
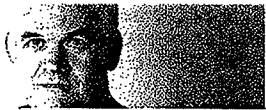


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VALUE INVESTING

The Fermi rule: Estimating your way to wealth



AVNER MANDELMAN THE BUY SIDE

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The great physicist Enrico Fermi was a master of estimation.

In competitions named after him, engineering contestants were asked to estimate unusual values as closely as they could. For example, the circumference of the Earth, or the number of hairs on all human beings, tasks where precision is impossible, but where you can quickly estimate a range for the right answer. The purpose was to teach students that, before investing a big effort to

measure something with precision, they should estimate the answer approximately – and only then judge if it's worthwhile going the extra step to fulfill the task.

I've always thought this advice was as good for investing as for physics. And, you may be surprised to learn, Warren Buffett has been using something quite similar – as does John DiTomasso, who runs a top-rated commodity fund and who once was a top portfolio manager, and Mark Gaskin, now with Manitou Investment Management, and Prem Watsa of Fairfax Financial, and Tom Stanley of Resolute Funds – and as I often do. Indeed, all true value investors do quick value estimations, à la Fermi, to hone in on bargains – and so can you.

Here's how: Say you know with confidence that a stock is worth between \$9 and \$12 a share. You are convinced (based on your analysis) that the value is in this range. Now, if the stock trades around \$3,

do you care that the range is wide? Nope. You just buy the stock. And if the stock trades at \$11? Well, why not just leave this stock alone and go look for another that still trades substantially below true value?

This, in essence, is the value-investing method. To do it, you need to do five things: (1) have a high certainty of a stock's intrinsic value (IV); (2) wait for the stock to trade well below it; (3) keep your firepower dry for such bargains; (4) have the guts to buy when all others are selling, and (5) hold patiently till the stock rises above its IV.

But how to compute intrinsic value? You may be surprised to learn that of all the tasks above, IV computation is perhaps the easiest, either for a stock, or for the market as a whole. Keep in mind, though, that IV computation works best for stocks of firms with a strong business franchise, and whose earnings are fairly predictable in the long run – stocks most worth investing in.

The earnings of the S&P 500, which is the aggregate of the largest U.S. companies, are very stable in the long run, and therefore so is its IV.

To demonstrate the method, let's compute the IV of the S&P 500, following an example provided by Mr. DiTomasso. Just as we do for stocks, first we need to estimate the S&P's expected earnings. For this, we first must find the S&P's long-term return – say its 5- or 10-year moving average, which comes to about 13.5 per cent. That's stage one. Next, we should obtain the S&P's latest book value. This, as any database would show, is about \$516. By multiplying these two numbers we get the market expected earnings – about \$70. The only remaining question is, what price-to-earnings (P/E) multiple would investors pay for these earnings?

This is where experience comes in: The typical market P/E should be about 14 times, for a 7 per cent "earnings yield"

– the average long-term triple-A bond yield (7 per cent) – which brings the IV of the S&P to about 996. Voilà! (Other value investors – for example, Jeremy Grantham of Boston's GMO – see the S&P's IV at 975. Close enough.) The market is therefore trading at about 5- to 10-per-cent below its IV, well above its trough in February-March, when this column, using a similar method, noted it was substantially undervalued.

And what of individual stocks? The method is essentially the same – you start with good, non-levered, stable, high-quality companies that you'd like to own for the long term, compute their long-term return on equity (average of 5 or 10 years), then find the latest book value per share. On this you do a proper analysis, to make sure there would be no writeoffs or writedowns, and there are no hidden liabilities. Then, simply multiply the book value by the ROE, and you'll get expected earnings.

And what multiple should you give these earnings? Not all stocks deserve the market multiple, after all. But here is where some art comes in. GOC firms deserve 1.5 times the average, say 20 times, while others deserve two-thirds – say 14 times. It's up to you to decide which is which, based on your research, and based on past P/E ranges. You then multiply the expected earnings by the P/E, and get the stock's IV. If the stock trades well below it, and your research shows everything else is good, you buy. (This, by the way, is Mr. Buffett's Margin of Safety.) If it's well above, you sell; if close to the range, leave it alone and look at other stocks. Simple.

And what if your P/E estimation is not very exact? Not to worry. If you buy well below the value range, you'll do well just remember the Fermi rule applicable for investors as well as for engineers: Better be approximately right than precisely wrong.