FinanceTalking

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Understanding the Balance Sheet
US Edition - May 2015

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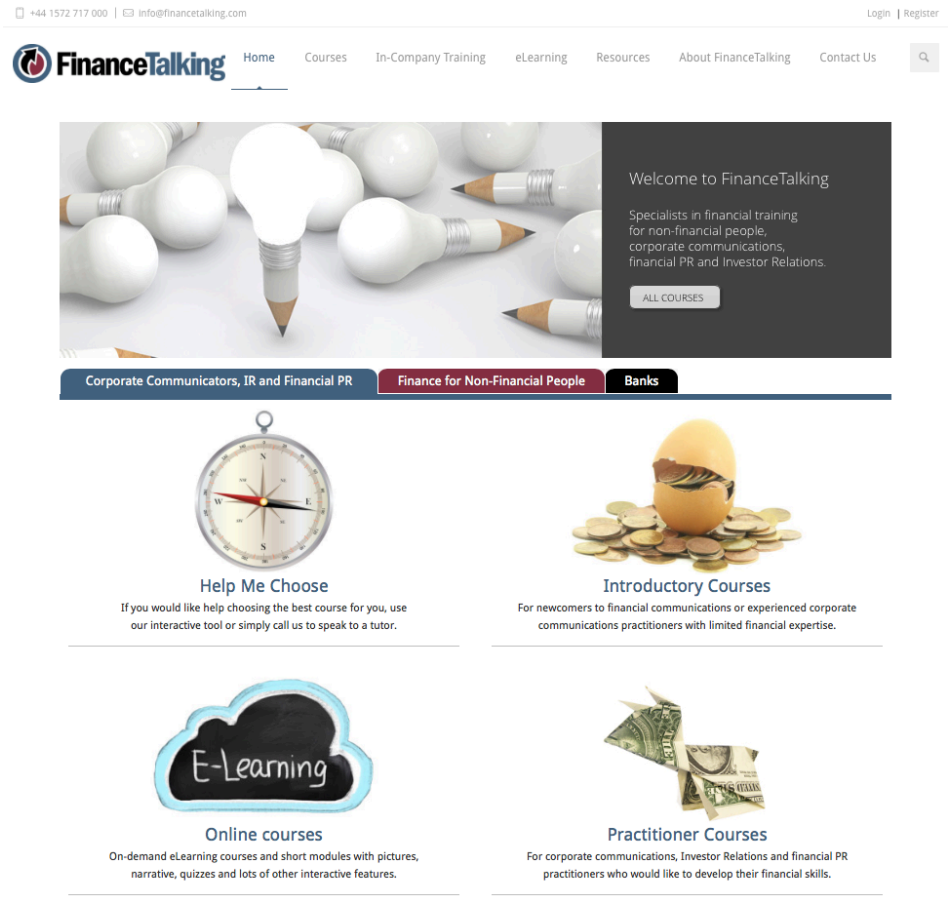

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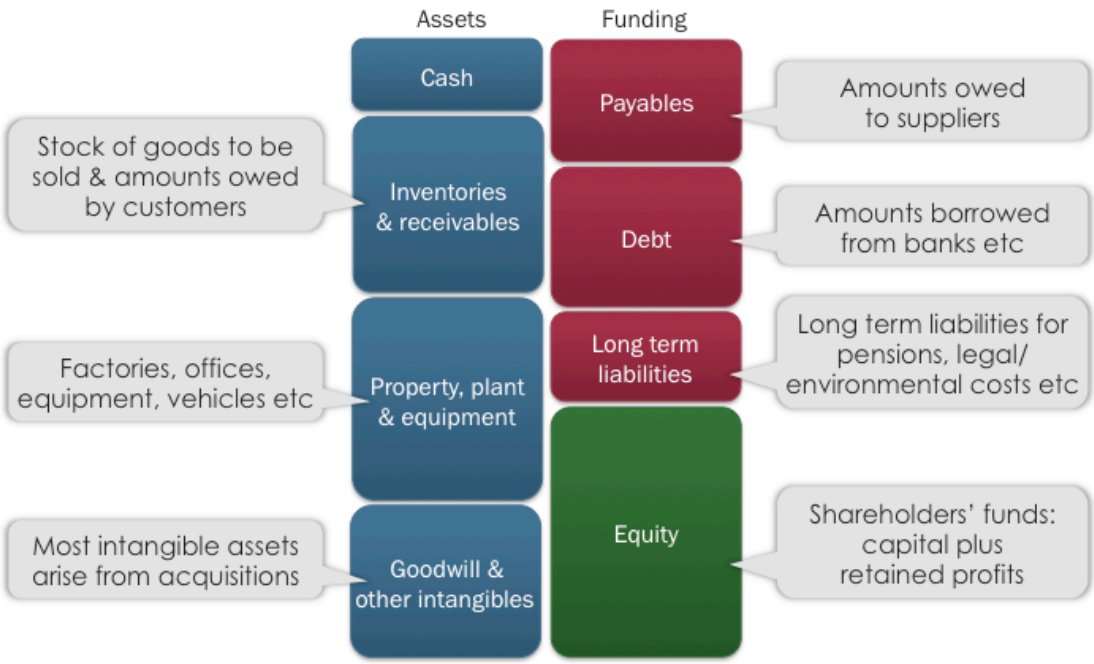
1 Introduction

The balance sheet (so called because it "balances") shows a snapshot at a point in time (e.g. the year-end) of where the company's funding came from and what it has been spent on. The balance sheet is also called a "statement of financial position".

For most companies, funding comes mainly from shareholders (equity) and banks (debt) and is spent on a mixture of current (short-term) and non-current (long-term) assets.

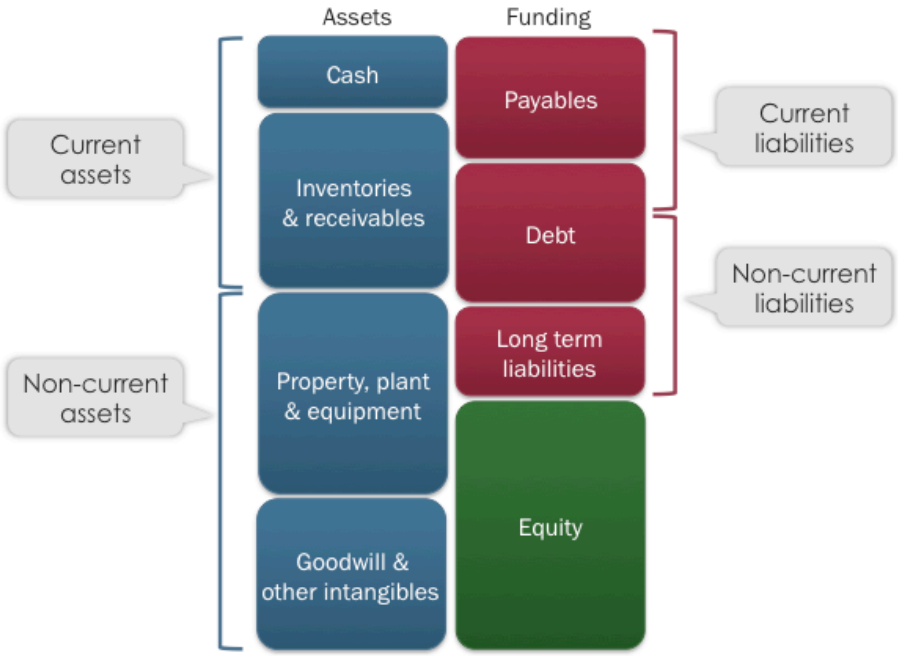
Below is a picture of a typical balance sheet showing the assets on the left and funding on the right.

Typical Balance Sheet



You can see that this company has a broad mixture of assets and is funded by a mixture of equity and debt. Funding also comes from payables (suppliers to whom the business owes money) and from long-term liabilities.

