

Fundamental Analysis

This mini course was written some years ago, but is very relevant to today. The data used to illustrate the text are now somewhat dated, but still relevant for the present purpose of teaching a technique.

In *The Intelligent Investor*, Benjamin Graham lays out his framework for assessing whether a stock is likely to meet his requirement that it has a sound long-term record of results and is priced such that it represents a “margin of safety”. These are his general requirements:

- Adequate size of the company
- Sufficiently strong financial condition
- Earnings stability
- Dividend record
- Earnings growth
- Moderate price/earnings ratio
- Moderate price to assets ratio

I am going to use these headings to show you just how easy it is to identify the companies a value investor or a growth investor will be looking for using fundamental analysis. The only area where they will probably differ is in the last three points, which focus on growth and value. Growth investors will be far more demanding of earnings growth, but more relaxed on the ratios representing value for money.

Adequate Size of the Company

It is important to understand that all companies listed on the stock exchange are not the same size. The range available for investment varies from giant multi-national companies, worth many billions of dollars down to extremely small companies, worth only a few million dollars.

With the exception of the odd high-profile corporate failure, it is possible to generalise that the larger the company the less likely it is to go belly-up, at least in the short term. However, small companies can fail very quickly, often without shareholders getting much or any warning.

This leads many investors to only ever invest in the largest companies – the so-called “blue chips”. Such a policy is only appropriate for the most conservative investors, for whom safety of capital is far more important than return. I think it is generally accepted that better returns are available from investing in a range of companies, provided they are of reasonable size, without unduly increasing risk.

The size of a company can be measured in several different ways. The most convenient way is to use its market capitalisation. If we take the number of shares the company has issued and multiply by the current market price, we have the total market value of the company, called its market capitalisation. For example, if a company that has issued 10 million shares, that are trading at \$2 each on the market, it has a market capitalisation of \$20 million

Reasonably conservative investors should be comfortable with sound companies that they find in the “top 300” list for the Australian Stock Exchange. “Top 300” refers to their capitalisation. When I last checked it, the cut-off for the smallest company in the “top 300” was about \$100 million.

More aggressive investors might seek to extend their portfolios to include smaller companies than this, especially if they are following a value approach. Consider a former “top 300” company, that has lost favour with the market for whatever reason. It might easily have halved in price as it dropped off the “top 300” list. In rough terms that might mean it now had a capitalisation of only \$50 million. So, with a view to buying sound companies that have become cheap, such an investor might consider companies with a capitalisation as low as \$40-50 million.

Even more aggressive investors who have a good knowledge of what they are doing might extend the pool of companies they regard as being of reasonable size to even smaller companies than this. However, in doing so, they may require the other factors we are going to look at to be very strong.

Sufficiently Strong Financial Condition

When a company is conservatively financed, it is less likely to fail than one that is more aggressively financed. Businesses fail when they cannot pay their debts when they fall due. In other words, they run out of cash. So, what we want to look at here is whether the company seems to have the ability to pay its debts.

We need to look at this in two ways:

- In the short term, which means establishing that the company has enough working capital to meet its day-to-day operations.
- In the longer term, which means establishing that the company is not too highly geared. High gearing equates to high financial risk. High gearing means that debt is very large in relation to equity, or the capital subscribed by shareholders (including reserves and retained earnings).

The reason that high gearing implies high financial risk is best understood using a simple example:

A highly geared business may be financed like this:

Shareholders funds	\$10 million
Debt	<u>\$50 million</u>
Total capital	\$60 million

If the company makes \$15 million profit (after interest on the debt), then the return on shareholders funds is 150%. If the whole \$60 million capital had been contributed by shareholders, then the return would have only been 25%.

This is the bright side of gearing. The dark side is that it also works in reverse. Suppose that instead of making a profit of \$15 million, the business ran into trouble and made a loss of \$15 million. In that case, the shareholders will have lost all their capital and business would most likely fail (the lenders would call in receivers) unless shareholders were prepared to subscribe for more shares.

However, if the whole \$60 million capital had been subscribed by shareholders, the loss would only have been 25% of their funds and it is still quite possible that the business could trade out of its difficulties.

This is how financial risk works – the higher the gearing, the less room for error and the higher the chance of the business going broke.

Having explained what financial risk is, let us now see how we assess it. It is really quite simple. First, we will look at working capital, then overall gearing levels.

Is Working Capital Sufficient?

