Insights into the market's mind

Simple maths suggests that value looks reasonable over the long term, writes Roger Montgomery

THE ONE-YEAR FORWARD PE (price-earnings) ratio for the S&P/ASX 200 Index has been on a rollercoaster recently. I'd like to try to put a framework around the market movements to more broadly understand the thinking around the volatility.

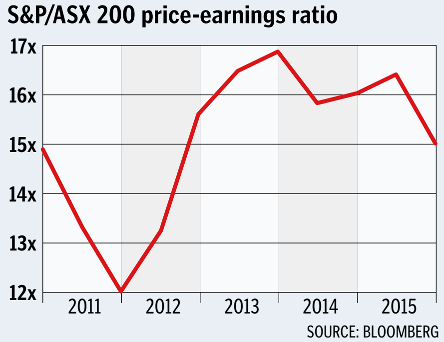
At the start of 2010, the ratio of what the market was willing to pay for its earnings base was about 15 times, which fell to 12 in 2011-12 over concerns about Europe. But as that passed, the PE ratio quickly rose and market participants were sufficiently comfortable to push it as high as 16-17.

If we go back a bit further, we find that, since 1970, the market has traded, on average, within a PE ratio range of 14-15 times. Today it is just shy of 15.

So what should investors make of it? Simply this: the sharemarket, as represented by the S&P/ASX 200 Index, basically represents the "price" of the market as a whole. In a perfect world, it should also represent the present value of future after-tax earnings. All it takes is some pretty simple maths to put a framework around this pricing and earnings. From the information already provided, we should be able to solve the expected earnings of the index.

As a first step, we take the current S&P/ASX 200 Index price of circa 5000 points and divide it by the PE ratio of 14.95 times. This gives us the earnings of the entire market, or about 334.45, upon which we can apply the discounted cash flow (DCF) formula.

S&P/ASX 200 price-earnings ratio



Why a DCF? The value of a share of a company is simply the sum of future after-tax cash flows. If this applies on a company level, then the value of any index is also simply the sum of the future cash flows of each of the constituent companies discounted back to today.

Using this earnings number and the DCF formula, we can estimate the assumptions for future growth that the market is implying at its current level for a given level of marginal return on equity (ROE).

The average ROE over the past 10 years has been 13.6%. We have also used a cost of equity (COE) of 10%, given this is the historical average. From this base, we then work out the growth rate (g) implied by the market which can be estimated as: 5000 = 334.45*(1-g/13.6%)/(10%–g).

Since 1970, real economic growth has averaged about 3%-3.5% a year. Over the long term, we would also expect earnings for the businesses that make up the S&P/ASX 200 Index to approximate sustainable real economic growth plus inflation, provided failed and delisted companies are taken into account. Sustainable real economic growth rates are determined by a combination of population growth and productivity improvements. Assuming population growth of 1.2%, productivity improvement of 1% a year and inflation of 2.5%, sustainable earnings growth should be around 4.7%.

If we factor a 4.7% growth rate into our formula, we obtain an index valuation of 4130. At 6.5% we obtain an index valuation of 4990. This is in line with the current S&P/ASX 200 Index valuation of 5000. Therefore, on a current PE ratio of 14.95 times, and adopting a 10% COE, the market is implying a long-term growth rate in earnings for the entire market of about 6.5%. This appears high relative to the sustainable rate of long-term growth. So the market is either factoring in a lower COE or a higher sustainable marginal ROE than has been the case historically.

At various PE ratio levels (assuming a COE of 10%) and a known quantum of earnings, we also can back-solve other implied growth rates. Based on current earnings, at a PE ratio of 12 (where we went to in 2011-12), the market would be implying longer-term earnings growth of 4.25%. This is below Australia's long-term trend and, while a period of subdued growth is typical in any market cycle, history shows that by taking a long-term view even the worst economic cycles prove temporary.

One take-away is that you should be careful with your equity exposure when the market begins implying growth in excess of the long-run average. For it is then that bubble-like pricing may exist. That does not appear to be the current picture; the market right now is on a longer-term growth rate towards the middle of its historical range.

But keep in mind that any attempt to value the market is not a prediction of its near-term direction or an assumption that the implied growth in aggregate earnings is achievable – invariably nothing goes up in a straight line.

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