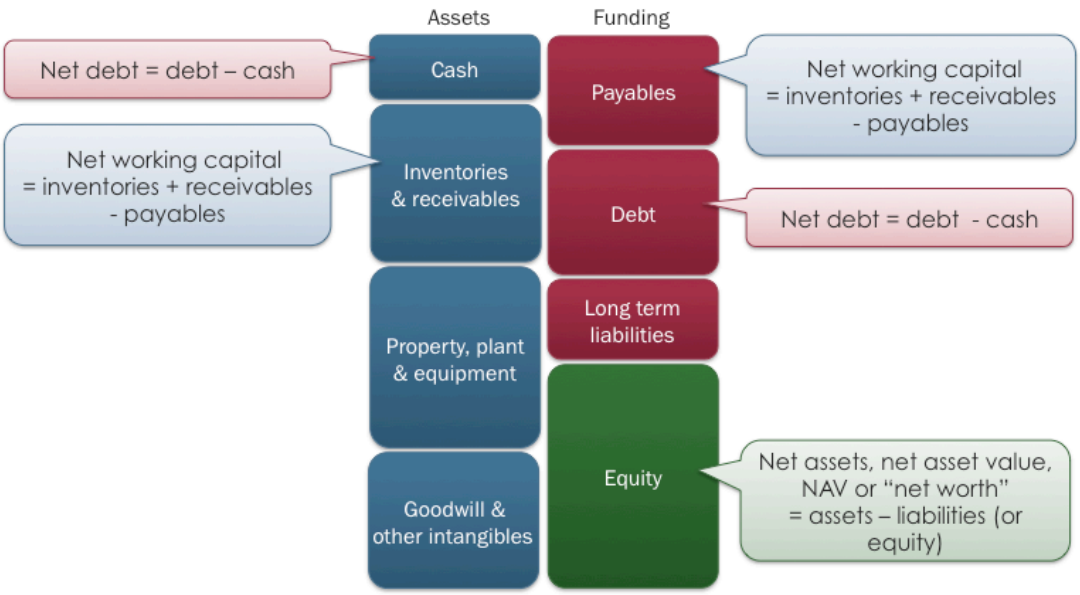
Current & Non-current Assets & Liabilities



Balance sheets identify items as "current", meaning for conversion into cash within one year or "non-current" as illustrated by the picture above. Here we have assumed that some of the debt falls due within a year and some due after more than one year.

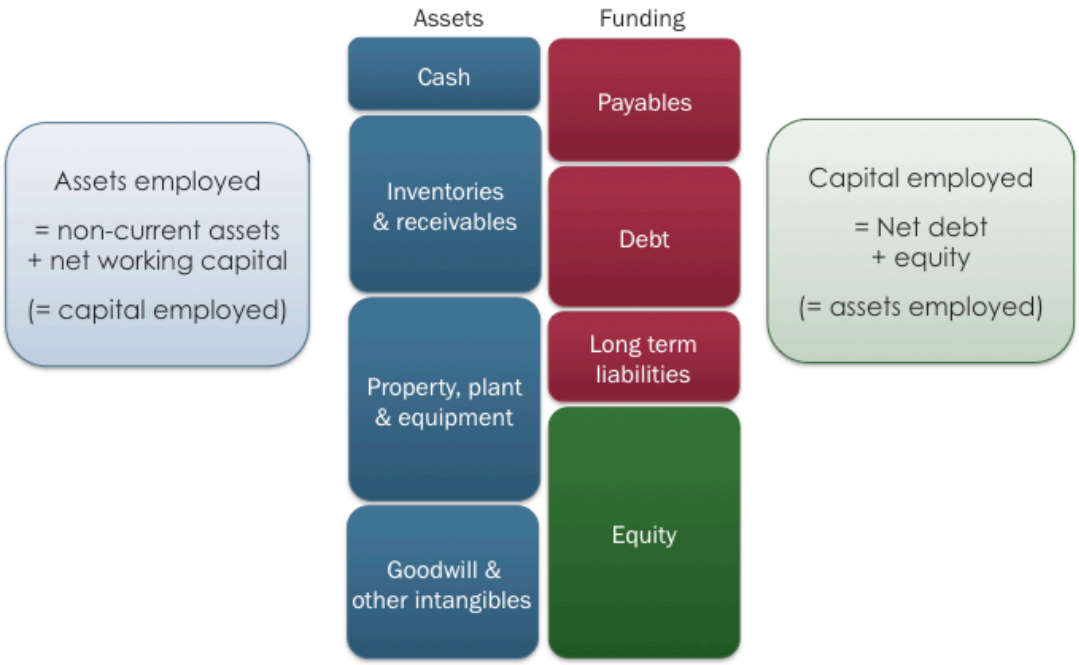
Discussions around the balance sheet often involve terms such as "net working capital", "net debt" and "net assets". The picture below shows how these items are defined.

Balance Sheet Jargon 1



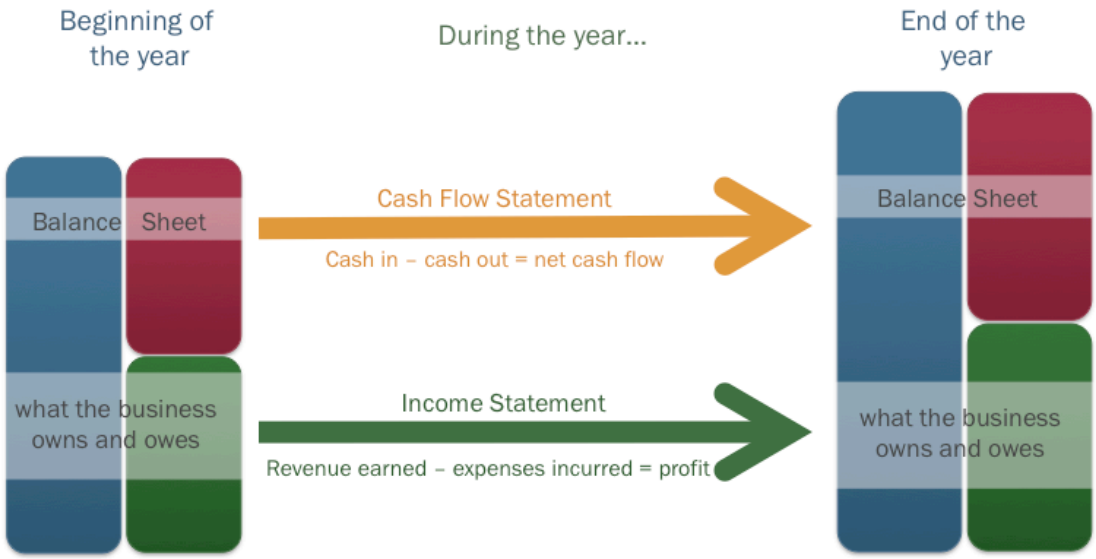
Management sometimes refers to assets or capital "employed" in the business. The picture below shows what this means. Of course, because the balance sheet balances, the capital employed will always be the same number as the assets employed.

Balance Sheet Jargon 2



Company annual reports will generally show two balance sheets – the year-end position (the "closing balance sheet") and the previous year-end position (in effect the "opening balance sheet").

Opening & Closing Balance Sheets



The opening balance sheet shows the financial position at the beginning of the period and the closing balance sheet shows the position at the end of the period. The two other financial statements – the income statement and the cash flow statement – show what happened during the period.

Although the balance sheet is a statement of assets and liabilities (what the business owns and owes), it does not show what the business is worth.

This is because:

- The balance sheet was not designed to be a valuation statement, but simply a historical statement of what the company spent its money on and to whom it still owes that money.
- The assets in the balance sheet are usually included at historical cost, rather than current valuation.
- The accounting model does not value many intangible assets, such as brands, know-how and talented individuals, especially if they have been created internally, rather than purchased.

2 Understanding the Balance Sheet Line by Line

2.1 Non-Current Assets

Non-current assets, "fixed assets" or "capital assets" are those assets that are not easily convertible into cash or not expected to become cash within the next year. They are assets used in the longer term by the business to assist with trading and to generate profits. Typically non-current assets include:

- **Goodwill** – Goodwill arises on acquisition of a business and represents the amount by which the purchase price ("consideration") for the target company exceeds the net assets of that company. It arises because the balance sheet is not a valuation statement. Goodwill is classified as an intangible asset but is shown separately on the face of the balance sheet.

  Companies are required to review goodwill annually for impairment. If the value of the future cash flows associated with the acquisition does not support the level of goodwill, then part of the goodwill must be written off (an impairment charge), reducing the value of the asset on the balance sheet and reducing profit (in the income statement).

  High goodwill impairment charges suggest that with hindsight, a company significantly overpaid for a previous acquisition or that the anticipated cost or revenue synergies have not been realised. This is a serious indictment of management's acquisition policy and will require a good explanation (particularly where the acquisitions were made by the incumbent management team).

  The situation becomes even more sensitive when two or more goodwill impairment charges arise in consecutive years for the same acquisition. This implies that, not only have management overpaid, but they failed to appreciate market trends or sector developments in their initial impairment review.

- **Other intangible assets** – These are assets that cannot be physically touched or seen. Examples include patents, licences, brands, customer lists, trademarks and software development. Such assets will generally appear on the balance sheet following an acquisition. Internally generated intangible assets, such as brands etc are not reflected, as they are usually created as a result of income statement expenses such as marketing or research (i.e. treated as expenses, rather than assets). The exception is software and other development investment (e.g. oil and gas exploration), which is capitalised (added to assets in the balance sheet).

