

OPINION

# A modified CAPE ratio is more reliable, and investors should be spooked by it



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Active investors like to compare stock prices to fundamental metrics like earnings per share, namely using valuation ratios, to get a sense of expected returns. The most popular valuation ratio for forecasting the long-run performance of stocks, especially as it relates to the direction of the stock market in aggregate, is what is known as the cyclically adjusted price-earnings (CAPE) ratio.

Well-known economists John Campbell and Nobel Prize winner Robert Shiller introduced the CAPE ratio in 1988 and calculated it by dividing an index, such as the S&P 500, by the total earnings of all component stocks. Total earnings are averaged over the previous 10 years to prevent recessions from depressing earnings and bias analysis. They find a strong negative correlation between the CAPE ratio and future 10-year stock returns, that is, when CAPE is high, future expected returns are low, and when CAPE is low, future expected returns are higher.

In recent times, however, the reliability of the CAPE ratio as a predictor seems to have lost some of its lustre. For example, with a CAPE ratio of 25.1 times in 2015 (being 55 per cent higher than its historic average), one would have expected low forward returns. Instead, stock prices have been on a tear between 2016 and 2025, producing an average rate of return of 13.6 per cent per year (including dividends).

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Is CAPE outdated? Do structural changes in the markets make CAPE unreliable? Does the CAPE ratio need a modification? A recent paper, by four academics from Australia and New Zealand (titled “CAPE Ratios and Long Term”), argues that a potential problem of CAPE is the way the traditional CAPE is calculated, namely scaling the current S&P 500 index by the average annual total index earnings reported over the previous 10 years. But because stocks are regularly

added to and deleted from the S&P 500 index, on annual basis, this results in a mismatch between the stocks included in the index in the numerator, i.e., the ones used to calculate price level, and the historical stocks in the denominator, i.e., those from which historical earnings are derived.

For example, between 1997 and 2025 the number of U.S. public companies declined by 55 per cent, which highlights the degree of mismatch between the number of companies included in the current value of the S&P 500 and the number of companies used for the calculation of the average earnings over the previous 10 years.

As a result, they suggest that investors should better estimate the CAPE ratio by aligning stocks currently in the index with those stocks' historical earnings.

This involves obtaining the historical reported earnings for each current stock component of the index each year and using these to calculate historical S&P 500 index earnings. They estimate the CAPE ratio by ensuring index alignment between the component stocks in the price numerator and earnings denominator. They label this approach the Component CAPE ratio.

More specifically, the Component CAPE ratio is put together by market-value weighting the CAPE ratios of individual stocks in the S&P 500 Index. In contrast, the traditional approach is more closely aligned with an earnings-weighted measure of individual stock CAPE ratios.

The researchers compare the Component CAPE ratio to the equivalent traditional CAPE ratio. Their modification materially improves return predictions of the CAPE ratio. They show that the CAPE ratio, as modified, is much more effective at forecasting long-term equity returns than previously thought of.

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They use in-sample and out-of-sample estimations. (The former tests the researcher's model by using data from a specified period, while the latter tests the validity of the model with data following the specified period.) The in-

sample period for the CAPE ratio is 1961 to 1978. The 10-year period of forecasting returns is 1979 to 1998. They find that while the traditional CAPE ratio has no predictive ability, consistent with recent studies, the Component CAPE ratio produces much better forecasts. They repeat the analysis out of sample for the period 1974 to 2024 with similar results.

And here is the interesting finding, as it was communicated to me by the authors: The Component CAPE ratio at the end of 2024 (the last year it was available) stood at 56 times versus a historic average (1961 to 2024) of 30 times. Stock values have increased since then, undoubtedly pushing up the Component CAPE ratio even further. Talk about a bearish reading, especially since the Component CAPE ratio forecasts 10-year forward stock returns better than the traditional CAPE!

In other words, to paraphrase Mark Twain, reports of the CAPE ratio's death are greatly exaggerated!

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