

Ratio Analysis – Know What You Are Looking At

In this article I have conflated two articles that discussed the same basic issue, but looked at different ratios.

Price Earnings Ratios

At the recent Brisbane Trading and Investing Expo one of the attendees queried the price earnings ratio that I had used in my analysis of Amcom Telecommunications. The attendee said that my price earnings ratio was 24.35 times at 17 May 2013, but the price earnings ratio in the AFR and Australian newspapers as of 31 May 2013 was 35.2 times. This, he said was a TTMPE ratio, an acronym he thought might explain the difference, but did not know the meaning of. I was not familiar with the acronym either at the time, but have since researched it and found that it is commonly used in the US market and stands for Trailing Twelve Month Price Earnings ratio.

Price earnings ratios can change every day. This is because in calculating them, we use the latest price for a stock. Less often, it can also be because the company concerned has released an earnings report for the latest accounting period.

Price earnings ratios can also differ from source to source or between analysts because there are several kinds of price earnings ratio definitions in use. The price will always be the latest market price on the date of the calculation. However, the earnings number can vary depending on the use to which the ratio will be put or the preferences of the analysts making the calculations.

I am frequently asked the kind of question that was posed to me at the expo: why is the price earnings ratio in one source different to the ratio in another source? The reason can be that the price was different (the ratios were calculated on a different day), but the most common reason is that the definition of the ratio used is different for each source. Specifically, that the earnings number used is different between the two sources.

While there can be many variations within them, the three most common types of price earnings ratio used in Australia are:

Historical

This ratio is also commonly called a trailing PE ratio. It uses as the earnings the Earnings per Share (EPS) for the last full year, or the last two half years where the most recent earnings reported is for a half year. In the US market, earnings are reported quarterly, so the TTMPE ratio mentioned above will use the earnings for the last four quarters, hence Trailing Twelve Month earnings.

Prospective

This ratio is also commonly called a forecast PE ratio. It uses as the earnings, the forecast Earnings per Share for future years.

Hybrid

This ratio uses as the earnings the actual Earnings Per Share for the last half year plus the forecast Earnings per Share for the next half year. This particular ratio is used by Morningstar and is found on my broker's (CMC) website and also on the Commsec and other broker website.

Within these three broad categories there are many variations in the earnings used. The Earnings per Share used will be either the basic or diluted EPS calculation that is provided in company reports and has been calculated using the accounting standard. However, some analysts will use operating earnings, to remove the effect of earnings from discontinued or sold businesses, one-off gains or losses and accounting changes, all net of tax.

As mentioned above, in calculating Earnings per Share (EPS), companies must use the accounting standard. This requires them to calculate both a basic EPS and a diluted EPS that takes into account various items that “dilute” the basic number, the most significant being that it assumes the creation of “potential” shares from options, management performance incentives etc. This is highly technical and investors do not need to be concerned unless calculating their own earnings numbers on a basis that is different to the accounting standard.

In calculating Earnings per Share, the accounting standard recognises that the number of shares issued often changes during a year for many reasons. It therefore uses a time weighted average number of shares in the calculation. Again, this is not important for investors unless they are calculating their own ratio.

So, the key point to take away from this discussion of price earnings ratios is that there are many different definitions. If we use ratios from the same source consistently, we need to know the definition used by the source, but otherwise can ignore the definition issue in comparing ratios from that source for different periods or different companies.

However, where we use ratios from different sources, we must first make sure that we know the definition used by each source, or we may not be comparing like with like.

The problem, of course, is that not every source will provide a definition of the ratio they are using. This means that we must be able to make our own calculation and compare it to the source. If the ratio we calculate is the same as the source, then, we know its definition and can use that source with confidence. However, if the ratio provided by a source is different from our calculation, we need to make enquiries, or try to reverse engineer the ratio to uncover its definition.

At the Expo my interlocutor queried my price earnings ratio, which came from Stock Doctor because it was different to the ratio that he had seen in the AFR. As a first step, therefore, I thought it best to check how each of them calculated their price earnings ratios. As we will see below, the Amcom Telecommunications situation is complex, so I took a situation that would be easy to check: where there were no corporate actions during the last year and the company had a financial year ending 31 March 2013, so the calculations are simple. I found Programmed Maintenance Services. Their year ends 31 March and there were no significant abnormal items and no significant issues of shares in the last couple of years.

Going to the Programmed Maintenance Services accounts for the year to 31 March 2013 on the ASX website, I found that their **diluted** EPS was 26.50 cents.

Programmed Maintenance Services' share price at the close of 3 June 2013 was \$2.40.

Therefore, I calculate the price earnings ratio for Programmed Maintenance Services at the close of 3 June 2013 as $2.40 \div 0.2650 = 9.06$ times.

Next, I looked at Stock Doctor and they showed the same price earnings ratio of 9.06 times for 3 June 2013. Looking into their base data screens, shows that they used 26.50 cents as their EPS.