- **Property, plant and equipment** – This category typically includes land and buildings, machinery, office equipment, fixtures and fittings and motor vehicles. These items are often referred to as tangible fixed assets or capital assets. The amount spent on new capital assets during the year is known as "capital expenditure" or "capex".

2.2 Current Assets

Current assets are any assets that are likely to convert to cash within the next 12 months. Typically current assets include:

- **Inventories** – stock of goods held for resale – raw materials, work-in-progress (WIP) and finished goods.
- **Trade and other receivables (trade debtors)** – the amounts owed by customers to the company as a result of trading and other transactions.
- **Cash and cash equivalents** – the total of all the company's cash, apart from deposits which have a maturity of greater than 3 months, which would be classified as "available for sale investments".

2.3 Current Liabilities

Current liabilities are amounts owed by the company and due to be paid within 12 months. Typically they include:

- **Overdrafts and short term borrowings** – the amounts outstanding on overdraft facilities or the amounts payable under loan facilities falling due in the next 12 months.
- **Trade payables (trade creditors)** – the amounts owed by the company to its suppliers as a result of trading transactions.
- **Tax liabilities** – tax payments falling due within the next 12 months.

2.4 Non-Current Liabilities

Non-current liabilities are amounts owed by the company and due after 12 months. They typically include:

- **Borrowings** - the amounts payable under long-term loan facilities and the amounts outstanding on corporate bonds (apart from current instalments, which would be included in current liabilities).
- **Retirement benefit obligations (pensions)** – Many companies have historically offered "defined benefit" pensions and other post-retirement benefits. This is where the company promises to pay employees a pension for life, based on their salary level at retirement. The company (and possibly the employee) contributes to a pension fund on a monthly basis and these contributions are invested.
- A pension liability arises where the pension obligation exceeds the present day value of the fund. If the present value of the fund is higher than the pension obligations, then a retirement benefit asset will be included in non-current assets. The valuation of defined benefit pension liabilities or assets is inherently difficult, given the long-term nature of the obligation, fluctuations in investment returns and changing assumptions on longevity. The balance sheet will simply show the position at a point in time, given a certain set of assumptions that may well turn out to be inaccurate. For this reason, pension valuations are often deal breakers in M&A situations.
- Some analysts classify retirement benefit obligations as debt. The argument is that the company effectively owes the pension fund and will at some stage have to make up the deficit.

- **Provisions** – Provisions are the estimated obligations that a company has at the end of the year to make future cash payments for a variety of past occurrences. A company makes provision for liabilities as soon as they arise, even if no cash will change hands for some time. For example, a mining company might have a legal obligation to restore the land once the resources have been extracted. However, the cost will not need to be paid in cash for a number of years. The company will need to make provision out of profits for this, which builds up as a liability in the balance sheet. Another example of a non-current provision might be for litigation. There may be similar provisions in current liabilities for items such as litigation, reorganisation and redundancies.
- **Deferred tax** – Often companies claim tax reliefs that result in tax payments being deferred for a number of years, or indefinitely. Similarly, a company might envisage claiming tax back in the future. Both of these scenarios would give rise to deferred tax, either as a non-current liability or a non-current asset.

2.5 Shareholders' Funds/Equity

Shareholders' equity represents the amounts invested in the company by the shareholders over the course of the company's life. Equity comprises both the capital paid in by shareholders when shares have been issued and the profits that have been retained and reinvested on their behalf over the years.

Typically the equity includes:

- **Share capital (or "capital stock")** – the share capital line contains just the "nominal value" of the shares, which is often the first issue price or a subdivision of the first issue price (eg £1, 10p or 5p). You will see shares quoted as say "5 pence ords". The 5 pence here refers to the nominal value – which has nothing at all to do with the market price (which is usually substantially higher). For example: If a company issues 100 million 5 pence ordinary shares at £1.00 the share capital account would rise by £5 million (100 million x 5 pence).
- **Share premium (or "additional paid in capital")** – In the example above, shares were issued at £1.00 and 5 pence per share was added into the share capital. The remaining 95 pence per share is referred to as share premium. The share premium line would therefore rise by £95 million (100 million x 95 pence).
- **Retained profit** - This reflects the cumulative profit reinvested back into the business on the shareholders' behalf (i.e. profits earned but not paid out by way of dividends).
- **Other reserves** – You may find various other reserves. These are usually historical and arise from some sort of capital reorganisation (on flotation for example).

2.6 Group or Company Balance Sheet?

The annual report sometimes contains two balance sheets:

- The consolidated or group balance sheet, which is the balance sheet of all the group companies added together, and
- The company balance sheet, which is the balance sheet of the holding company only.

We will be considering the group/consolidated balance sheet as this shows all the assets and liabilities under the control of the holding company.

3 Using the Balance Sheet

The balance sheet is useful for 3 main reasons:

1. It enables us to form a view as to what happened between the two balance sheet dates, by comparing the balances from one year-end to the next.

2. It shows us where the capital has come from and how it has been allocated. We can see the year-end levels of fixed assets and working capital, from which we can identify how capital and working capital intensive the business is and perhaps how efficient the company is. Companies that get into financial difficulties often first experience working capital problems – i.e. problems selling inventories or collecting money from customers.

3. It shows us the company's capital structure – i.e. whether it is predominantly financed by equity or by debt. This allows us to assess whether the capital structure is appropriate and judge the company's capital management strategy. For a company that is not making profits, it is useful to look at how much cash the company has on its balance sheet at the end of the year to see whether it is likely to be able to survive.

4 Reviewing the Balance Sheet for Key Changes

It is often useful to review the group, or consolidated balance sheet and see which balances have changed significantly between the two year-ends. Even with the notes to the accounts, you are unlikely to find all the answers, but the review can provide some useful clues as to what happened during the year and the issues currently faced by the company.

- Look at the non-current assets. Check for intangible assets - this is usually a sign that the company has made acquisitions. If goodwill has increased, then the company will have made an acquisition during the year. If goodwill has decreased then the company may have sold a subsidiary, or it may have taken a goodwill impairment charge (suggesting that a subsidiary is now worth less than it was on acquisition).
- A large increase in tangible fixed assets is likely to be due to acquisitions and/or heavy capital expenditure. Likewise, a large decrease is likely to be due to disposals. A small decrease is most likely to be due to depreciation being in excess of capital expenditure (suggesting that assets are not being replaced as fast as they are wearing out).
- Check the levels of inventories (stock) and receivables (debtors) in relation to sales to ensure that they are reasonable for the type of business. A large unexplained increase in inventories or receivables could suggest working capital problems.
- Does the company have a defined benefits pension deficit? If so, is the deficit getting better (smaller) or worse (larger)? Can the company afford to pay off the deficit?
- Has the company issued any shares recently? Small increases are likely to be share options being exercised. A larger increase is likely to be a capital raising exercise (to fund acquisitions for example). Look for a small increase in share capital and a larger increase in share premium.
- Has the company bought back any of its shares? Look for a reduction in share capital together with an increase in capital redemption reserve or treasury shares.

5 Analysing Efficiency

5.1 Fixed Assets/Non-Current Assets Turnover

A common measure of a company's efficiency is the fixed asset turnover ratio. The ratio divides revenue by property, plant and equipment. The rationale for the ratio is that it shows how much revenue is generated per unit of capital invested in fixed assets:

$$\frac{\text{Revenue}}{\text{Property, plant \& equipment}} = \text{x times}$$

There are, however, some limitations with this analysis:

- The ratio can appear to show efficiency, when in reality the company has been under-investing in the fixed assets (and the impact has yet to be seen in the revenue performance of the company).
- The ratio can imply that a company is becoming inefficient, when in reality it has entered a period or new business area requiring substantial capital investment in order to generate additional revenues in future years.

5.2 Capital Expenditure/Depreciation

For a capital-intensive business, analysts will evaluate the level of capex by comparing it to depreciation to get a sense of whether the assets are being replaced faster than the rate at which they are wearing out.

5.3 The Working Capital Cycle

Working capital comprises inventories (stock), trade receivables (debtors) and trade payables (creditors). Efficient management aims to minimise working capital and thereby capture a number of benefits:

- Reduce the risk of stock obsolescence
- Reduce the risk of bad debts (customers being unable or unwilling to pay)
- Benefit from 'free' supplier funding, within reasonable limits.

There are a number of ratios that you can use to measure the efficiency of the working capital cycle:

5.3.1 Inventories (Stock) Turnover

Inventories turnover measures revenue or cost of sales divided by inventories (stock). Alternatively the ratio can be reversed to show the number of days sales included in the current inventories balance.

$$\frac{\text{Revenue or cost of sales}}{\text{Inventories}} = \text{x times}$$

Or:

$$\frac{\text{Inventories}}{\text{Revenue or cost of sales}} \times 365 = \text{x days}$$

It is best to use cost of sales when looking at a comparison year on year within a single company and to use revenue when comparing companies across a sector (because different companies allocate different costs to "cost of sales" so you may not be comparing like with like).

