Refereeing report on:

A Historical Analysis of the US Stock Price Index Using Empirical Mode Decomposition over 1791– 2015

This paper explores the dynamics of Standard and Poor's 500 index within a time-frequency framework over a monthly period spanning 1791–2015. Using the Empirical Mode Decomposition methodology, the S&P 500 stock price index is divided into different frequencies known as intrinsic mode functions (IMFs) and one residual. These IMFs along with the residual are then reconstructed into high frequency, low frequency and trend components using the hierarchical clustering method. Through different measures it is shown that the low frequency and trend components of stock prices are relatively important drivers of the S&P 500 index. These results gain robustness across various subsamples identified based on structural break tests. Overall, the findings indicate that US stock prices have been driven mostly by fundamental laws rooted in economic growth and long-term returns on investment.

I really enjoyed this paper. It is a well-written and constructed study. It needs some final touches prior to acceptance. In particular:

- The paper needs an English proof-reading prior to publication
- The introductory section needs to indicate what are the stakeholders that will benefit from the empirical findings
- Any particular reason for selecting a long time-series? Is it possible for the methodology to work out in smaller spans?
- What is the economic rationale of selecting such particular sub-samples?
- An extension of the implications of the results indicated in the conclusion section is required.