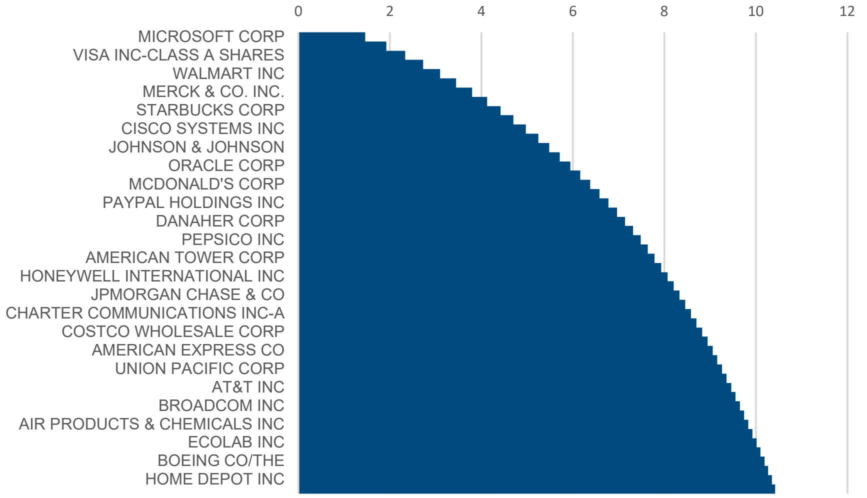
Noise, more noise and faulty statistics

Calendar anniversaries, such as quarter-ends, half-years and calendar years often produce a flurry of ill-considered analyses purporting to be statistical interpretations of the markets for the preceding period. A favourite which particularly irritates me as a professional statistician (or at least a holder of a degree in Mathematics and Statistics) is the one that tells its readers that 10% of the stocks in an index were responsible for 100% of that index's returns over the previous period.

This happens to be true, at face value, for the year to 30th June 2019 in the case of the S&P500 Index. The aggregated performance of its 50 best performing shares, weighted by their market capitalisation, did indeed equate to the performance of the entire index for the preceding 12 months. What is not true, however, is the implication that the remaining 90% of the index, or 450 shares, did nothing at all over the same period and any investors not invested in the top list were impoverished.

Typically, since the S&P 500 is a cap-weighted index, the larger shares, by virtue of their higher market capitalisation, have a greater impact on its performance. So Microsoft, for example, with a market value of $1trillion, or 4% of the index, accounted for nearly 15% of the benchmark's entire return – the largest contribution of any company – but its performance for the year was a relatively low ranking 38%, according to Bloomberg, but its weighting puts it at the top of the list of contributors. Unsurprisingly, this list accounts for 40% of the market cap of the S&P500. The chart below shows the cumulative performance of the top contributors to the S&P500.

Weighted contribution to return on the S&P 500

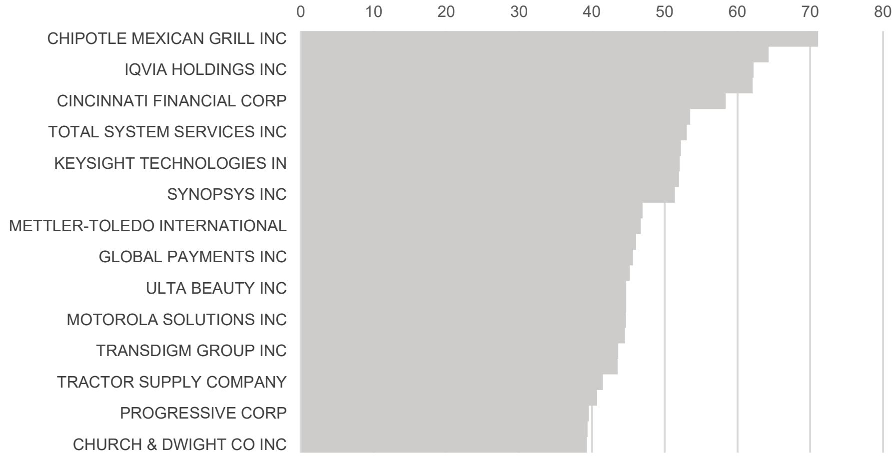


Source: Bloomberg

However, the inference that the other 450 shares didn't perform and your asset manager was remiss in not having large exposures to the above 50 shares is totally fallacious!

Granted, the top 3 performers for the 12 months were amongst the top 50 contributors, but nearly 30 of the top performers outside of the "top 50" performed better than Microsoft! However, because they are less weighty, their stellar performances are ignored by the "statistical" analysis. As the chart below shows, there were gems to be found outside of the top 40% of the index:

Top S&P 500 Performers



Source: Bloomberg

All the original report is telling readers is that, in aggregate, the remaining 450 shares contributed a weighted 0% to the total accumulated by the first 50.

That does, of course, mean there were some profound disappointments in the worst performing shares (no names mentioned!). However, those investors who were lucky enough or sufficiently canny to have ferreted out an asset manager who is prepared to look beyond the obvious and easy well-researched large cap shares could have performed extraordinarily well without being invested in Microsoft (+38%), Amazon (+11%), Apple (+8%), Coca Cola (+21%) or JP Morgan (+10%), all of which were beaten by all 30 of the shares in the next tier of which (by dint of being in the S&P 500) are all still well-established large cap shares in their own right.

Of course, the last 12 months has favoured large caps, many of which have fared well over the period but the reverse can just as easily occur if the market falls and the larger shares lead the rout.

For South African readers, the above story can be even more severe or exaggerated. This is due to both the indices in South Africa being far more concentrated than the S&P – the largest 10 shares account for nearly 70% of the market cap of the index - and several asset managers have such large assets under management, they are effectively unable to invest meaningfully outside of the top handful of shares.

All statistics sourced from Bloomberg.

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