5.3.2 Trade Receivables (Debtor) Collection

An important working capital issue for any company, but particularly for smaller companies, is the management of both the credit extended to it by suppliers and the amounts outstanding with customers. Companies will ideally offer less credit to customers than they can obtain from suppliers. Additionally it is important that the company carefully monitors the receivables/debtor balance to reduce the risk of bad debts, i.e. a customer being unable or unwilling to pay the amounts they owe.

The trade receivables balance may increase year on year and that in itself is not a cause for concern - if revenue is increasing then a company would expect to have more customer balances outstanding. The trade receivables collection ratio divides the revenue by the trade receivables or alternatively reverses the ratio and multiples by 365 days to demonstrate how many days sales are included within the year-end receivables balance.

$$\frac{\text{Revenue}}{\text{Receivables}} = \text{x times}$$

Or:

$$\frac{\text{Receivables}}{\text{Revenue}} \times 365 = \text{x days}$$

The ratio should be comparable to the company's terms of business - 30-60 days (6-12 times) is generally considered normal where credit is given.

5.4 Limitations of Ratio Analysis

An obvious limitation with all the working capital ratios is that they compare a figure built up over a long period of time (revenue/cost of sales) with a figure at a set point in time (inventories or receivables). The ratios may therefore be distorted by:

- Sales that are growing rapidly towards the year-end
- Acquisitions or disposals during the year
- Timing issues – e.g. a large stock delivery, large customer payment or large supplier payment either just before or after the year-end.

6 Analysing Funding

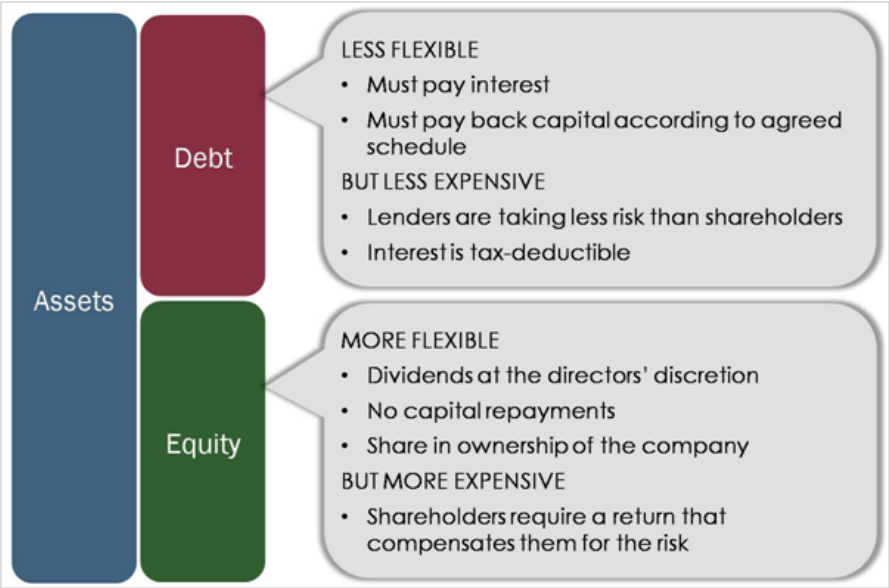
6.1 Introduction to Capital Structure

Companies need capital with which to operate and grow the business. Broadly, there is a choice. The capital can come from shareholders (new share issues or simply from retained profit) or it can come from lenders. Lenders will always require the owners of a business to commit their capital first, so in practice, companies are financed either entirely by equity or by a mixture of equity and debt.

In terms of life cycle, in the early stages of a company's life, when it may not be generating profits and may be consuming cash, equity is generally the most appropriate source of finance, being much more flexible – there are no capital repayments and dividends are at the directors' discretion.

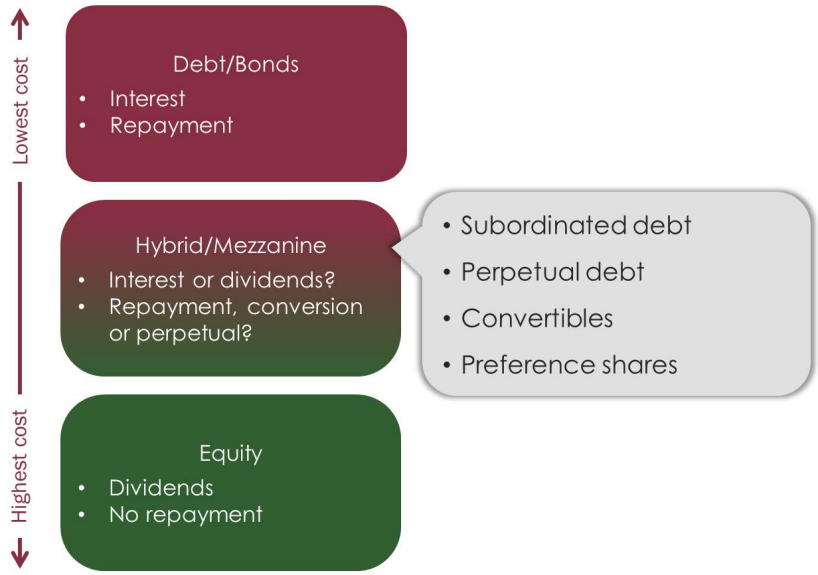
Later on, most companies will opt for a mix of equity and debt. Each source of capital has a cost associated with it and this is a key issue for companies to consider in determining a suitable capital structure.

Comparison of Equity and Debt Characteristics



6.1.1 Hybrid Capital

Sometimes companies issue instruments that fall between pure equity and pure debt – that is to say that they have some of the characteristics of each.
This type of capital is known as hybrid or mezzanine capital.



Hybrid capital includes:

- Subordinated debt – loans where the lender agrees that his right to interest and repayment is subordinated to other lenders (i.e. he ranks after other lenders if the company is wound up).
- Perpetual debt – loans that never have to be repaid (undated). Perpetual debt carries compulsory interest like debt, but is permanent capital, more like equity.
- Convertible debt – loans that convert into shares, usually at the option of the lender. If the debt is not converted, it must be repaid. The lender gets interest during the loan period and an opportunity to participate in the equity via the conversion rights.
- Preference shares – shares that take precedence over the ordinary shares both in terms of dividends and repayment of capital (in a winding up). Preference shares (prefs) generally carry a fixed rate of dividends and no voting rights. They are permanent capital, like shares, but unlike shares, give the investor a fixed return (so long as the company is profitable).

6.2 Introduction to Financial Leverage/Gearing

A company is said to be leveraged (or "geared") when the capital structure includes some debt. The term comes from the impact that debt has on the profits of the company.

6.2.1 How Leverage Affects Profits

The two companies below have identical businesses but different capital structures. The first is unleveraged or ungeared (it has no debt), whist the second is leveraged or geared (it has some debt).

Unleveraged	2012	2013	2014
Operating profit	200	400	100
Interest	-	-	-
Pre-tax profit	200	400	100
Tax @ 30%	-60	-120	-30
Earnings	140	280	70
EPS	0.093	0.187	0.047

Unleveraged financed by 1,500 1 shares

Leveraged	2012	2013	2014
Operating profit	200	400	100
Interest	-50	-50	-50
Pre-tax profit	150	350	50
Tax @ 30%	-45	-105	-15
Earnings	105	245	35
EPS	0.105	0.245	0.035

Leveraged financed by 1,000 1 shares and 500 10% loan

The leveraged company has higher earnings per share (EPS) in 2012 and 2013 than the unleveraged company because there are fewer shareholders (some of the funding having come from debt) and because the interest payments on the debt are deductible from profits for tax purposes (taking on an appropriate level of debt is therefore tax-efficient).

Notice how the operating profits double in both companies between 2012 and 2013. The EPS in the unleveraged company doubles but the leveraged company's EPS more than doubles.

This is because all the additional profits after tax belong to shareholders (the banks get the same amount of interest regardless of how the company does) – and there are fewer of them.

