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"Learn how to see. Realize that everything connects to everything else."

— Leonardo da Vinci

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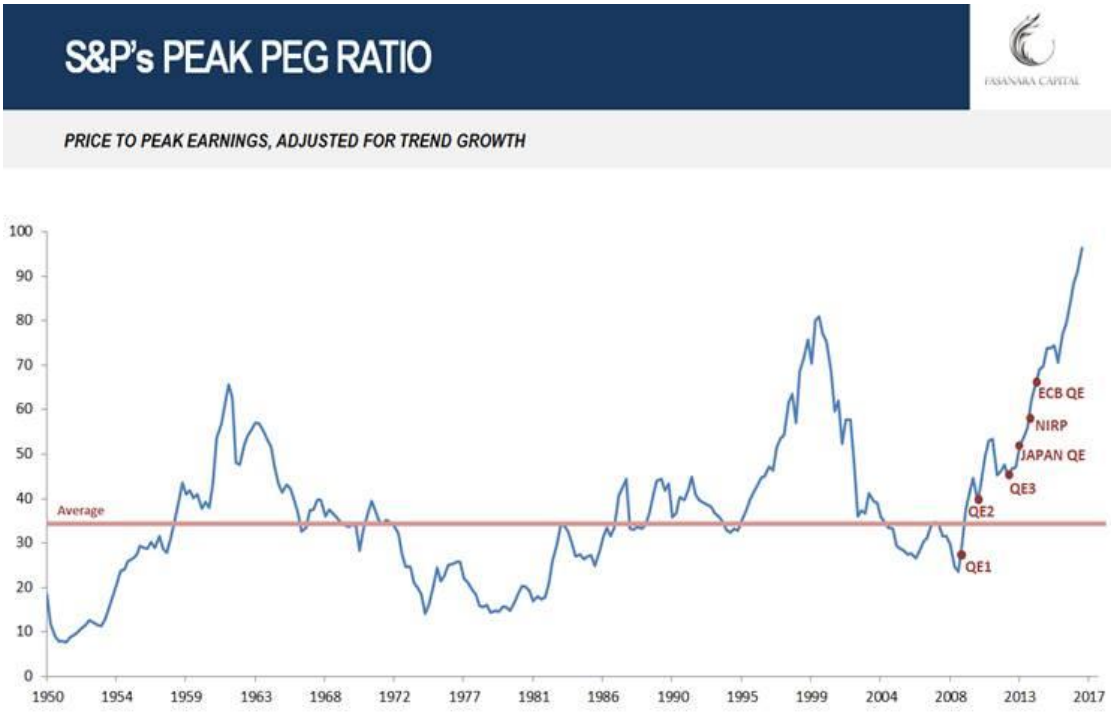
The S&P has never before been this expensive: the 'Peak PEG' Ratio

Measuring the Equity Bubble

In this brief note we discuss how, on some reasonable metrics, **the S&P may qualify as the most expensive in history. When compared to potential economic growth, multiples on the S&P500 exceed even those seen during the Tech Bubble in 2000**. To value the S&P index, we use a variation of the Shiller P/E and the Hussman P/E. In a simplistic form, the '**Peak PEG ratio' is a price to peak-earnings multiple, adjusted for long-run trend growth**. It considers the highest (rather than average) earnings over the previous 10 years and then divides for growth potential. **When measured against potential growth, even on its highest earnings, the S&P has never before been this expensive. It is 60% above its historical average fair value.**

Firstly, using peak earnings instead of average earnings helps defuse one of the ordinary complaints to cyclically-adjusted Shiller P/E, or that it incorporates the bad earnings from 10 years ago, during the Great Financial Crisis, an outlier.

Secondly, the point we make is that the willingness of investors to pay up for future earnings - even the most generous one as multiples are projected against the highest such earnings in 10 years - must be related to potential GDP growth in the years ahead, as an historically-reliable proxy for earnings potential. It is one thing to buy 30x earnings if the economy grows furiously; it is quite another to spend that much if the economy slow-walks. The concept is commonplace in relation to single stocks (the PEG ratio), less so when market aggregates are considered. The thing is that long-run growth has declined for decades now, as is embroiled in the structural trends of Secular Stagnation: bad demographics (declining labor participation rates and shrinking working population in advanced economies), over-capacity and over-indebtedness, falling productivity of new credit, low productivity of labor and capital, disruption from new technologies (job displacement in primis). The downtrend in potential growth spans several decades; an inversion is possible but imprudent to factor in. To some, this is not a 'new normal' but rather an 'old normal', as the anomaly is perhaps growth in the half-century after WWII, while we now reverted to a lower average GDP growth of below 2%.



