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STUNNING CORRELATION OF MAJOR BOURSES OVER PAST SIX MONTHS

TURMOIL IN JAPANESE STOCKS NOT "MADE IN JAPAN"

Key points:

- **Nikkei 225 down 15% from July 21, 2015's 19-year high; now 4% below level at same time last year**
- **Fall reflects, not developments or prospects within, Japan, but developments in global financial and currency markets**
- **Remarkably high (83-92%) correlation with daily moves in S&P, DAX, and FTSE since June 1, 2015**
- **Remarkable 90% correlation with daily moves in ¥/$**
- **Shanghai's drop may have been one of the triggers, but was not the cause**

Overview

We're no experts on stock markets, but it does occur to us that the gyrations of Japan's stock prices over the past six months may say less about the fundamentals of Japan's economy than about the ups and downs of sentiment on all four of the major bourses in rich countries: the Nikkei 225, S&P 500, FTSE (London) and DAX (Frankfurt).

After hitting a 19-year high of 20,842 on July 21 of last year, the Nikkei 225 index has since declined by 15% as of yesterday (see *Figure 1*). As a result, it now stands just 4% *below* its level of a year ago (see *Figure 2*), and just 5% above its level 10 years ago (see *Figure 3*).

We've seen articles saying the stock drop reflects anything from fears about China's slowdown to disenchantment with Abenomics to the plunge in oil prices. We have another possible explanation: the unusually strong correlation over the last six months between moves in the Nikkei and moves the other three major stock markets—as well as a correlation with moves in the yen/$ rate—suggests to us that Japan's stock price movements may tell us more about sentiment in global financial markets than much about Japan's own economic prospects.

Ever since June 1 of last year, there has been a truly stunning correlation in daily movements between the four big markets in the rich countries (see *Figure 4*). All four have moved down by roughly similar amounts (11%-17%), and the daily ups and downs have seemed tightly synchronized. For example, the daily ups and downs of the Nikkei 225 have had an 86% correlation with the S&P 500, a 92% correlation with the DAX and an 83% correlation with the FTSE. If these other markets rise of fall on any given day, the Nikkei will almost certainly move in the same direction. However, the overall drop in the Nikkei has been more severe than in the S&P, and not much more than the magnitudes in the DAX and the FTSE. Typically, since June 1, if the S&P moves up or down by 1 percentage point, the Nikkei will move by 1.4 percentage points. If the DAX moves by 1 percentage point, the Nikkei will move by 0.9 points, and a 1 percentage point change in the FTSE will likely be accompanied by a 1.05 point change in the Nikkei.

While we have often seen periods in the past of fairly tight correlation among leading markets, the degree of correlation over the last six months seems unusually tight. Contrast it, for example, with the big difference in movements in the three-and-a-half years preceding June 1, 2015 (i.e. from Jan. 4, 2012 until May 31, 2015) in *Figure 5,* or Nikkei and S&P over the past twelve years (see *Figure 6*).

Exactly why this happening is above our pay grade. Perhaps the same global investors are operating in all of these markets, doing "high-frequency" computer-driven trades, and reacting in all of these markets based more on global financial events rather than by fundamental economic developments in each of the countries. If so, than the movements in Japanese stock prices may say more about current sentiment among these global investors than about Japan per se.

The Yen Factor in the Nikkei 225

Another major factor in Japanese stock prices is the ups and downs of the ¥/$ rate. Over the period since June 1, there has been an amazing tight 90% correlation between daily ups and downs in the yen and in the Nikkei stock index (see *Figure 7*). Moreover, this correlation goes back nearly a decade (see *Figure 8*).[1]

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[1] The correlation of 89% over the past nine years cannot really be compared to the 90% over just six months, since there are a number of six-month periods within the last nine years where the correlation was much less than 90%. Nonetheless, having such a high correlation over so long a period is remarkable.

The yen rate means more for stock prices than it does for the Japanese economy as a whole for a very good reason. For one thing, a weaker helps the export competitiveness of the big multinationals (and their partners and suppliers) who dominate the 225 firms in the Nikkei. A weaker yen also means that every dollar (or euro, etc.) in profits earned overseas by these is translated into more yen on the profit and loss statement of these firms. Without actually earning any more money overseas, they are able to show higher yen-denominated profits in their accounts when the yen weakens (and suffer smaller profits when the yen rises). Hence, while changes in the yen may not have that big effect on the entire economy, they do have a big impact on the reported profits of the large multinationals.