Finally, I looked at AFR and for 3 June 2013, they show a price earnings ratio of 8.8 times. Reference back to AFR for 31 May 2013 shows they used an EPS of 27.20 cents.

I went back to the Programmed Maintenance Services accounts and found that 27.20 cents was the **basic** EPS.

This seems fairly conclusive:

- Stock Doctor uses **diluted** earnings per share for their price earnings ratio calculation.
- AFR uses **basic** earnings per share for their price earnings ratio calculation.

We now know the simple definitions used by the two sources and that they are different. How much difference it makes will depend on the extent of the difference between the two EPS numbers.

Amcom Telecommunications

Now let us look at Amcom Telecommunications, the company whose ratio was queried by my interlocutor at the Brisbane Expo as an example.

I will use 21 June 2013 as the date for which I calculate the ratio below.

The closing price of Amcom Telecommunications on Friday 21 June was \$1.84.

First, I needed the earnings for the half year to 30 June 2012. To get this, I needed to take the earnings for the full year to that date and subtract the earnings for the half year to 31 December 2011.

From the Amcom Telecommunications Annual Report for FY 2012, the total comprehensive income was 28.413 million. However, from Note 24 Earnings per Share, I found that the earnings used for the EPS calculation was \$28.358 million. As that the difference was not significant, I did not waste time looking further. However, this figure included a profit of \$18.626 million from the in specie distribution of shares in an associated company (linet). This is clearly an abnormal item and should be deducted from the reported earnings of \$28.358 million to give earnings before abnormal items of \$9.732 million. Note: There was no tax on the in specie distribution, so and adjustment to the NPAT after abnormal items did not have to be made for tax.

From the Amcom Telecommunications accounts for the half year to 31 December 2012, I found that the net profit after tax from continuing operations for the half year to 31 December 2011 was \$26.493 million. I cross-checked this by working backwards from the information in Note 5 Earnings per Share to be sure that it was the earnings number used by the company in their calculation. It was close enough, bearing in mind that the EPS number is rounded. As this figure also included the profit of \$18.626 million on the in specie distribution of shares in an associated company, I deducted it from the reported earnings of \$26.493 million to give earnings before abnormal items of \$7.867 million

So the Earnings for the half year to 30 June 2012 before abnormal items were $\$9.732 - \$7.867 = \$1.865$ million.

Next, I needed the earnings for the latest half year to 31 December 2012. From the Amcom Telecommunications accounts, I found that the net profit after tax from continuing operations was \$9.954 million. I cross-checked this by working backwards from the information in Note 5 Earnings per Share to be sure that it was the earnings number used by the company in their calculation. It was close enough, bearing in mind that the EPS number is rounded.

This means that if we add the earnings for the half year to 30 June 2012 to the earnings for the half year to 31 December 2012 I arrive at $\$1.865 + \$9.954 = \$11.819$ million for the last two half years.

Next I needed the number of shares. As mentioned earlier, this should be a time weighted average number of shares that includes potential shares that could be created from executive performance rights. To do this perfectly would require a great deal of research time, so I looked at how necessary it was.

From the last half year report, and the last annual report, I found that the number of shares used in the calculation of diluted earnings per share was little different, so I averaged them to get 246.211 million shares.

I could now calculate the Earnings per Share for the total of the last two half years as $11.818 \div 246.211 = 0.048$ or 4.8 cents per share.

Since the share price for Amcom Telecommunications on 21 June 2013 was \$1.84, the Price earnings ratio would be $184 \div 4.8 = 38.33$ times.

The AFR PE ratio for Amcom Telecommunications for that date was 38.1 times, so it would seem this is basically their figure, bearing in mind that I used a rough approximation of the time weighted average number of shares in my calculation.

The Stock Doctor PE ratio for Amcom Telecommunications for that date was 21.25 times. This is a very significant difference to the AFR ratio and my calculation. Deconstructing it, the EPS used was $184 \div 21.25 = 8.66$ cents.

I queried the Stock Doctor analyst on this. The 8.66 cents is made up as follows:

Half year to 31 December 2012 was calculated after abnormal items by the company at 4.04 cents. Stock Doctor then adjusted it by adding back an abnormal expense and tax effecting it to get a before abnormal items diluted EPS of 4.07 cents.

They then took the after abnormal items diluted EPS calculated by the company for the full year to 30 June 2012 of 11.52 cents and adjusted it to remove abnormal profits and add back abnormal costs after tax to a figure of 7.96 cents. They then performed similar adjustments to the after abnormal items diluted EPS calculated by the company for the first half of that year of 4.05 cents, reducing it to 3.37 cents. Subtracting the first half adjusted EPS from the full year adjusted EPS: $7.96 - 3.37 = 4.59$ cents for the second half year.

