

## Referee Report “Date-Stamping US Housing Market Explosivity”

This paper tries to identify periods of US house price explosivity using data from 1830 – 2013. The author employs mainly two methods: recursive GSADF test by Phillips et al. (2013) and Robinson (1994)’s test statistic. The former allows for recursive identification of multiple periods of price explosivity, while the latter tests right tailed alternatives to unit root testing. Both methods date-stamp several periods of US house price explosivity. The results also suggest that the Robinson (1994)’s test, more flexible and using fractional integration to test the alternative hypothesis, identifies a richer set of dates of US house price explosivity.

The paper differs from the literature in detecting “bubbles” by applying the above-mentioned methods to identify price explosivity in the housing market, using a very long time series of historical house price. In general, the paper is very well written: clearly motivated, rich discussion in related literature, and well analyzed empirical results. I enjoy reading this paper. The followings are several comments and suggestions:

1. A main premise of this paper is that “... house price movements tend, in the long run, to display stationary behavior relative to broad price movements in the economy. We thus label periods of positive deviations from such stationarity for sustained periods as episodes of price explosivity.” Is there any way to validate this assumption? The author also mentioned that one concern for this assumption is the heterogeneity in the relative value of houses over time. The author argues that “such changes occur over many decades and could be safely assumed to be less important in valuing homes in the short term viz-a-viz general aggregate prices.” Nevertheless, the data used in this study is a very long time series. Changes in the relative value of houses over time would be a non-negligible issue.
2. The author argues that Robinson (1994)’s test statistic is more flexible and is able to identify a richer set of dates of US house price explosivity. Is there any way to discern or test that Robinson (1994)’s test is truly superior to Phillips et al. (2013)’s? How to reconcile the different results of these two approaches?