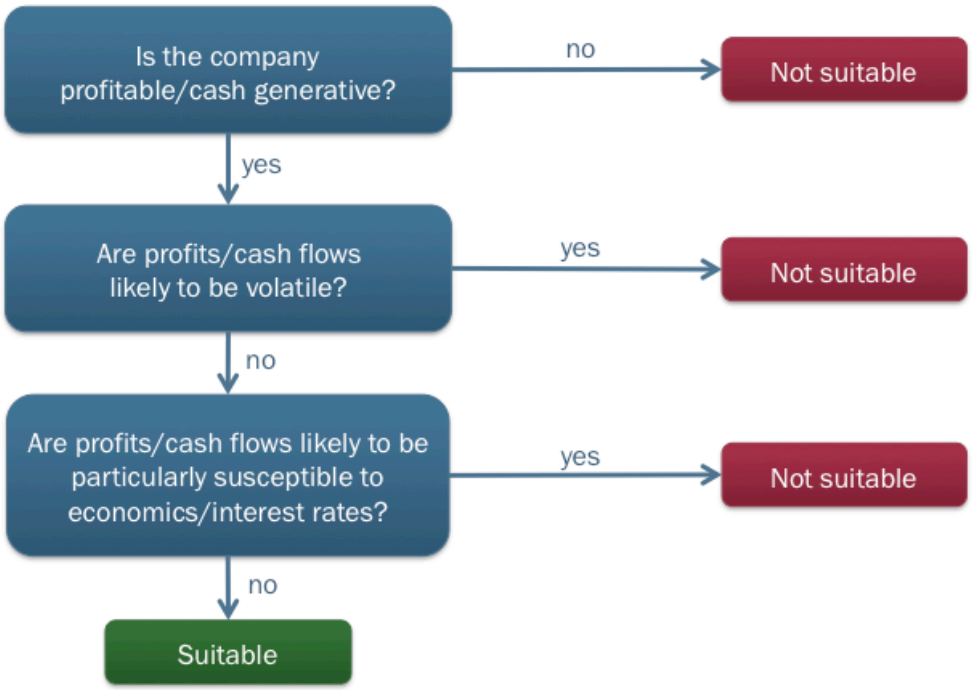
Notice that in 2014, the unleveraged company's EPS falls to a quarter of the 2013 level, in line with the fall in operating profits. In the leveraged company, the EPS falls by a greater proportion.

We can conclude that leverage exaggerates the impact of changes in operating profit – pushing profit for shareholders (and of course EPS) up in good years and down in bad years. Therefore, leverage creates profit volatility and so is associated with risk.

6.2.2 Assessing Suitability for High Leverage/Gearing

The flowchart below is a useful tool for understanding whether a particular sector or company is suitable for a high level of debt.

Assessing Suitability for High Financial Leverage



What Makes Profits Volatile?

Factors likely to affect the volatility of profits and cash flows include:

- Dependency - reliance on one large customer or supplier, one major product, one-off large contracts or a few talented individuals
- Exposure to commodities - susceptibility to changing raw material prices
- Cyclicality - high sensitivity to economic factors
- The level of competition in the sector and the company's pricing power
- Geographic/political issues
- Operational leverage - high sensitivity of profits to changes in revenue due to a high fixed cost base
- The weather or other factors.

Examples

- Oil companies are generally not suitable for high leverage because the oil price makes profits naturally volatile.
- House builders are generally not suitable for high leverage because they are extremely cyclical.
- Most service companies are generally not suitable for high leverage because they have high operational leverage (high fixed costs and therefore high profit sensitivity to small changes in sales volumes).

6.2.3 Calculating and Interpreting Leverage Ratios

The traditional leverage ratio compares the net debt with the equity (the total shareholders' funds). An alternative calculation is to compare net debt to net debt plus equity (total capital).

Typically commentators would regard leverage as low if it is below 50% on a net debt to equity basis (25% net debt to total capital) and high if it is approaching or exceeding 100% (50% or thereabouts net debt to total capital).

However, this ratio is dependent on the balance sheet, which often excludes the value of significant cash flow generating assets such as brands and other intellectual capital. It also says nothing about the ability of the company to service debt (i.e. pay the interest).

So alongside this traditional leverage ratio, you would need to look at interest cover – the amount of times the operating profit covers the net interest payable.

A better measure of leverage looks at net debt as a multiple of EBITDA (earnings before interest, tax, depreciation and amortisation). This ratio - which is commonly used in private equity and by credit rating agencies – is a bit like looking at your mortgage as a multiple of your salary. It measures how many years' worth of EBITDA (a rough approximation of operating cash flow) would be required to repay debt.

Leverage Ratios

$$\frac{\text{Net debt (loans – cash)}}{\text{Equity}} \times 100 = x\%$$

Conventional leverage ratio – only works well where the business is capital-intensive

$$\frac{\text{Net debt (loans – cash)}}{\text{Total capital (net debt + equity)}} \times 100 = x\%$$

$$\frac{\text{Net debt}}{\text{EBITDA}^{1}} = x \text{ times}$$

Often a better ratio – shows how many years it would take to repay debt from EBITDA

Interest Cover

$$\frac{\text{Operating profit (or EBITDA)}^{1}}{\text{Net interest payable}} = x \text{ times}$$

A safety feature – shows how many times a company could afford its interest payments from profits. Use EBITDA cover as an alternative

6.3 Where to Find Net Debt

Look at the group or consolidated balance sheet. First you will need to identify which of the liabilities are debt (loans or similar). Typically they will be referred to as "debt", "borrowings" or perhaps "loan notes", "bonds" or "overdrafts". Basically we are trying to identify any liabilities that are interest-bearing.

1 Adjusted operating profit (stripping out one-off items etc) will be most useful here as it will be more indicative of the situation on an on-going basis.

You should also look to see if the company has a pension deficit (look for "post retirement obligations" or "pension obligations") as this would be regarded by some analysts as similar to debt – i.e. the company has, in effect, borrowed from the pension fund (by making insufficient contributions or because investments have underperformed). You will find all these items under liabilities on the balance sheet. Remember to check both "current liabilities" and "non-current liabilities".

You can then offset any cash and short-term investments (under current assets) against the total debt to calculate the "net debt". You are simply assuming that any cash in the bank could be used to pay off loans. If the company's cash and short-term investments are higher than its debt, and there is a net cash position, then the company is unleveraged (ungeared).

6.3.1 The Optimum Mix of Equity and Debt

The optimum mix will depend on

- The sector and likely volatility of profits
- Where the company is in its life cycle - immature companies will tend to be financed by equity and mature companies with a higher proportion of debt. This is because profits and cash flows tend to be more predictable as the company matures.

The optimum mix is also impacted by the cost of capital and the argument for efficient balance sheets – see below.

6.4 Cost of Capital and Efficient Balance Sheets

6.4.1 Introduction to Cost of Capital

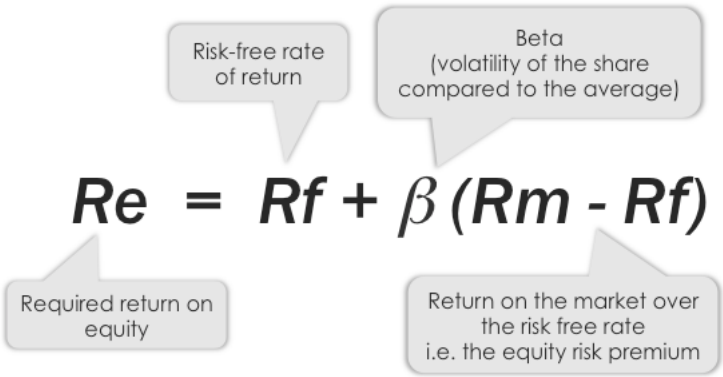
Each source of capital has a cost associated with it and this is one of the key issues for companies to consider in determining a suitable capital structure. So how do we determine that cost?

The cost of debt is obviously the interest rate that the company is required to pay by its lenders. Interest is a tax-deductible expense for a company, so the after tax cost is lower than the stated interest rate and this is often referred to as a tax shield. In an environment where government bond yields are around 4 or 5%, and lenders require 1-2% on top of this for corporate risk, this gives an after tax cost of debt of around 4-6%.

The cash cost of equity is the dividend, which is relatively low, the average dividend yield being around 3% historically. So if a company does not pay dividends then does this mean that equity is free capital? Clearly this cannot be the case. If equity investors didn't anticipate a return on their investment, they would not invest. The cost of equity must be seen as the return that the investors expect. It is not a cash cost, but rather an opportunity cost, representing the return that the investors are passing up by making an investment – the return that they could get from an alternative investment with similar risk characteristics.

So how do we estimate this opportunity cost? The method most commonly used in the financial markets is the Capital Asset Pricing Model (CAPM).

