

# The Fat Pitch

[About](#) [Breadth](#) [Links](#) [Macro](#) [Seasonality](#) [Sentiment](#) [Trend](#) [Valuation](#) [Volatility](#) [Weekly Market Summary](#)

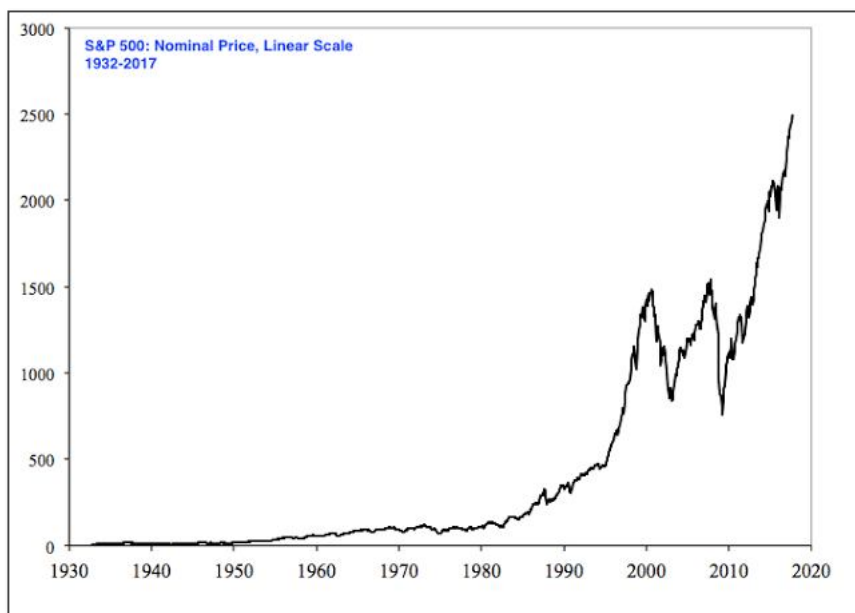
Sunday, October 22, 2017

## Investor Psychology, Part I: Using Time, Scaling and Inflation to Frame Data (and Mislead Readers)

**Summary:** How data is presented has a significant affect on the conclusion a reader will draw. Behavioral economists call this framing: "what you see is all there is." Presented below is a mental trick used to mislead readers.

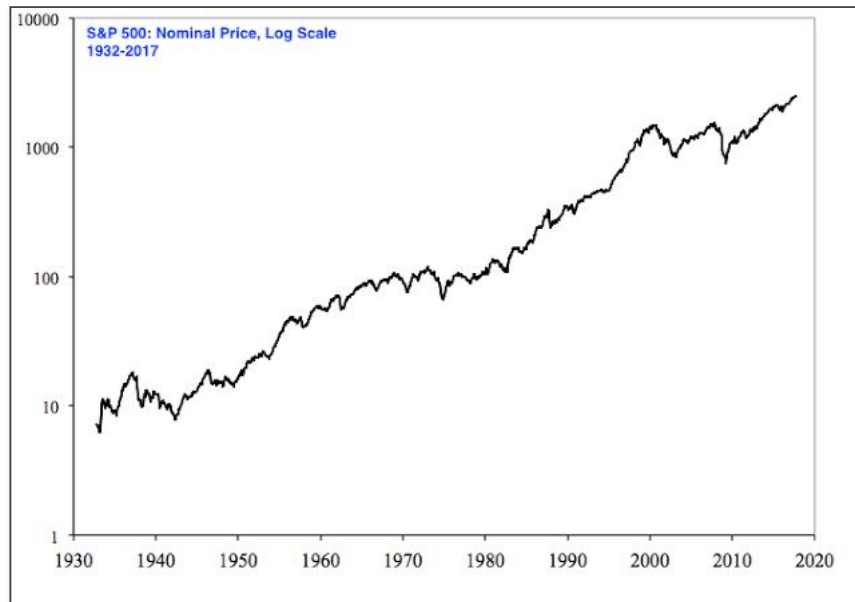
\* \* \*

Over the past 85 years, the S&P stock index has grown 35,600%. The rise looks parabolic. The conclusion appears to be that it is unsustainable (data from Robert Shiller).