We find the information we need in what used to be called the Balance Sheet, but is now called the Statement of Financial Position. This statement will look like this:

Current Assets

Non-Current Assets

Total Assets

Current Liabilities

Non-Current Liabilities

Total Liabilities

Net Assets

Net Assets are also known as Equity or Shareholders Funds. Net Assets are simply the total Assets minus the Total Liabilities.

Notice that the assets and liabilities are split into current and non-current. Current assets comprise amounts that may reasonably be turned into cash within a year. Current liabilities comprise amounts that are due to be paid within a year.

The working capital of a business is simply the difference between current assets and current liabilities. A very conservatively financed business will have current assets that are twice its current liabilities. However, this is generally regarded as a lazy use of capital unless the business is very volatile. It is still generally regarded as conservatively financed with respect to working capital if current assets are at least half as much again as current liabilities.

Expressed as a ratio:

$$\text{Working Capital Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \text{at least } 1.5$$

In Appendix A, are the data for Funtastic Limited (wholesaler and distributor of children’s products – mainly toys). Using the 2001 data, Funtastic’s ratio would be:

$$\text{Working Capital Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{33,216}{20,406} = 1.63$$

This is more than our conservative yardstick of 1.5, so Funtastic has sufficient working capital.

This is all we need to do as a first check. If all the other elements of the “margin of safety” stack up, then we might want to revisit the data and check some of the finer points.

Is Gearing Conservative?

The data you need is again on the Statement of Financial Position.

In a conservatively financed business, the total debt should not exceed about half the equity, or shareholders’ funds.

Expressed as a ratio:

$$\text{Debt to Equity} = \frac{\text{Total Interest Bearing Liabilities}}{\text{Total Equity}} = 0.5 \text{ or less}$$

This is usually expressed as a percentage – 0.5 means 50% debt to equity.

Using the data from Appendix A for Funtastic Limited:

$$\text{Debt to Equity} = \frac{\text{Total Interest Bearing Liabilities}}{\text{Total Equity}} = \frac{12,921}{14,144} = 0.91$$

This is outside our guidelines. So, on the bald numbers, Funtastic is rather aggressively financed. Unless it met every other one of our “margin of safety” measures, this might be enough to discount it as a safe investment. However, should every other test suggest it is an attractive company, we might look further into the data, or put it on our watch list to see whether this aspect of its financial structure is repaired over time.

An example of an even more conservatively financed business is Hills Limited, which Shares magazine shows as having a debt to equity ratio of 53.8%. Even more conservatively financed is Cochlear limited with a debt to equity ratio of only 17.5%.

If you like to do your own calculations, go to <http://www.asx.com.au>, where you will find whether the company has a web site. If so, many will allow you to download their most recent annual report.

Earnings Stability

While a share trader might be concerned only with the potential capital gain when a stock is purchased, an investor knows that it is the total return that is important to them. The total return is the sum of dividends and capital gains.

Dividends can only be paid if a company make profits. Also, in the longer term, it is profits that drive the price of a company's shares. So, for the investor, earnings are a key consideration.

The very first thing we want to know is whether the company makes a profit at all. Many companies listed on the stock exchange do not make profits and never have. These are generally unseasoned companies, often called "start-ups", or they are resources explorers or technology development companies that are looking to discover something. Any of these companies, that do not make profits and never have, are unsuitable for an investor. This applies no matter what forecasts of profits anyone gives you or how big the market is that they are trying to break into. They are speculations and should be left to speculators until they have a proven track record. In short, they do not have a "margin of safety".

The only exception is a company that has just made losses, but has a history of making strong profits. If you are satisfied that its problems are temporary, then it might be an opportunity to buy into a good company while it has temporary difficulties and is very cheap.

However, let me warn most people most of the time to avoid these companies until there is evidence that their problems have been overcome. Most people have a tendency to underestimate how long it takes to overcome problems. Things often get worse before they get better.

The reality is that there should be plenty of good opportunities to buy good companies at reasonable prices without having to get involved with the difficult ones. If there are not quite a few good companies available at reasonable prices, then the stock market may be too high at the time you are looking. If it is high, then business conditions will tend to be good. Companies with problems in good business conditions should be avoided. Also, if there are not many good prospects to buy, it may be best to wait a while before jumping into an over-valued market.

So, what should we be looking for? Ideally we would like to see profits being made in each of the last ten years. We would also like to see that the profit does not fluctuate too much.