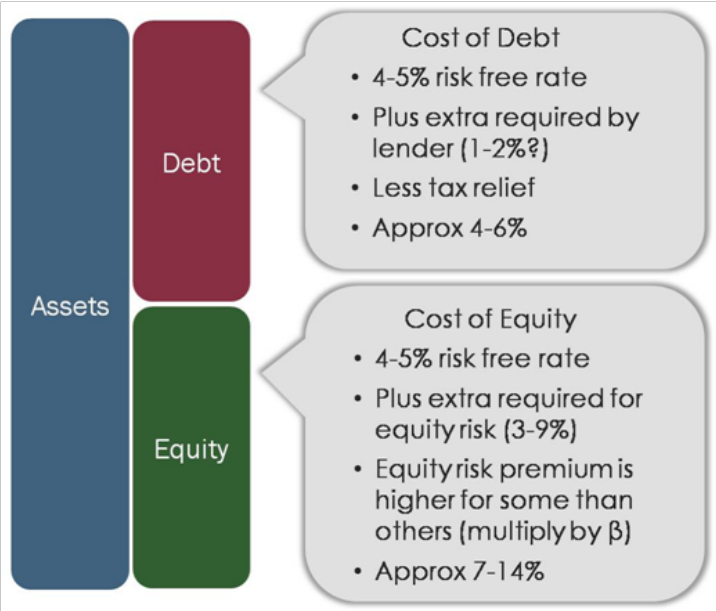
The Capital Asset Pricing Model (CAPM)



This model is very intuitive. It states that investors in shares are likely to require at least what they can get from a risk free investment, such as putting their money into government bonds – so at least 4 or 5% in normal markets (in current conditions, risk-free rates are significantly lower than this). On top of this, shareholders expect a premium for the extra risk of investing in shares – an equity risk premium. Recent history suggests that 3-6% might be reasonable.

So in general terms, the expected return on shares or the cost of equity capital is around 7-11%. CAPM refines this a little further by stating that some companies will be inherently more risky than others. For more risky companies, shareholders might expect a higher risk premium, whilst for less risky companies, the risk premium might be lower. The model uses a measure of risk (volatility) called beta (□) to adjust the equity risk premium up or down.

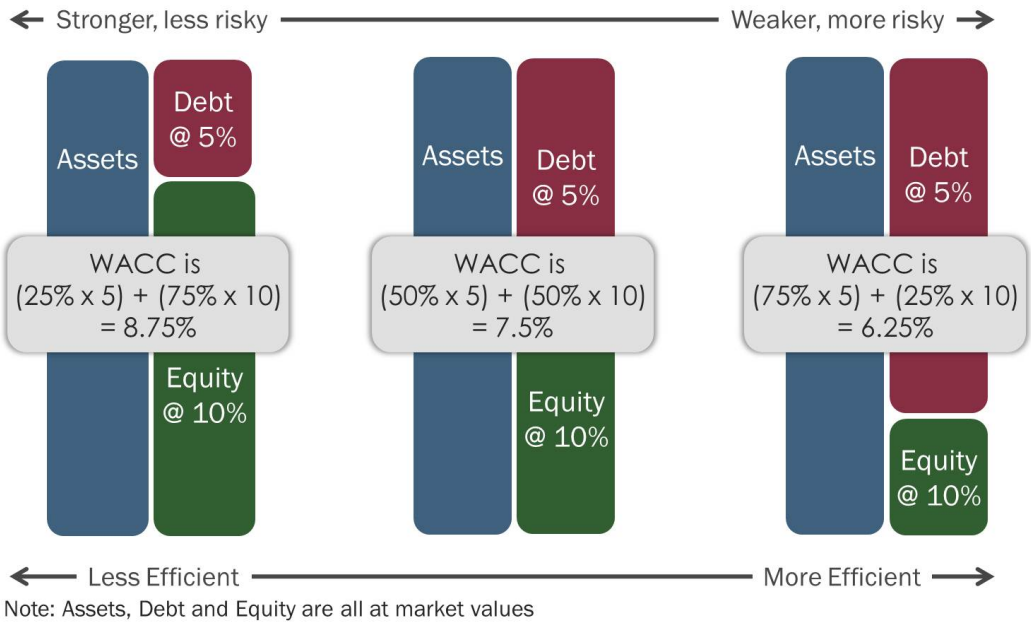
Estimating Cost of Capital



6.4.2 Weighted Average Cost of Capital

Now that we have calculated the cost of debt and estimated the cost of equity using CAPM, we can estimate a company's weighted average cost of capital (WACC). In very simple terms, if a company is financed half by equity costing 10% and half by debt costing 5%, then its weighted average cost of capital would be bang in the middle at 7.5%.

WACC Calculations



Note: Assets, Debt and Equity are all at market values

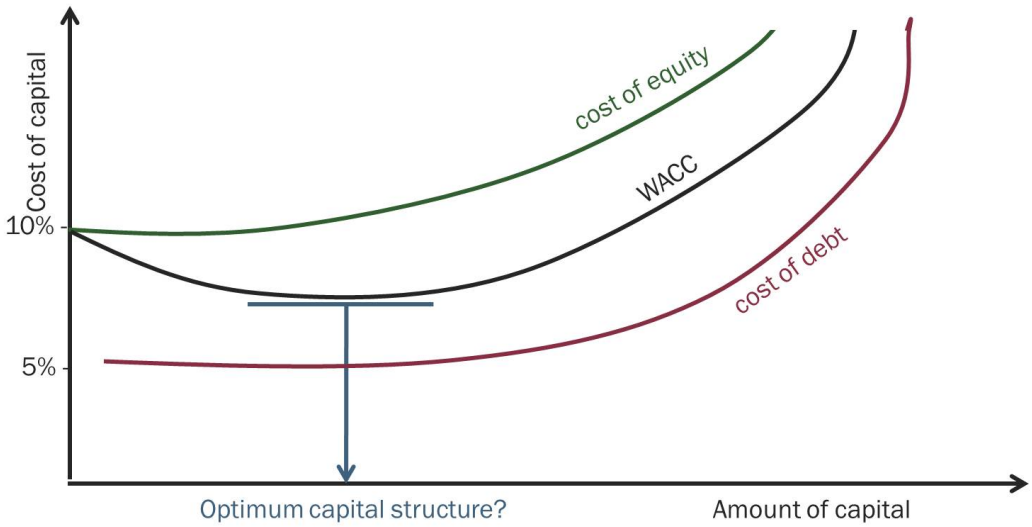
The picture above implies that as a company takes on debt, the weighted average cost of capital falls. However, this is too simplistic. As the company takes on debt, the shareholders may well perceive more risk. This in turn will raise their expectation of return – meaning that the cost of equity will increase. And this may well then increase the WACC.

6.4.3 How WACC Really Behaves

The following graph illustrates the point. In normal market conditions, a company can take on a reasonable amount of debt at a relatively low cost. However, as gearing/leverage increases, the cost of debt will rise as lenders perceive more risk. The shareholders may not perceive much increased risk with a low level of leverage, but at some point the cost of equity will rise to reflect the additional risk for shareholders.

WACC will therefore reduce as the company takes on debt, but only up to a point. Thereafter, WACC will rise again. Efficient balance sheet theory suggests that all companies should attempt to minimise their WACC – and this is what dictates the optimum capital structure.

The Optimum Capital Structure



However, this theory is only valid at a point in time. If market conditions change very rapidly, as they did in the financial crisis, this can impact on both the business, reducing the normal level of profits and cash flows (and therefore reducing the acceptable level of leverage) and on the cost of capital because suddenly investors perceive more risk.

We can conclude that the optimum capital structure will vary from company to company and will depend to some degree on market conditions. It will be up to each company to justify its views to investors.

6.4.4 Conclusion

- Companies should be ready to explain and justify their capital structure.
- In the run-up to the financial crisis of 2008-9, companies were being encouraged by their investors to gear up in pursuit of the efficient balance sheet with the lowest weighted average cost of capital. If companies did not take action to increase debt (by buying back shares or paying large dividends for example), private equity firms would often do the job for them, buying out the company and leverage/gear it up.
- The financial crisis showed capital structures in some sectors to be excessively risky.
- However, leverage/gearing into recovery is tempting as it magnifies the positive recovery effect for shareholders and the extended period of low interest rates has meant that many corporates have been able to borrow extremely cheaply over the last few years.

