II. A Framework For Understanding Equity Market Bubbles

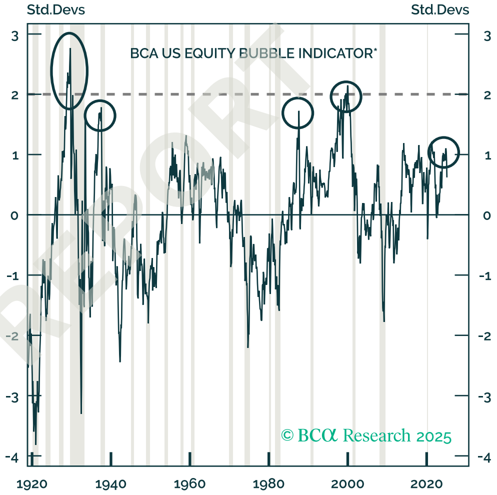
Executive Summary

- Equity investors can reliably identify bubbles in real time. In this report, we present a new indicator that investors can use to track the odds of bubble formation.

- The combination of extreme overvaluation, manic investor psychology, and extremely overbought technical conditions reliably leads to bubbles, which tend to be preceded by easy monetary policy / liquidity conditions. A meaningful tightening of financial / liquidity conditions very often pops bubbles.

- Our bubble indicator fits into a more generalized framework that accurately explains US bear market severity over the past century. It helps explain why some bear markets have been more or less severe than the economic environment would otherwise imply.

Our Indicator Does A Good Job At Judging Bubbles



*SOURCE: ROBERT SHILLER AND BCA CALCULATIONS.
NOTE: SHADED FOR NBER-DESIGNATED US RECESSIONS.
NOTE: HORIZONTAL DASHED LINE AT 2 STANDARD DEVIATIONS REPRESENTS BUBBLE THRESHOLD.

- Among other potential bubble signposts often cited by investors, we find that only two have been meaningful: IPOs, and the Price/Sales ratio. IPOs are considerably "junkier" than they have been in the past and may be less market relevant than they once were.

- The Price/Sales ratio has been much more important when gauging the risk of a bubble among firms with low earnings than it has been for the overall equity market. For the S&P 500, the current signal from the Price/Sales ratio is distorted by a secular rise in profit margins over the past 20-30 years.

Bottom Line: The US equity market is not in a bubble today, but it is meaningfully overvalued. Investors should expect a relatively severe cumulative loss from equities in a recession scenario, underscoring that conservative positioning is warranted.

Asset bubbles have been a recurring feature of financial markets over the past four centuries. In a November 2020 report, our Global Asset Allocation service provided some interesting insights about eight asset bubbles dating back to the 1600s.[1] More recently, we contrasted the Magnificent Seven with the "Nifty Fifty" stocks of the early 1970s in our January report.[2]

In response to the recent pullback in US growth stocks, investors have been anxious about whether the US equity market is in a bubble in the process of bursting. In this report, we look specifically at public equities over the past 100 years (focused heavily on the US) and present a simple framework for investors to understand and track the likelihood of a bubble. We also show how this framework can explain, alongside economic indicators and earnings, the severity of most US equity bear markets since 1919.

We conclude that US equities are not in a bubble and that this is true even for growth stocks. They are, however, meaningfully overvalued, and investors should expect losses from stocks in a recession scenario that are larger than what the severity of a contraction would otherwise imply.

A Bubble Indicator For US Stocks

Bubbles, like recessions, are rare events. True bubbles, depending on the definition, are even rarer than recessions. Therefore, a proper analysis of bubbles necessitates looking far back at history.

At the same time, events that occurred too far back in history may share some similarities with potential bubbles today, but they are also likely to differ in important respects. Additionally, bubbles that occur across different asset classes may go through similar phases as noted by Kindleberger,[3] but this may not aid investors in identifying specific metrics that can be used to detect a bubble in real time.

We focus here on developing a bubble framework for US equities and limit ourselves to about the last 100 years of financial market history. The start of our sample period roughly corresponds to when the Federal Reserve was established, which in our view changed the nature and frequency of banking crises in the US (despite the Fed's failure to adequately respond to the Great Depression).

1 Please see Global Asset Allocation "An Investor's Guide To Stock Market Bubbles," dated November 20, 2020, available at gaa.bcaresearch.com

2 Please see The Bank Credit Analyst "Is Magnificent The New Nifty?" dated December 20, 2024, available at bca.bcaresearch.com

3 *Manias, Panics, and Crashes: A History of Financial Crises*, by Robert Z. Aliber, Charles P. Kindleberger, Robert N. McCauley, 8th ed., 2023

To demonstrate our framework, we build a bubble indicator for US equities that begins in the 1920s, based on three typical bubble warning signs:

- Extreme overvaluation
- Mania-like investor psychology
- Extremely overbought technical conditions

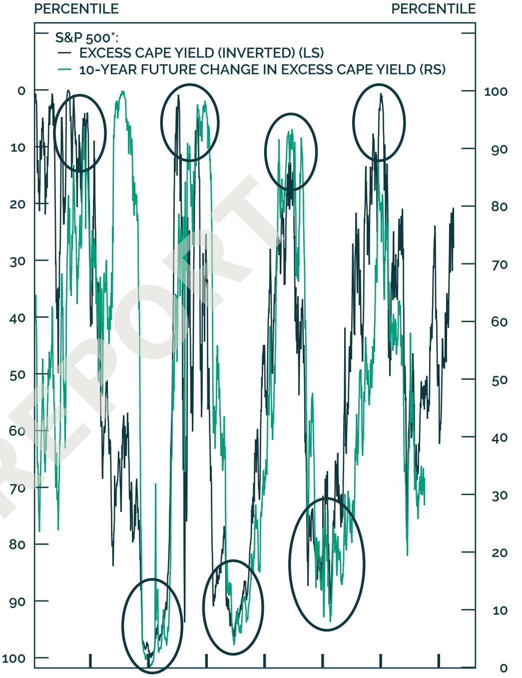
We also show how our indicator fits into a generalized framework to predict the magnitude of bear markets over the same period.

To measure extreme overvaluation, we use the excess cyclically adjusted earnings yield from the Shiller dataset ("excess CAPE yield"). The excess CAPE yield is a measure of the equity risk premium (ERP) using real long-term government bond yields.[4]

There are three reasons why an ERP approach with real government bond yields is the right way to gauge the valuation risk facing stocks. The first is that the excess CAPE yield has been highly mean reverting over time (**Chart II-1**). During certain periods, this mean reversion has reflected the specific timing of economic cycles rather than an organic normalization of equity valuation. But the point remains that periods of excessive pricing have tended to lead to periods with lower multiples.

The second reason that we employ the excess CAPE yield approach is that it controls for apparent P/E overvaluation caused by a low discount rate. **Chart II-2** shows that the Shiller CAPE is currently at its 98th historical

CHART II-1
The Shiller Excess CAPE Yield Is Highly Mean-Reverting



*SOURCE: ROBERT SHILLER DATA.

percentile but that the excess CAPE yield is at its 21st percentile (not its 2nd). This drives home the importance of measuring equity valuation relative to generally risk-free rates of return, as investors are right to value future earnings more highly in a world where interest rates are low.