As an example, I looked at Hills Limited, and found:

Year	Net Profit \$million
1992	6.85
1993	6.86
1994	9.24
1995	12.04

1996	12.24
1997	14.10
1998	15.74
1999	17.90
2000	18.81
2001	22.77

Clearly, Hills is a consistently profitable company. Its profits have increased in each year of the ten years. This is the sort of picture we are looking for when we evaluate earnings stability.

I am often asked what I do where a ten-year record is not available. This will usually mean that the company has not been listed on the stock exchange for that long. The answer is that it all depends on the individual circumstances. This is a more difficult analysis task than the example we looked at with Hills.

My quick answer is to just pass these companies up. Leave it to those who may have the skills to evaluate less seasoned companies. Stick to companies where information is available. However, such an answer may mean that some real opportunities are overlooked. It will depend on whether this worries you and whether you want to spend the time learning the skills and doing the work to deal with these companies. For most people the answer will be no – just don't worry about them and leave them to the experts.

However, the company I used earlier as an example – Funtastic Limited – is just such a company. It has only been listed for a year or so.

Its three years of profit history:

Year	Net Profit \$million
1999	1.00
2000	1.87
2001	3.14

This is a nice growing picture, but it is a short one. If we combine this with the knowledge from the annual report that the business has been in existence for at least eight years, we will feel more confident that it has some stability. The Statement of Financial Position also shows \$5.4 million of retained earnings. This gives us even more confidence that it has the sort of earnings stability that we might be looking for. Clearly, Funtastic is worthy of further research, the next step being to talk to the management and get a better picture of the history of the company to confirm our rough idea that it is a seasoned business with a good record of stability and growth.

Dividend Record

The “margin of safety” measure here is simply that the company has a record of uninterrupted dividend payments for the last ten years.

For Hills Limited, the dividend history is:

Year	Dividend cents
1992	3.2
1993	3.5
1994	3.9
1995	4.6
1996	7.2
1997	6.6
1998	7.4
1999	12.0
2000	19.0
2001	19.4

Clearly, Hills has an excellent dividend record. Over the last 10 years, a dividend has been paid in each year. Moreover, the dividend was increased each year, with one exception. This satisfies our requirements for “margin of safety”, which is the primary concern of the value investor. A growth investor would also be pleased to see the growth in dividends.

Earnings Growth

Benjamin Graham’s “margin of safety” requirement here is that there be a minimum increase of 33% in earnings per share over the last 10 years. This will seem rather conservative, but we should remember that we are only looking here at a “margin of safety”. We want some kind of minimum growth in earnings. A growth investor will be looking for a better record than this.

For Hills limited, the data is:

Year	EPS cents
1992	6.5
1993	6.5
1994	9.0

1995	11.4
1996	11.6
1997	13.3
1998	14.5
1999	16.3
2000	16.5
2001	19.2

The way Graham assessed this factor took into account that earnings per share might vary from year to year rather more than it has for Hills. Graham took the average for the first three years and compared it to the average for the last three years. Doing this for Hills, we get:

Average EPS 1992 – 94	7.33
Average EPS 1999- 01	17.33

This is an increase of 136%, which is rather more than the “margin of safety” guideline of 33% and would probably satisfy a growth investor as well as a value investor.

Moderate Price/Earnings Ratio

This measure goes to the heart of the idea that, once we find a sound company that affords a “margin of safety”, we should not pay too much for it. Benjamin Graham’s rule was a simple one – we should not pay more than 15 times the average EPS for the last three years. He used the average EPS of the last three years to even out any one-year fluctuations or unusual figures.

Looking first at Hills Limited, we find that the price at the close of trading on 22 May 2002 was \$3.15. This was 16.4 times the 2001 EPS, and 18.2 times the EPS for the last three years. This is somewhat higher than Graham’s guideline, so a value investor might await lower prices before buying. However, a growth buyer might consider this price quite acceptable.

When we look at Funtastic Limited, we find these earnings per share data for the three years available:

Year	EPS cents
1999	3.4
2000	5.3
2001	5.9

The average for the three years available is 4.9 cents.

The price at the close of trading on 22 May 2002 was 70 cents. This is 11.9 times the 2001 EPS, and 14.3 times the average EPS for the three available years. This is within Graham's guideline and suggests that the price is reasonable.

Moderate Price to Assets Ratio

Benjamin Graham's guideline here was that we should not pay more than 1.5 times the book value at the end of the last available year.