7 Analysing Walmart's Balance Sheet

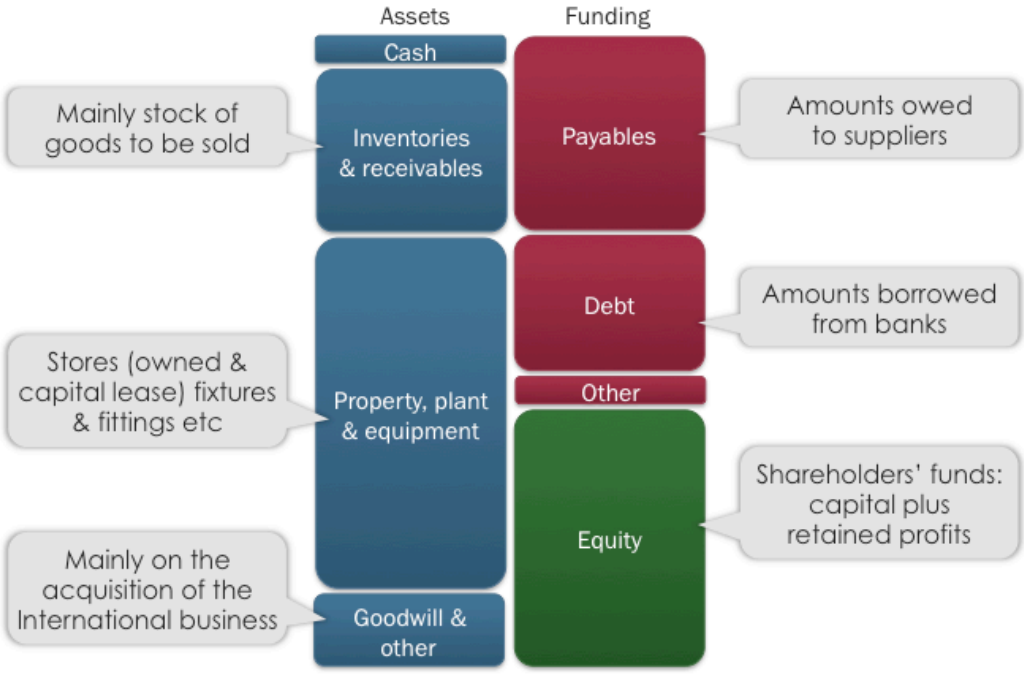
7.1 Overview of Walmart's Balance Sheet

Below is an example balance sheet for the retailer Walmart. First you will see it in coloured bars and then as published in the 2015 annual report.

You can see that the shape is different from our example earlier.

- The majority of investment has gone into property, plant and equipment (stores etc.)
- There is goodwill, suggesting that the group has made acquisitions
- Amounts owed to suppliers (payables) are higher than inventories and receivables combined – i.e. the group has negative working capital. This is because Walmart is a cash business (with extremely low receivables) with relatively low inventories (much of the inventory is perishable and turns over extremely quickly).
- The majority of funding comes from equity – i.e. the balance sheet is strong.

Walmart's Balance Sheet at January 2015



The detailed balance sheet below is in a typically US format, with the top half showing total assets, and the bottom half of the balance sheet showing total liabilities and equity or shareholders' funds.

You can think of this balance sheet as the total assets of $203.7bn are funded by current liabilities of $65.3bn plus non-current liabilities of $52.5bn plus equity of $85.9bn.

You might also see a balance sheet drawn up in the UK format, with the top half showing total assets less total liabilities to give net assets, and the bottom half of the balance sheet showing equity or shareholders' funds.

Walmart's Consolidated Balance Sheet from 2015 Annual Report

	As of January 31,	
(Amounts in millions)	**2015**	2014
ASSETS		
Current assets:		
Cash and cash equivalents	**$ 9,135**	$ 7,281
Receivables, net	**6,778**	6,677
Inventories	**45,141**	44,858
Prepaid expenses and other	**2,224**	1,909
Current assets of discontinued operations	**—**	460
Total current assets	**63,278**	61,185
Property and equipment:		
Property and equipment	**177,395**	173,089
Less accumulated depreciation	**(63,115)**	(57,725)
Property and equipment, net	**114,280**	115,364
Property under capital leases:		
Property under capital leases	**5,239**	5,589
Less accumulated amortization	**(2,864)**	(3,046)
Property under capital leases, net	**2,375**	2,543
Goodwill	**18,102**	19,510
Other assets and deferred charges	**5,671**	6,149
Total assets	**$203,706**	$204,751
LIABILITIES, REDEEMABLE NONCONTROLLING INTEREST, AND EQUITY		
Current liabilities:		
Short-term borrowings	**$ 1,592**	$ 7,670
Accounts payable	**38,410**	37,415
Accrued liabilities	**19,152**	18,793
Accrued income taxes	**1,021**	966
Long-term debt due within one year	**4,810**	4,103
Obligations under capital leases due within one year	**287**	309
Current liabilities of discontinued operations	**—**	89
Total current liabilities	**65,272**	69,345
Long-term debt	**41,086**	41,771
Long-term obligations under capital leases	**2,606**	2,788
Deferred income taxes and other	**8,805**	8,017
Redeemable noncontrolling interest	**—**	1,491
Commitments and contingencies		
Equity:		
Common stock	**323**	323
Capital in excess of par value	**2,462**	2,362
Retained earnings	**85,777**	76,566
Accumulated other comprehensive income (loss)	**(7,168)**	(2,996)
Total Walmart shareholders' equity	**81,394**	76,255
Nonredeemable noncontrolling interest	**4,543**	5,084
Total equity	**85,937**	81,339
Total liabilities, redeemable noncontrolling interest, and equity	**$203,706**	$204,751

7.2 Reviewing Walmart's Balance Sheet for Key Changes

Non-current assets in total have fallen slightly. You can see that the value of both owned and leased property, plant and equipment has fallen, because investment in new stores etc. is lower than the depreciation amount and there have been disposals of leased stores. Although the book value of stores has fallen, the actual number of units increased in 2015. The five year summary in the annual report shows units increased from 10,942 to 11,453 in 2015.

Inventories and payables were slightly higher in 2015 than 2014, which is consistent with more units.

Goodwill fell from $19.5bn to $18.1bn in 2015. This might indicate a business disposal or an impairment during the year. The note in the annual report actually shows a very small increase as a result of insignificant acquisitions, offset by a reduction in the international business goodwill due to changes in exchange rates.

A review of the equity part of the balance sheet shows more shares in 2015 than 2014 (common stock plus capital in excess of par value). A note in the annual report reveals that this was due to the issue of shares as part of the company's stock incentive plan which was more than the reduction in shares from the share repurchase programme. Retained earnings increased because the group made a profit. Other reserves changed mainly because of the change in currency exchange rates.

7.3 Analysing Walmart's Efficiency

Extract from Walmart's Income Statement

(Amounts in millions, except per share data)	Fiscal Years Ended January 31, 2015	2014	2013
Revenues:			
Net sales	**$482,229**	$473,076	$465,604
Membership and other income	**3,422**	3,218	3,047
Total revenues	**485,651**	476,294	468,651
Costs and expenses:			
Cost of sales	**365,086**	358,069	352,297
Operating, selling, general and administrative expenses	**93,418**	91,353	88,629
Operating income	**27,147**	26,872	27,725

Extract from Walmart's Balance Sheet

(Amounts in millions)	As of January 31, 2015	2014
ASSETS		
Current assets:		
Cash and cash equivalents	**$ 9,135**	$ 7,281
Receivables, net	**6,778**	6,677
Inventories	**45,141**	44,858
Prepaid expenses and other	**2,224**	1,909
Current assets of discontinued operations	**—**	460
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Property under capital leases, net	**2,375**	2,543
Goodwill	**18,102**	19,510
Other assets and deferred charges	**5,671**	6,149
Total assets	**$203,706**	$204,751

7.3.1 Fixed Asset Efficiency

Fixed asset turnover (revenue/PP&E):

2015

$$\frac{482,229}{(114,280 + 2,375)} = \$4.13$$

2014

$$\frac{473,076}{(115,364 + 2,543)} = \$4.01$$

Walmart generated approximately $4.13 of revenue per $ of PP&E during 2015, higher than the previous year, implying that Walmart is using its assets more efficiently.

With this calculation, we are comparing the revenue from all properties with the value of stores owned or leased long-term (i.e. on the balance sheet). If there are a significant number of rented stores (which are not on the balance sheet), this will distort the ratio and impair comparability.

The retail industry therefore tends to use a slightly different measure of asset efficiency – "sales intensity" or sales per square foot of selling space per week.

Walmart discloses store space in its annual report below. Comparing revenue to the number of units and square footage used, gives us a better metric. We can see that Walmart is not, in fact, growing sales in line with the increased capacity, i.e. it is less efficient.

