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### **Irrational Exuberance**

*“But how do we know when irrational exuberance has unduly escalated asset values, which then become subject to unexpected and prolonged contractions as they have in Japan over the past decade?”* (Alan Greenspan, 1996)

Irrational exuberance is a word coined by Alan Greenspan, ex-chairman of Washington Federal Reserve Board, during the speech “Central Banking in a democratic society” for The American Enterprise Institute dinner party at Washington Hilton Hotel, 5<sup>th</sup> December 1996, during the time The Dotcom Bubble was still growing. The speech was aired live on TV. After several pages into the speech, Alan proposed the above quoted question, and the result was an immediate sharp drop of 3% in Tokyo’s stock market, which was open at that time. The Hong Kong’s market later fell 3%, Frankfurt and London fell 4%, while US market fell 2% at the time the market opened. (Robert Shiller, 2005)

The term itself is used to describe “unsustainable investor enthusiasm that drives asset prices up to levels that aren’t supported by fundamentals”, which later became associated to events such as Tulip Mania, Dotcom Crisis, Subprime Crisis, and Bitcoin.

The popularity of the term soared when Professor Robert Shiller, Yale university economics professor and Nobel prize winner, wrote the book named after the term: *Irrational Exuberance*. The book used behavioral economics to explain why financial market overshoot. The first edition (2000) predicted that “the present stock market displays the classic features of a speculative bubble” while its second edition (2005) warned that “the enormous house price boom that many countries have been experiencing since the late 1990s” could become a problem. Those predictions turned out to be true and the word irrational exuberance became mainstream.

In the third edition of *Irrational Exuberance*, Shiller explained how irrational exuberance is formed by using Bitcoin as example. He said that "there's a fundamental deep angst of our digitization and computers, that people wonder what their place is in this new world. Somehow bitcoin fits into that and it gives a sense of empowerment: I understand what's happening! I can

speculate, and I can be rich from understanding this!" (Robert Shiller, *Irrational Exuberance 3<sup>rd</sup> Edition*, 2017)

To measure market valuation more accurately, Shiller used Cyclically Adjusted P/E ratio (CAPE ratio) which is commonly known as Shiller P/E ratio or P/E 10 ratio. It is calculated using past 10-years CPI adjusted S&P 500 annual earnings over the 10-year average EPS. The strength of this index is that it eliminates the fluctuation of ratio caused by change in profit margin during business cycles.

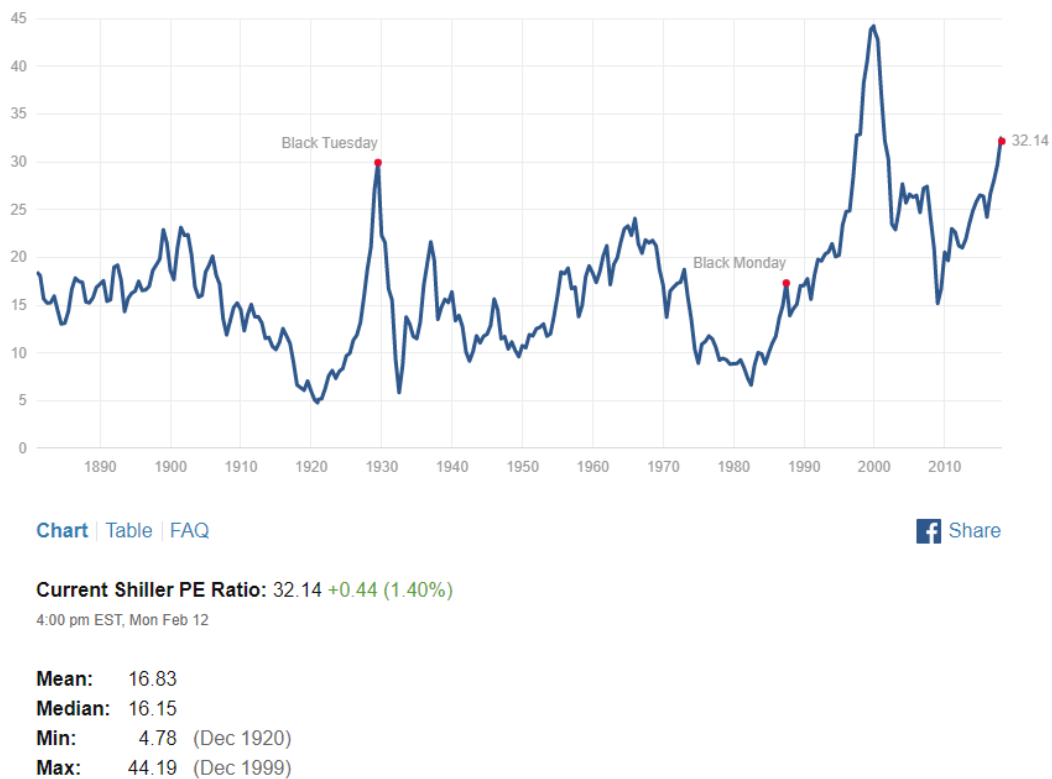


Figure 1: Current Shiller P/E ratio (February 13<sup>th</sup>, 2018). Available at: <http://www.multpl.com/shiller-pe/>

The ratio functions virtually the same as normal P/E ratio: it tends to be high when people speculates and overvalues, and vice versa.

However, the Shiller P/E ratio also received much criticism that it is too “overly pessimistic” and offer too much a bearish view on the market. It also inherently a backward-looking tool rather than forward-looking, a trait which forecasting tools shouldn’t have. (Jeremy J. Siegel, 2016).

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