Source: Fasanara Capital ltd

Data Set:

- S&P quarterly price data, source Bloomberg
- Corporate Profits After-Tax, quarterly data, average of the two highest quarters over the previous 10 years, source FED St Louis
- US Real GDP % Change, rolling 10-year average, quarterly data, source IMF

The Shiller P/E ratio

Professor Robert Shiller won a Nobel Prize for his studies on market inefficiency, as he discovered that stock prices can be predicted over a longer period. The Shiller P/E, or cyclically-adjusted P/E, or CAPE P/E, takes into account the average earnings of the last 10 years. Valued on P/E Shiller at 30x, US equities are in bubble territory. Only twice in history the Shiller P/E has been as high or higher, in 1929 and in 2000. If those were bubbles, and the market crash that followed may imply that, then this one is probably a bubble too.

However, critics to this ratio argue that it is distorted by bad earnings from 10 years ago, a time that may no longer be relevant.

The Hussman P/E ratio

John Hussman amends the P/E Shiller to counter its most common critic, and considers peak earnings instead of average earnings. He uses a 'price to peak-earnings ratio'. He finds that the current market is more expensive than the market in 1929, although it is still less expensive than the one in 2000.

The PEG ratio for a single stock

Comparing multiples to growth potential is commonplace for single stock valuation. The price-earnings to growth ratio (PEG ratio) is a stock's price-to-earnings ratio divided by the growth rate of its earnings for a specified time period. The PEG ratio is used to determine a stock's value while taking the company's earnings growth into account, and is considered to provide a more complete picture than the P/E ratio.

The Peak PEG ratio, using Peak Earnings and Trend Growth

The Peak PEG ratio uses peak earnings over the last ten years (the two top quarters), and adjusts them for long-run trend rate of GDP growth (here simply proxied by average of the past 10 years). It attempts to:

- Uses top earnings so to conservatively assume the best profit generation capability for stocks in a decade to persist, thus defusing critics of distortion on bad outliers
- Uses GDP trend growth so to proxy earnings growth potential, which is highly correlated to it over time. Thus, it compares expensiveness to economic potential. As a rationale investor , the higher growth in my portfolio's future earnings, the more I should be willing to pay for it.
- It also deprives the ratio from another common critic, that few stocks only lead the pack, distorting average P/E. As GDP growth proxies how big a total pie single stocks can eat out of, it should matter less how many stocks in the S&P500 join the move. Considering domestic GDP should also not impair the analysis, as world trend growth is likewise down-trending (secular stagnation is global phenomenon).

Variations on the theme:

- Relating to Trend Growth other commonly-used valuation metrics such as Price to Sales, Market Cap to GDP/GVA/GNP, EV to EBITDA, Financial Assets to Disposable Income yields similar results, and does not falsify the thesis.
- Relating P/E multiples to 'velocity of money' or 'money multiplier' as opposed to potential growth, as alternative proxies for secular stagnation, also leads to similar results.

Equities-to-Bonds ratio

So, equity markets in the US are expensive. On 'Peak PEG' metrics, they may have never been as expensive as they are today. The only metric left out there, where they look less expensive, is when compared to bonds: government bonds, corporate bonds, and now also junk bonds. Except that, bonds themselves are in a bubble, after $ 14 trillions of them got soaked up the last ten years by major Central Banks globally, now owning over 30% of total outstanding. Only the Bond Bubble then can justify equity multiples. Which is to say that only the Bond Bubble can justify the Equity Bubble. Meta-markets, where bubbles justify one another. A drunken man who drives home another drunken man. Prosaically, Equities valuations are not as insane as bond valuations, but that does not make them cheap.

How it ends

In our opinion, it ends like this.