The Shiller CAPE Ratio: A New Look

Reviewed by James E. McWhinney

Researchers Robert Shiller and John Campbell developed the "cyclically adjusted price–earnings ratio" (CAPE ratio) valuation measure to forecast stock market returns (Campbell and Shiller 1998). CAPE first gained attention on December 3, 1996, when Shiller and Campbell "presented a preliminary version of their research to the Board of Governors of the Federal Reserve." The CAPE ratio has also been credited as part of the body of research behind "Fed Chairman Alan Greenspan's (1996) 'irrational exuberance' speech."[1] Further, "[a]t the top of the bull market in 2000, the CAPE ratio … correctly forecast the poor equity returns over the next decade." By January of 2015, the CAPE ratio suggested "a 10-year future real stock return of only 2.20%." This "forecast of meager stock returns is the result of two factors: the higher valuation of equities and the forecast decline of the CAPE ratio."

A variety of reasons have been cited for the elevated CAPE ratio in the January 2015 forecast, including overly optimistic investors selling their holdings and exerting downward pressure on stock prices when earnings growth fails to materialize, "the dramatic fall in the real yield on bonds," and "a lower risk premium required by investors." Researcher Jeremy J. Siegel has another perspective. Siegel (2016) believes the forecast is lower than it should be due to "changes in the way GAAP earnings are calculated, particularly with respect to mark-to-market mandates." He explains that "the use of S&P reported earnings in CAPE calculations biases CAPE returns upward and forecasts of real stock returns downward," because the CAPE ratio is calculated "by dividing a long-term broad-based index of stock market prices and earnings from 1871 by the average of the last 10 years of earnings per share, with earnings and stock prices measured in real terms.[2]"

Siegel (2016) points out that "the nature of the earnings series that is substituted into the CAPE model has not been consistently calculated," due to changes in the generally accepted accounting principles (GAAP) that underlie "the Standard & Poor's reported earnings series that Shiller used in computing the CAPE ratio." He notes that mark-to-market accounting standards implemented in 1993 and 2001 resulted in significantly reduced earnings for companies listed in the S&P 500. The "dramatic decline in reported earnings" resulting from changes in the way GAAP data is reported causes return forecasts to be lower when these returns are used to calculate the CAPE ratio.

Siegel (2016) argues that "[a]ccurate evaluation of the CAPE model requires that the earnings series used observe consistent and uniform conventions across time." He tests his hypothesis by calculating the CAPE ratio using earnings calculated "by the national income economists at the Bureau of Economic Analysis" in place of the S&P series. The resulting forecast suggests "significantly higher stock returns." Siegel does not take a position with regard to "whether the recent changes in accounting conventions are 'right' or whether current earnings are too high or too low relative to some 'true' value."

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ENDNOTES

1. Shiller (1996) forecast the S&P 500 Index would decline by 38.07 percent over the next ten years. Although the S&P 500 appreciated by 41 percent over that period and real annual stock returns averaged 5.6 percent, the S&P 500 fell by more than 60 percent from October 2007 to March 2009, partially vindicating Shiller's bearishness.
2. More exactly, each month over the past ten years is represented by the twelve-month-lagged per share earnings, which are deflated by the CPI (consumer price index) in each month and the 120 months of lagged data are then averaged. Monthly data are obtained by interpolating quarterly data since 1926 and annual data before 1926. For more information the data series, see Shiller (1990, 2000).

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