



US CAPE and q chart.

With the publication of the Z1 data up to 31st March 2021 (11th June 2021) I have updated my calculations for q and CAPE.

Both q and CAPE include data for the quarter to 31st March 2021. The March average of the S&P 500 was at 3910.51 and US non-financials were 3.0 times overvalued according to q and quoted shares, including financials, were 2.2 times according to CAPE. (It should be noted that I use geometric rather than arithmetic means in these calculations.)

As at 15th June 2021, with the S&P 500 at 4246.59, the overvaluations by the relevant measures were 3.3 times for non-financials and 2.3 times for quoted shares.

Data for my calculations of q are taken for 1900 to 1952 from Measures of Stock Market Value and Returns for the Non-financial Corporate Sector 1900-2002 by Stephen Wright, published in the Review of Income and Wealth (2004) and for 1945 to 2021 from the Financial Accounts of the United States (“Z1”) published by the Federal Reserve. Data for our calculations of CAPE are taken from the data published on Robert Shiller’s website, updated if necessary from data published by Standard & Poor’s. Data on net worth are only available annually before 1952 and I have calculated the quarterly data by interpolation assuming that changes are evenly spread over each year. Market value data are calculated by adjusting the year-end figures for the quarterly value of the S&P 500 or its equivalent as shown by Robert Shiller.

Data Changes.

There have been large changes in the data published by the Federal Reserve in its Z1 Table B.103. “The equity components of foreign direct investment in the U.S. and U.S. direct investment abroad, which are no longer included in total liabilities outstanding on levels tables and balance sheets, are now shown as memo items where appropriate (tables L.100, L.102, L.103, L.104, L.108, L.110, L.111, L.112, L.115, L.116, L.116.g, L.128, L.130, L.132, and L.133). Corporate equities and proprietors’ equity in non-corporate business outstanding, which were not included in liabilities in previous publications, are also shown as memo items on the level tables where available. The market value of total corporate equities outstanding for domestic financial institutions is shown in Table L.108; however, estimates are not available for every financial subsector (L.109-L.132). The balance sheets and measures of net worth of non-financial corporate business and non-financial non-corporate business (Tables B.103, B.104, R.103, and R.104) have been adjusted accordingly.

Non-financial corporate business sector data (Tables F.103, L.103, B.103, and R.103) have been revised from 2019: Q1 forward to reflect new benchmark data from the Internal Revenue Service Statistics of Income for 2019.

I am grateful to Derry Pickford for pointing out that those using that annual Z1 B.103 data should note that there is a discrepancy between the quarterly and annual data. He received the following email from the Federal Reserve. “Thank you for your inquiry into the Financial Accounts of the United States. Regarding B.103 line 44, as well as line 45 and 46. The annual values appear incorrect. I can confirm that the quarterly year-end Q4 values are correct and you should use those and disregard the annual series while we investigate this data problem.”

Data Calculation.

The latest data separate the equity and debt elements in the value of foreign direct investment (“FDI”) in US non-financial companies. I had previously been deducting the value of FDI from US company net worth, but this appears to have involved the debt element in FDI being deducted twice and thus understating the net worth of US owned companies.

I now derive net worth by dividing Z1 line 40 (Value of US owned non-financial companies) by the ratio of net worth to market value (Line 44/100).

Chart Presentation.

I have revised the presentation of the data so that over and under-valuations are shown as log percentage differences. This allows over and under-valuations to appear proportionate. For example, a market which is log 100% overvalued needs to halve to be at fair value and one which is log 100% undervalued needs to double.

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