The term book value is somewhat vague and could mean several things. The readily available data in our market is the Net Tangible Assets (NTA) per share. This is simply the total Net Assets of the company less any intangible assets on its books.

Using the *Australian Financial Review*, we find that Funtastic has NTA of 26 cents per share. The price was 70 cents, so the price to NTA ratio is 2.7 times. This is rather more than Graham suggests that a value investor pay. However, it may be acceptable to a growth investor.

Looking at Hills, we find that the *Australian Financial Review* shows a NTA for it of 99 cents. The price was \$3.15, so here the price to NTA ratio is 3.2 times. This is also rather more than Graham suggests that a value investor pay. However, again, it may be acceptable to a growth investor.

Graham suggests that it may be acceptable to pay over 1.5 times NTA, provided the price/earnings ratio is low. He suggests that the rule of thumb is that, when multiplied, they do not exceed 22.5. This is simply his two guidelines – price/earnings ratio of 15 multiplied by price to assets ratio of 1.5. Neither Hills, nor Funtastic are within this rule of thumb. Of course, a growth investor may be prepared to accept a higher figure.

Conclusion

Benjamin Graham was quite specific that these were the requirements that he recommended for the needs of the temperament of the defensive or value investor. He warned that they would eliminate the great majority of stocks on one or more of these grounds:

- Too small
- Weak financial position
- Inconsistent earnings pattern
- Lack of dividend record

In particular it would eliminate all companies that have not been listed for a reasonable number of years, so that the "margin of safety" measurements can be made.

Clearly, these requirements will also serve growth investors well.

Where the two methods will differ is with respect to earnings growth and the two price ratios. The growth investor will demand a greater and perhaps more consistent growth in earning that the value investor requires.

As for the two price ratios, Graham specified that the value investor only buy when the price was low relative to earnings and assets. However, these will not apply to the growth investor.

How Much Growth at What Price

That raises the question of what the growth investor should look for. Clearly, the answer is growth. The growth investor, by definition wants to see a history of earnings per share growth and assess that there is some reasonable prospect of that growth continuing.

I do not have a guideline for how much growth, because I approach the growth companies from a purely technical analysis basis once I have ascertained that the company meets all the “margin of safety” considerations other than price to earnings and assets.

However, I don't believe that it is sensible to pay just any price for a growth company unless it is a purely short term trading situation. My rule of thumb for investing in a growth company is to look at the recent growth in earnings per share. I do not like to buy when the price earnings ratio is very much higher than the average growth in earnings per share for the last three years.

Applying this to Hills, we see that its EPS in 1998 was 14.5 cents and three years later it was 19.2 cents. This is a 32.4% increase over the three years, or an average of 10.8% per year. At the current price, the price earnings ratio is 16.4 times, so I would be looking to buy at a lower price, if and when the market offered it.

Applying my guideline to Funtastic, we do not have enough data. The 1999 EPS was 3.4 cents and the 2001 EPS was 5.9 cents. This is an increase of 73.5% for two years, or an average of 36.8% per year. At the current price, the price earnings ratio is 11.9 times, so if all other things were all right, I would be prepared to consider buying Funtastic as a growth stock.

Note – Data Source

I find that the best source for data going back ten years is Lincoln Stock Doctor. It is not cheap, but saves a lot of time. If you do not have enough capital to justify the subscription, you will need to research the financial records on the company website.

Appendix A

Information from the 2001 Annual Report of Funtastic Limited

Statement of Financial Position As at 31 December 2001

	2001 \$ '000	2000 \$ '000
Current Assets		
Cash	1,193	464
Receivables	23,205	15,087
Inventories	7,977	5,128

Other	841	608
Total Current Assets	33,216	21,288
Non-Current Assets		
Property, plant & equipment	1,341	867
Other financial assets – Investments	50	50
Intangibles	41	-
Deferred tax assets	145	109
Total Non-Current Assets	1,576	1,026
Total Assets	34,792	22,314
Current Liabilities		
Payables	4,453	5,872
Interest bearing liabilities	12,716	98
Provisions	171	119
Current tax liabilities	772	864
Other	2,294	2,246
Total Current Liabilities	20,406	9,198
Non-Current Liabilities		
Interest bearing liabilities	205	211
Provisions	38	29
Total Non-Current Liabilities	242	240
Total Liabilities	20,648	9,438
Net Assets	14,144	12,875
Equity		
Contributed equity	8,718	8,718
Retained profits	5,426	4,158
Total Equity	14,144	12,875