

# thebigpicture

guideposts for the private investor

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*thebigpicture* guideposts for the private investor is published by *thebigpicture* Economics (ABN 71 040 787 936). The author, John A Robertson, while working in Australia, London and New York, has over 20 years experience in international financial and commodity markets, corporate strategy, financial and business evaluation and government policy. He has been Chief Economist and a director of a leading Australian investment bank. He has been a top-rated institutional equity analyst and has marketed investment advice in all the major international financial centres.

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## P/E'S: EASY BUT USELESS?

The p/e is widely used as an investment decision making tool but it is not the simple valuation indicator many pretend. It can be very useful in some very limited circumstances. Under most other conditions, its usefulness is limited.

The p/e is often used as an arbiter of value in stock price valuations. The lower the p/e the cheaper a stock is supposed to be and the more attractive it is to buy. The higher a p/e, the more expensive and the less attractive. In an ideal world, there is a benchmark p/e against which any stock can be judged so that it is clear whether it should be bought or sold.

At first blush, this is an appealing idea for someone wanting a simple way to rank the investment attractiveness of a group of companies. Choosing among three companies with earnings per share of 20 cents, 45 cents and 80 cents, for example, requires some common valuation benchmark. Price is a starting point but it needs to be linked formally to the level of earnings.

Share prices will usually reflect the earnings progression. For example, the share prices of the three companies might be \$4.00, \$4.80 and \$9.00, respectively. As expected, higher earnings are associated with higher share prices. However, they might not be proportionately higher.

This is where the idea of a p/e ratio is potentially most useful. The p/e's for these three stocks would be 20.0, 10.7, and 11.3, respectively.

The price being paid per unit of earnings is lowest for the second stock. Everything else being the same, the second stock is the cheapest investment alternative. But other factors are rarely the same.

### 1. Expectations

The p/e embodies many expectations about prospective business performance. Investors will pay more for near-term earnings:

- the higher the expected growth rate of the earnings; and,
- the greater their confidence about the capacity of management to deliver consistently against its targeted performance.

A low p/e might not foreshadow market outperformance. It could remain low indefinitely because of assessments in the market about the skill of the people running the company, for example.

### 2. Losses

For its p/e to be at all meaningful, a company needs to be making a profit. The measure has limited use among early stage companies or established companies which might be only very marginally profitable. These might have extremely high p/e's. Nonetheless, their capital gains potential might be considerable as earnings move upwards to sustainable levels.

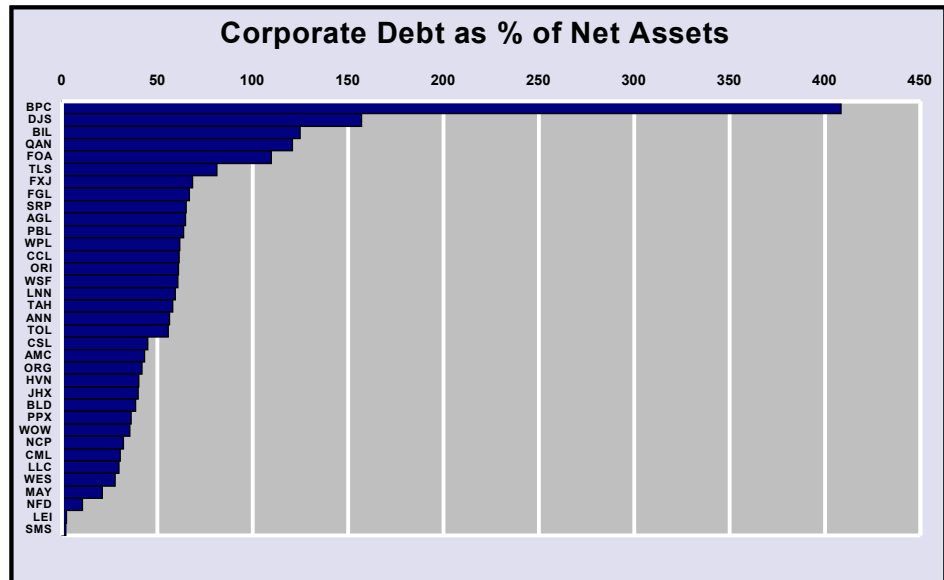
### 3. Earnings Definitions

Despite the application of uniform accounting standards, two earnings measures might

*"... too many investment market participants have been seduced by the ease of quoting a p/e and have long forgotten some of the important qualifications to what it means and how it should be used."*

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## THE WEEKLY CHART SPOT



Source: Company reports

*“Once any cyclicality is admitted, the usefulness of a ‘buy low p/e and sell high p/e’ investment rule is reduced.”*

### P/E’S: EASY BUT USELESS? CONT’D

*(Continued from page 1)*

not be directly comparable for decision-making purposes. Reported earnings might include non-cash items, the effect of one-off asset sales or outcomes from discontinued businesses, for example.

