SMU

Publication: The Business Times, p 21
Date: 28 June 2013
Headline: Bubble or roller coaster in world stock markets?

Bubble or roller coaster in world stock markets?

By **PETER CB PHILLIPS** and **JUN YU**

LOW interest rate regimes that have persisted since the financial crisis have driven down hedge fund returns and forced investors to take on greater risk exposure in search of positive returns. Falling commodity prices, concerns over the bond market and shaken property markets leave investors with slim pickings outside the stock market.

Supported by the US Federal Reserve's quantitative easing programme and rising corporate profits, wolf packs of investors took the S&P 500 to new levels last month. Singapore stock prices also rallied with the Straits Times Index (STI) rising to five-year highs. Since then, stock market exuberance has unwound rapidly across North America, Europe and Asia. Was the latest market experience another asset price bubble?

The financial crisis amply demonstrated that individual risk taking can aggregate into perils of greater exposure – impacting the real economy, threatening financial institutions, and endangering global financial stability. The dot-com and US housing bubbles uprooted much textbook thinking about bubbles and efficient markets, implanting new concerns about the wider risks of financial market exuberance and ballooning debt.

As the stock markets rode to record levels last month the Federal Reserve chairman Ben Bernanke drew attention to the systemic dangers of excessive risk taking. Mr Bernanke was cautious in talking about a bubble and pointed to the difficulty of identifying mis-valuation. But the press widely regarded his remarks as a cautionary declamation, softer than former Fed chairman Alan Greenspan's famous remarks on market exuberance in 1996, but nonetheless cautionary. Tellingly so, because they soon attracted the attention of watchdog economic columnist Paul Krugman.

So did we experience another bubble in the stock market? Mr Krugman dismissed concerns in his column in *The New York Times* last month, and enjoined Mr Bernanke to "brush aside" the rising babble on financial market bubbles and "get on with doing his job". Mr Krugman supported his position with a commentary on stock indexes and corporate profits in relation to historical levels. His arguments deserve greater scrutiny and empirical assessment, especially in view of the dangers attested by recent experience.

Defining bubble phenomena has challenged economists. But since the dot-com and US housing market sagas of exuberance and collapse, there is now broad recognition among economists (including central bankers Mr Bernanke and the British Mervyn King) that bubbles do exist.

The greater challenge is precisely the one confronted by Mr Greenspan in the mid 1990s, and recently by Mr Bernanke and Mr Krugman: How do we assess whether there is evidence of irrational exuberance during the expansionary phase?

The search for a standard

Finding a quantitative standard to signal the presence of an emerging financial asset bubble is now an active arena of econometric research. New techniques that we have developed provide real time detectors that assess evidence during the expansion phase of a bubble. These techniques come to the rescue because they enable us to test normal market behaviour against the explicit alternative of exuberance, represented mathematically as mildly explosive behaviour.

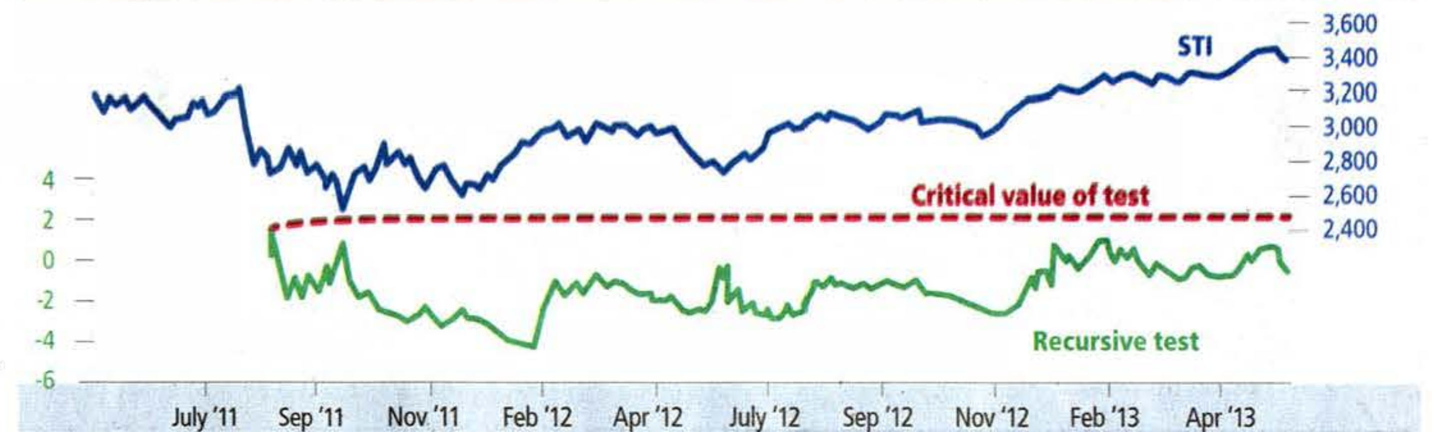
We used this diagnostic tool to assess evidence of financial exuberance in the Nasdaq in the 1990s. That work showed statistical evidence of dot-com exuberance 15 months prior to Mr Greenspan's December 1996 speech that flagged an emerging problem of irrational exuberance. So Mr Greenspan's impressions had a hard quantitative basis and could have been validly expressed a year earlier.

We applied the same technology to the STI and to major US and UK stock market indexes and bond prices to evaluate recent evidence. The results for the STI are representative of our findings and are shown in the figure above. The asset bubble detector is shown by the green line (left axis), which is computed recursively – that is period by period as the data (blue line) evolve. The red line is a threshold value corresponding to a one per cent probability of a false detection initially with declining probabilities of false detection thereafter. If and when the recursive test statistic (the red line) breaks above this threshold value, there is strong indication of exuberance in the market.

We find no such evidence of a bubble in the STI (or the S&P 500 or Dow Jones or FTSE 100) over the period August 2011 to June 2013. We also found no recent evidence of a bubble in US Treasuries or bond prices. These results together imply that Mr Krugman's assessment last month was correct, and his advice to Mr Bernanke is well supported by the evidence on prices even without reference to economic fundamentals. The recent roller coaster in world stock markets was not an asset price bubble.

Ups and downs

Working out that bubbly feeling



Peter CB Phillips is Sterling Professor of Economics at Yale University and Keppel Professor of Economics at Singapore Management University

Jun Yu is Professor of Economics and Professor of Finance at Singapore Management University

Source: The Business Times © Singapore Press Holdings Limited. Permission required for reproduction.