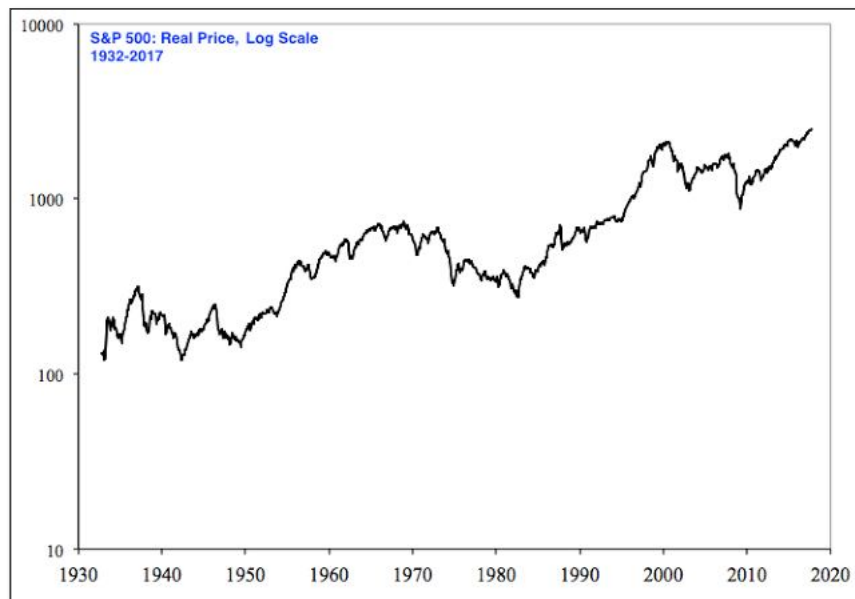


Two benign factors account for the parabolic rise.

First, this astounding growth is a product of the long time period being used. Accounting for time, the rate of growth is a more reasonable sounding 7.2% per annum (compounded). A logarithmic scale helps account for the long time period.



Second, inflation also has a substantial influence on growth. During these 85 years, the value of \$1 has, through inflation alone, grown 2100%, equalling an additional growth of 3.7% per annum (compounded). Without inflation, annual growth is just 3.5%.



How data is presented has a significant affect on the conclusion a reader will draw. The first chart makes the price rise look parabolic and unsustainable; the second two charts show that the rise has been relatively constant and uncontroversial.

Behavioral economists call this framing: "what you see is all there is." If the author's objective is to show a parabolic rise in price, he/she will use a long time series, a linear scale and nominal prices, leaving the reader to make the mental effort to adjust for benign factors like time and inflation. It's a trick intended to mislead readers.

*If you find this post to be valuable, consider visiting a few of our sponsors who have offers that might be relevant to you.*

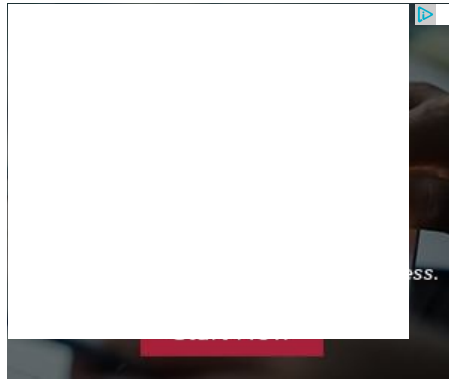
Posted by Urban Carmel at 8:56 AM



Labels: Trend

## Links to this post

[Create a Link](#)



[Newer Post](#)

[Home](#)

[Older Post](#)

Simple theme. Powered by [Blogger](#).