A company depending on one-off contributions to its earnings will generally have a persistently lower p/e than one with a higher proportion of sustainable income sources.

elected to fund the company with equity (Company A) while the managers of the other have a wholly debt funded business (Company B).

Since debt incurs financing charges, the profit of the debt-funded company will be lower than the profit of the ungeared company by the amount of the interest paid and the tax benefit from deducting interest charges. The profit of Company B is only 53% of the profit of Company A. However, the wide disparity in accounting outcomes is dependent entirely on the financial structuring of the business and is no indicator of how well-run the company might be in the two situations.

If an equity investor requires a 10% return, he would be prepared to pay \$1050 to buy the equity funded business, a value of 10 times earnings.

Since the debt funded alternative could be construed as higher risk because of the gearing, a higher return, say 14%, might be necessary for an investor to buy the business. In this case, the investor would be prepared to pay \$400 for the company, a p/e of 7.1 times earnings.

The investor should be indifferent between paying 10 times earnings in the first instance or 7.1 times earnings in the second. The lower p/e does not signify a more attractive purchase.

Gearing Impact on Market P/E's		
	Company A	Company B
Equity Capital	\$1000	0
Debt Capital	0	\$1000
EBIT	\$150	\$150
Interest @ 7%	-	\$70
Tax @ 30%	\$45	\$24
Net profit	\$105	\$56
Required return	10%	14%
Market value	\$1050	\$400
P/E	10.0X	7.1X

#### 4. Gearing

Financial gearing will have an effect as the simplified example in the table on this page illustrates.

Two companies are identical in all respects except that the managers of one have

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## P/E'S: EASY BUT USELESS? CONT'D

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To generalize, the usefulness of the p/e depends on companies having the same financial structures.

In practice, this constraint might be very significant. The chart at the top of page two shows gearing (debt as a percentage of book equity) for 35 of the largest industrial companies listed on the Australian market. Even for such a relatively cohesive group of companies in terms of their size and access to capital markets, the differences in gearing are considerable. These differences can reflect:

- *management inclination*, with more conservative managers likely to rely on a higher proportion of equity funding for their financing;
- *recent corporate activity*, with acquisitions tending to push gearing higher before cash flows subsequently reduce the gearing to more normal levels; or,
- *industry structure*, with capital intensive companies more likely to maintain lower gearing than less capital intensive marketers of staple goods, for example.

Gearing among these larger industrial companies ranges from a high of over 400% at Burns Philp to a low of 2% at Leighton Holdings and Sims Group. The average for the selected companies as a whole is 55%.

### 5. Earnings Cyclicity

The p/e is especially hard to interpret when choices are being made among companies with strongly cyclical earnings patterns and companies with less volatile earnings profiles.

A mining company facing relatively weak commodity prices, for example, will also tend to be at the lower end of its earnings range. However, expectations that earnings will subsequently rise keep the share price higher than if the lower commodity prices were expected to prevail indefinitely. Similarly, at the upper end of the commodity price cycle, the market tends to assume a downturn and share prices imply weakening earnings.

Consequently, the mining company p/e tends to be relatively high at the bottom of the economic cycle and relatively low at the top of the cycle. In contrast to the typical industrial company scenario, a high p/e might be a 'buy' signal (in the

hope that the market has underestimated the extent of the earnings recovery) and a low p/e might suggest 'sell' (in the hope that the market has underestimated the subsequent decline in earnings).

Unfortunately, the distinction between a company with cyclical earnings and an earnings stable company is not always clear in practice. A mining company will definitely be in the former category but even an archetypically 'defensive' stock like Foster's, for example, will have some cyclicity in its earnings due to the impact on consumer spending of the economic cycle and the agricultural cycle associated with wine production.