They then add the second half of the year to 30 June 2012 to the half year to 31 December 2012: $4.07 + 4.59 = 8.66$ c. Hence the Stock Doctor PE ratio of 21.25 is less than the AFR PE ratio because they have made different adjustments for abnormal profits and losses. In a nutshell, it seems that AFR adjusted only for the profit from the in specie distribution to shareholders, whereas Stock

Doctor adjusted for other abnormal items, which on balance increased the earnings before abnormal items.

Conclusion

Other than stops, I get more queries from members and newsletter readers about PE ratios than anything else. The calculation of PE ratios sounds simple, but it often isn't. The underlying calculation of Earnings per Shares can be very complex where there are significant changes in the number of shares issued or if there are significant abnormal profits or losses/costs. There is also a great deal of scope for different analysts to make different judgements about the adjustments that need to be made for abnormal items. This is all a part of the need to never stop learning as we strive to improve our investing skills. When in doubt, we should always be prepared to make our own calculations as I did above. Yes, it takes time and effort, but we are investing real money.

I hope this exploration of the issues around calculation of PE ratios has been of interest and of use in deepening your understanding of this aspect of analysis.

Return on Equity (ROE)

I recently fielded a question from a member about the Return on Equity (ROE) for Thorn Group, where different sources showed a different ROE number. This was, in fact, the same issue as I discussed in the above article concerning price earnings ratios (PER). The key thrust of that discussion was the need to know the definitions of ratios used by the source(s) you are relying on.

In a recent Stock Journal I commented on this very issue with respect to ROE. I use two prime sources for my initial analysis of a company, Stock Doctor and Morningstar (accessed through my broker's website (CMC), but also available on Commsec. Because the two sources always show different numbers for ROE, I took the time to find out why. It could have been a timing issue, but while that may sometimes be a factor, the issue was far more general. It took a little bit of digging around, but I soon established that:

- Stock Doctor calculates ROE on a pre-tax basis (i.e. the R is Net Profit **before** Tax).
- Morningstar calculates ROE on an after-tax basis (i.e. the R is Net Profit **after** Tax).

While there are arguments in favour of both approaches, my view that the after-tax return is most relevant to my investing, so I use Morningstar's ROE in my work.

There are other sources than Stock Doctor and Morningstar, so if you find yourself confronted with a difference like this it is always best to go back to the company accounts and make your own calculation. This is absolutely vital if you are going to invest your own hard-earned capital in the company. If an investment fails badly because we did not understand the methodology of a data source, it will be no use blaming them.

In this respect, I warn you strongly about relying on scan output each week in the *Weekly Market Scan* file on the members website. These scans are done on *Insight Trader* charting software and the exact source and methodology used for the fundamental data is not disclosed. I have often found it to be doubtful or wrong and even more frequently out of date while the data source catches up with the reporting season.

You may ask then: why I use it myself and why I provide it in the scans? The ability to do market scans saves us a lot of time winnowing down the hundreds of listed stocks into a manageable list of **possibly interesting** stocks. I would never, ever buy a stock based only on the scan data. I put those stocks that are superficially interesting onto my watch list. Then, as time allows, I check everything back to a reliable source, whose definitions I know. That will eliminate those where the scan data source was incorrect and also those stocks that do not maintain my interest after further study.

Out of all this I will have a few stocks that I will buy. I then check the key ratios I rely on back to the company accounts. To do otherwise would be simply speculating on possibly unreliable/out-dated information. It would guarantee that some mistakes will be made. That will be detrimental to my investment return, as well as my peace of mind.

As an exercise, this is what I would have found had I analysed the difference between the Morningstar and Stock Doctor ROE numbers:

Morningstar

Calculate the ROE from the company accounts using Net Profit after Tax for the R:

Net Profit after tax \$28,021,000 divided by Equity \$155,373,000 x 100 = 18.03%

This was the ROE number that Morningstar showed, so I am done.

Stock Doctor

Calculate the ROE from the company accounts using Net Profit before Tax for the R:

Net Profit before tax \$40,788,000 divided by Equity \$155,373,000 x 100 = 26.25%

However, Stock Doctor's figure is 27.32%. I need to go further and find out what their ratio calculation was.

Most likely the difference will be adjustments they may have made for Significant Items. By working back from 27.32%, we know the adjustment was approximately \$1,660,000.

Stock Doctor discloses their adjustments which added to \$1,657,500:

| Description | Pre Tax Value |
|--|---------------|
| Tax Impact | |
| GST Impact | -\$780,000 |
| Arrangement and consulting fees for tax structure and financ | -\$877,500 |

The small difference between \$1,660,000 and \$1,657,500 is due to rounding of the data and the ROE percentage shown by Stock Doctor.

So, it is not difficult. The benefit of taking the time to check data sources is that we make decisions made on sound information, which will work towards avoiding mistakes and the losses that may follow. We can also sleep soundly.

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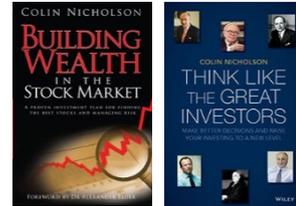
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