The China Factor

While the big drop in the Shanghai stock market last June coincided with the beginnings of the decline elsewhere (see *Figure 9*), the events in China were, at most, a trigger, rather than a cause, of the declines elsewhere. As one analysts put it, many markets were "price for perfection" in terms of anticipated profits growth. Hence, any development that cast doubt on the "perfection scenario," e.g. the Euro crisis, China, oil prices, rising interest rates, etc. could set off a correction.

In any case, as we in *Figure 9*, the decline in the Shanghai stock index (SSE) has been more than twice as severe as the decline in the rich country markets. The SSE has fallen 40% since last June. However, if we put the rich countries on the left-hand axis and Shanghai on the right-hand axis, as in *Figure 10*, we can see a very tight correlation in the ups and downs of all five of these markets.

But this correlation is unusual. We do not see it in *Figure 11*, where we go back to January 2012. The SSE was basically flat from 2012 through 2014, but then zoomed upwards by 140% from late 2014 through the first half of 2015 and then lost most of that gain from June 2015 onward.

As we detailed in recent *Alerts*, China's GDP growth has surprisingly little impact on Japan's own growth. However, if the markets take China's deceleration and the drop in oil prices as a reflection of weaker global growth prospects, then reaction to this greater global risk could influence the Nikkei 225 index.

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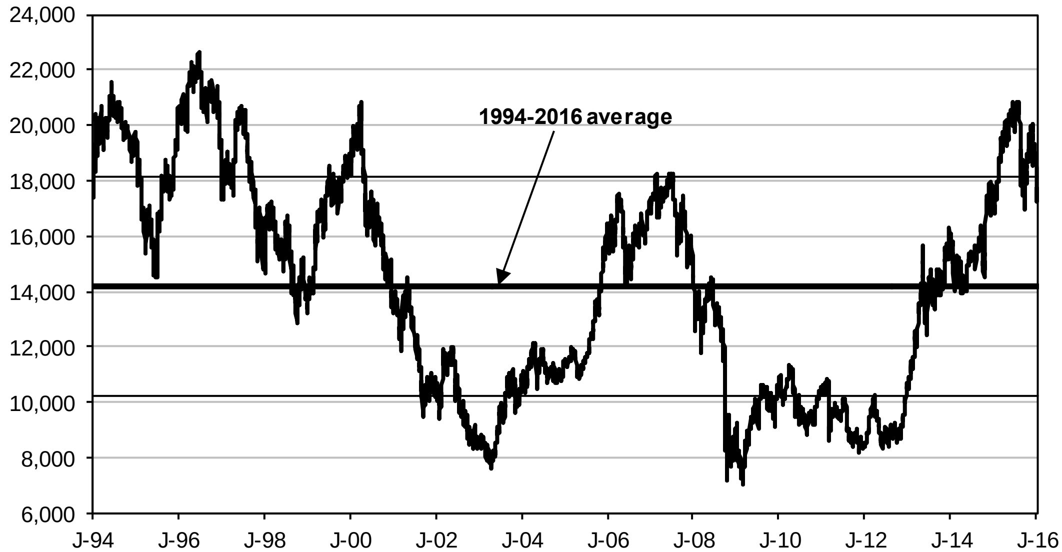
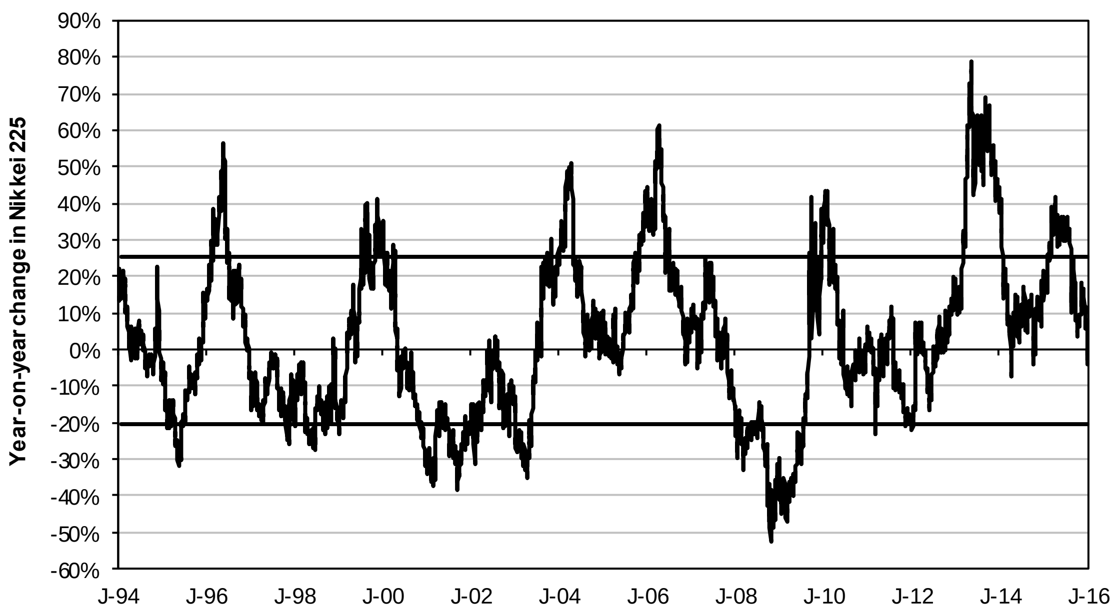
Figure 1: Two Decades Of Ups and Downs