Once any cyclicity is admitted, the usefulness of a 'buy low p/e and sell high p/e' investment rule is reduced.

### 6. Economic Cycle

The appropriate level of the p/e also varies with the economic cycle.

The box on page 4 identifies four underlying drivers of the p/e from the perspective of a dividend growth model. In the Australian context, it is possible to ascribe values to each of these four variables as in this table.

Dividend payout ratio	60%	A common target for Australian industrial companies
Government bond yield	6%	Approximate current rate
Equity risk premium	4%	Based on long term historical analysis
Expected dividend growth rate	6%	Reflecting long term nominal growth prospects for the Australian economy

Using the formula in the box on page 4, the calculated fair value p/e is:  $60/(6+3-6) = 20$ .

However, everything else being the same, a 5% bond yield would boost the fair value of an equity security to 30 times earnings. Correspondingly, a 7% bond yield implies a p/e of 15 times earnings.

This wide feasible range of outcomes makes a judgement about value dependent on a view about the broader macroeco-

*"A company depending on one-off contributions to its earnings will generally have a persistently lower p/e than one with a higher proportion of sustainable income sources."*

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## P/E'S: EASY BUT USELESS? CONT'D

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economic environment. There is no permanent benchmark against which to measure value.

A p/e of 30 might not be expensive if interest rates are likely to stay low. However, if interest rates are likely to remain high, a p/e of 20 might be too high to be attractive.

While the p/e might appear to be a useful analytical tool for investment decision-making, its usefulness is compromised by:

- fluctuating optimism about the future;
- differences in earnings composition;
- varying financial structures;
- earnings cyclicity; and,
- the position in the macroeconomic cycle.

Regrettably, too many investment market participants have been seduced by the ease of quoting a p/e and have long forgotten some of the important qualifications to what it means and how it should be used.

Consequently, researchers find it difficult to establish as strong and consistent a link between market returns and p/e's as its widespread usage suggests. Nonetheless, it continues to have its adherents among groups which are sensitive to its strengths and weaknesses such as Morgan Stanley Investment Management:

*"... while low p/e investing does not outperform the broad market each and every year, the approach has been very consistent in outperforming high p/e counterparts...."*

On the other hand, other studies highlighting the role of changing conditions draw conclusions similar to the Federal Reserve Bank of Kansas City<sup>1</sup>:

*"Forecasts based on [p/e's] are subject to much uncertainty, however,*

*because history may not repeat itself...this time may be different due to fundamental changes in the economy that will allow high price-earnings ratios to persist...."*

#### The p/e: Just Another View of the Bond Yield

The p/e ratio is the outcome from dividing a company's share price by its earnings per share.

According to the Gordon growth model, the fair price of a stock (P) is a function of the dividend per share (D), the growth in the dividend (G) and the required rate of return (k). The model is equivalent to discounting at k% a perpetual dividend stream growing at D%.

In this model, fair value for the company share price will be higher:

- the higher the initial level of the dividend;
- the lower the rate of return required by the investor;
- the higher the anticipated growth rate of the dividend.

Mathematically, this relationship can be expressed as:

$$P = \frac{D}{k - G}$$

Dividing both sides of the equation by earnings per share (E) gives:

$$\frac{P}{E} = \frac{D/E}{k - G}$$

The required rate of return, k, is the sum of the risk free rate of return (B), assumed to be a longer term yield on government bonds, and a risk premium for equities (R). Consequently,

$$\frac{P}{E} = \frac{D/E}{(B + R) - G}$$

D/E is another way of describing the dividend payout ratio. Consequently, the p/e is a function of the:

- dividend payout ratio;
- government bond yield;
- equity risk premium; and,
- expected dividend growth rate.

From this perspective, short-term movements in the p/e are primarily driven by movements in the bond yield since the other factors in the equation are less likely to vary significantly in the short term.

One way around this dilemma is to convert earnings to an ungeared basis and measure performance as a return against total corporate funding. This more rigorous means of comparing the investment attributes of companies is the basis of the valuation framework used by **thebigpicture** and outlined in the rate of return rankings at [www.thebigpicture.com.au](http://www.thebigpicture.com.au).

1. Pu Shen, "The P/E Ratio and Stock Market Performance", Economic Review, Federal Reserve Bank of Kansas City, Fourth Quarter, 2000