Extract from Walmart's 2015 Annual Report

(Amounts in millions, except unit counts)	Fiscal Years Ended January 31, 2015	2014	2013
Total revenues	$485,651	$476,294	$468,651
Percentage change from comparable period	2.0%	1.6%	5.0%
Net sales	$482,229	$473,076	$465,604
Percentage change from comparable period	1.9%	1.6%	5.0%
Total U.S. calendar comparable store and club sales increase (decrease)	0.5%	(0.5)%	2.4%
Gross profit margin as a percentage of net sales	24.3%	24.3%	24.3%
Operating income	$ 27,147	$ 26,872	$ 27,725
Operating income as a percentage of net sales	5.6%	5.7%	6.0%
Income from continuing operations	$ 16,814	$ 16,551	$ 17,704
Unit counts at period end	11,453	10,942	10,408
Retail square feet at period end	1,135	1,101	1,070

- 2015 revenue grew by 1.9%
- However, comparable store sales (i.e. from the same amount of space in both years) only increased by 0.5%, implying that stores were, on average, less productive

- Number of units increased 4.7% from 10,942 to 11,453
- Floor space grew by 3.1% to 1,135 million square feet

7.3.2 Working Capital Efficiency

Inventories turnover (cost of sales/inventories or inventories/cost of sales x 365)

2015		2014	
$\frac{365,086}{45,141}$	= 8.1 x	$\frac{358,069}{44,858}$	= 8.0 x
$\frac{45,141}{365,086}$ x 365	= 45.1 days	$\frac{44,858}{358,069}$ x 365	= 45.7 days

Walmart has approximately 45 days worth of inventories at the year-end. This seems reasonable, given the mix of food and non-food items. The ratio appears to have worsened very slightly in 2015, but this could also reflect the impact of new store openings and/or the mix of food and non-food.

Walmart has extremely low trade receivables, being a cash business, so the receivables collection ratios would not be meaningful.

7.4 Analysing Walmart's Funding

Identifying Walmart's Net Debt

(Amounts in millions)	As of January 31, 2015	2014
ASSETS		
Current assets:		
Cash and cash equivalents	$ 9,135	$ 7,281
Receivables, net	6,778	6,677
Inventories	45,141	44,858
Prepaid expenses and other	2,224	1,909
Current assets of discontinued operations	—	460
Total current assets	63,278	61,185
Property and equipment:		
Property and equipment	177,395	173,089
Less accumulated depreciation	(63,115)	(57,725)
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Property under capital leases:		
Property under capital leases	5,239	5,589
Less accumulated amortization	(2,864)	(3,046)
Property under capital leases, net	2,375	2,543
Goodwill	18,102	19,510
Other assets and deferred charges	5,671	6,149
Total assets	$203,706	$204,751
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Total current liabilities	65,272	69,345
Long-term debt	41,086	41,771
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Deferred income taxes and other	8,805	8,017
Redeemable noncontrolling interest	—	1,491
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Total Walmart shareholders' equity	81,394	76,255
Nonredeemable noncontrolling interest	4,543	5,084
Total equity	85,937	81,339
Total liabilities, redeemable noncontrolling interest, and equity	$203,706	$204,751

Here you can see that we've highlighted cash in blue, borrowings (debt) in red and equity in green.

	2015	2014
Net debt:		
	1,592 + 4,810 + 287 + 41,086 + 2,606 – 9,135 = $41,246m	7,670 + 4,103 + 309 + 41,771 + 2,788 – 7,281 = $49,360m
Net debt/total capital:		
	$\frac{41,246}{(41,246 + 85,937)} \times 100 = 32.4\%$	$\frac{49,360}{(49,360 + 81,339)} \times 100 = 37.8\%$

Walmart measures its leverage ratio slightly differently as debt-to-total capitalisation. Here, debt is defined as the sum of short-term borrowings, long-term debt due within one year, obligations under capital leases due within one year, long-term debt and long-term obligations under capital leases (i.e. it is gross of cash, rather than net). Total capitalisation is defined as debt plus total Walmart shareholders' equity (rather than total equity).

Debt:		
	1,592 + 4,810 + 287 + 41,086 + 2,606 = $50,381m	7,670 + 4,103 + 309 + 41,771 + 2,788 = $56,641m
Debt/total capitalisation:		
	$\frac{50,381}{(50,381 + 81,394)} \times 100 = 38.2\%$	$\frac{56,641}{(56,641 + 76,255)} \times 100 = 42.6\%$

Walmart comments "The decrease in our debt-to-total capitalization ratio was the result of using less cash for share repurchases and capital expenditures during fiscal 2015, which allowed us to minimize our short-term borrowings at January 31, 2015. The reduced share repurchases also resulted in increased growth in retained earnings. These impacts were partially offset by additional currency translation losses recorded in accumulated other comprehensive income (loss)."

Walmart's leverage looks low (i.e. it has a conservative balance sheet). We can confirm this by looking at interest cover – the amount of times operating profit covers the net interest payable, to give us a sense of how affordable the debt servicing cost is:

Extract from Walmart's Income Statement

(Amounts in millions, except per share data)	Fiscal Years Ended January 31, 2015	2014	2013
Revenues:			
Net sales	**$482,229**	$473,076	$465,604
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Costs and expenses:			
Cost of sales	**365,086**	358,069	352,297
Operating, selling, general and administrative expenses	**93,418**	91,353	88,629
Operating income	**27,147**	26,872	27,725
Interest:			
Debt	**2,161**	2,072	1,977
Capital leases	**300**	263	272
Interest income	**(113)**	(119)	(186)
Interest, net	**2,348**	2,216	2,063
Income from continuing operations before income taxes	**24,799**	24,656	25,662
Provision for income taxes:			

7.4.1 Interest Cover

Operating profit/net interest payable

2015

$$\frac{27,147}{2,348} = 11.6 \text{ x}$$

2014

$$\frac{26,872}{2,216} = 12.1 \text{ x}$$

Interest cover is very strong at 11.6 times for 2015. Cover has decreased due to the improvement in profits.

There are a number of additional leverage ratios typically be used by credit ratings agencies and/or in debt covenants to assess financial strength in the retail sector:

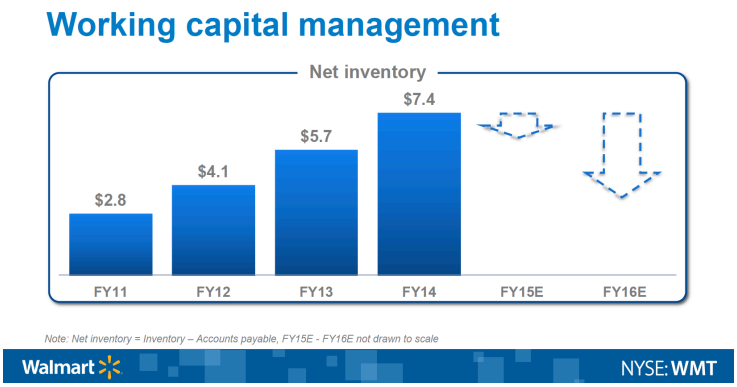
- Adjusted net debt to EBITDAR is net debt plus the capital value of leased properties divided by underlying EBITDAR (earnings before interest, tax, depreciation, amortisation and rent – "rent-adjusted EBITDA"). This is a useful calculation in the retail sector where some properties are owned and others are leased, but where the lease payments are medium-term obligations. It shows how many years' worth of cash flows before rent would be required to repay all debt (including lease obligations).
- "Adjusted" or "underlying" EBITDA and EBITDAR are based on profit excluding non-trading or one-off items (e.g. property gains and losses and changes to the pension scheme).
- Fixed charge cover is underlying EBITDAR divided by net rent and underlying net finance costs – it is similar in concept to interest cover, but includes rent (shows how many times the cash flows covered rent and interest expenses).

7.5 Summary

In summary, Walmart's balance sheet is reasonably strong and both capital assets and working capital appear to be well controlled.

Walmart's CFO comments that there is room for improvement in the supply chain as you can see from the quote and chart below from Walmart's 2014 Investor Update.

"Working capital management remains a very high priority for us and should make a meaningful difference as we look to the future for our cash flow. Over the last four years, we've given up over $4 billion in working capital just through inventory growing at a faster rate than payables….. a large portion is attributable to opportunities we have to better manage our supply chain".



8 Analysts' Views on the Balance Sheet

Analysts use the balance sheet to assess:

- Whether the company has the appropriate infrastructure (property, plant and equipment and working capital) and is it making the appropriate investment to deliver on its strategy?
- How much financial risk there is in the business – i.e. is the business geared/leveraged and if so is the level appropriate?
- How well capital is being allocated – i.e. is the asset utilisation efficient?

A review of the balance sheet will also give analysts a view on whether existing funding is sufficient to support the business over the coming years and whether the company is likely to need to raise further capital.

Analysts also need to be able to forecast the balance sheet as part of the process of valuing the company. In order to forecast the income statement below operating profit, analysts need to know what the capital structure is likely to be so that they can forecast net interest. Forecasting the balance sheet will enable them to get a feel for how net debt is likely to develop. Ratios that relate income statement items to balance sheet items (such as the working capital ratios) are often used here – and it is worth noting that analysts will tend to assume that established trends will continue unless they are told otherwise.

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