed, controlled and monitored?
- What can Management Accounts tell us?
- What opportunities are there to use Budgets and Management accounts to improve services?

This seminar and workshop is designed for people who are not experts in finance, but who need to understand the basics of budgeting and management accounts and achieve an overview of what is going on. It is suitable for non-financial managers, councillors, board members and others who realise that an understanding of budgeting and financial management can place them at an advantage!



The seminar will refer principally to local authorities and housing associations but will also be relevant to other public sector bodies.

The seminar and workshop is accompanied by a very useful book that is designed to be used for reference after the session, entitled:

"All You Want to Know about Budgets and Management Accounts"

We believe in quality rather than quantity and so numbers at each session are limited to twenty people to permit the maximum possible interaction and participation.

Venue and Date:

London: Novotel Hotel, Waterloo – 12th March 2014

About 'AWICS'

'AWICS' is a management consultancy and training company. We specialise in providing support in finance and management to clients in local government and housing in England, Scotland and Wales. We are well known for our ability to analyse and explain complex financial and management issues clearly.

Our mission statement is 'Independence, Integrity, Value'. We therefore provide support to clients from an independent standpoint that is designed to help the client to achieve their objectives. We are passionate about working with the utmost integrity. We believe that we offer the best value for money that is available today!

For more information about us and our services please visit our website at <u>www.awics.co.uk</u> or contact Adrian Waite at <u>Adrian.waite@awics.co.uk</u>

Services that we offer include:

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