Source: *Nikkei*
Note: Thin horizontal lines are one standard deviation from the average, which means that two-thirds of the daily closes during 1996-2016 fell between approximately 10,000 and 18,000

Figure 2: Nikkei 225 Now 4% Below Year-Ago Levels



Source: *Nikkei*
Note: Thick horizontal lines are one standard deviation from the average (2.5% year-on-year gain), which means that two-thirds of the daily closes during 1994-2016 fell between the two lines

Figure 3: Nikkei Now Just 5% Above Level 10 Years Ago

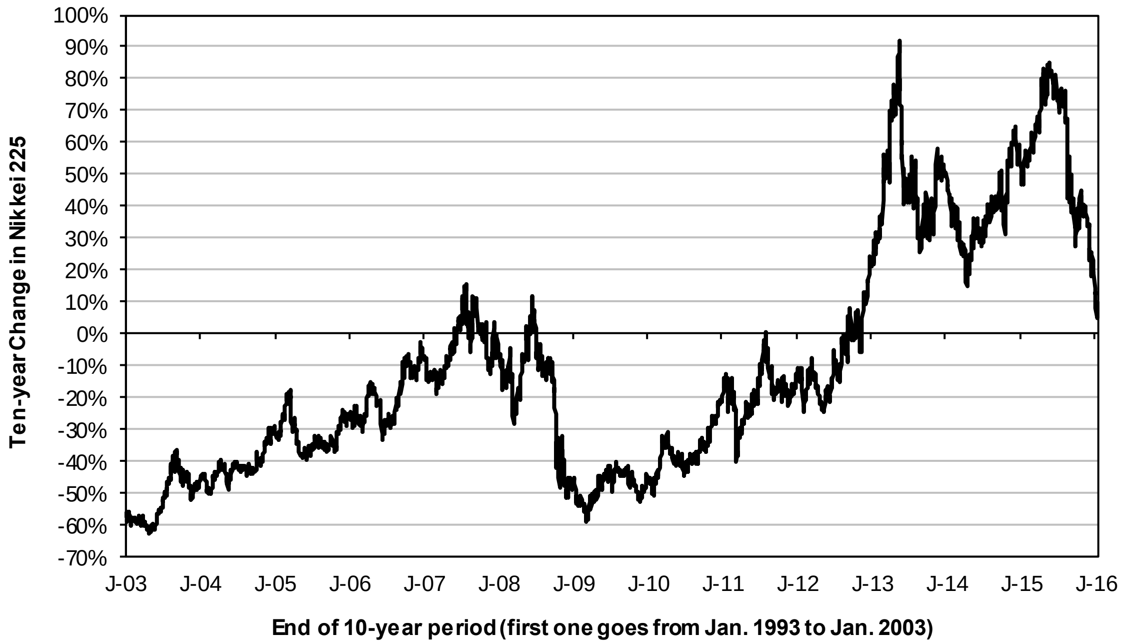
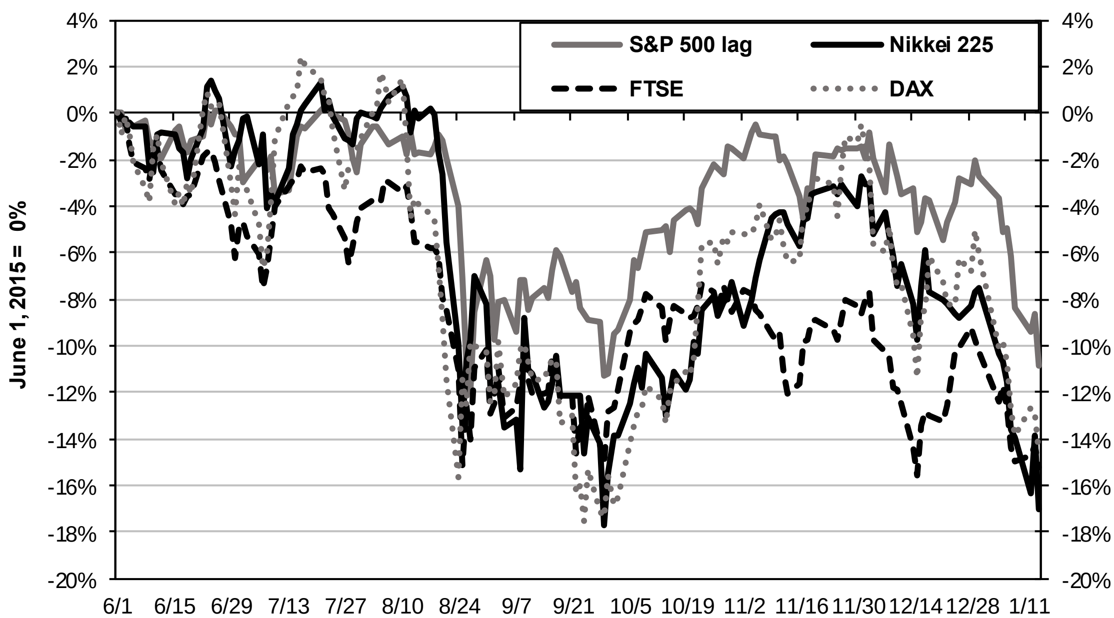
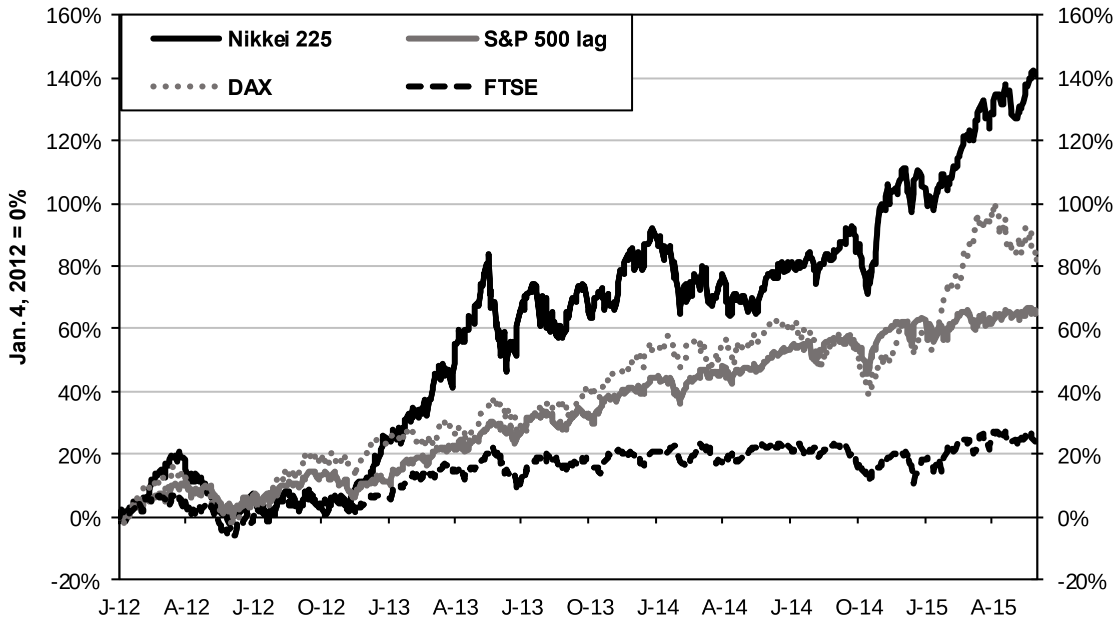


Figure 4: Stunningly High Correlation of Four Major Bourses Since Last June



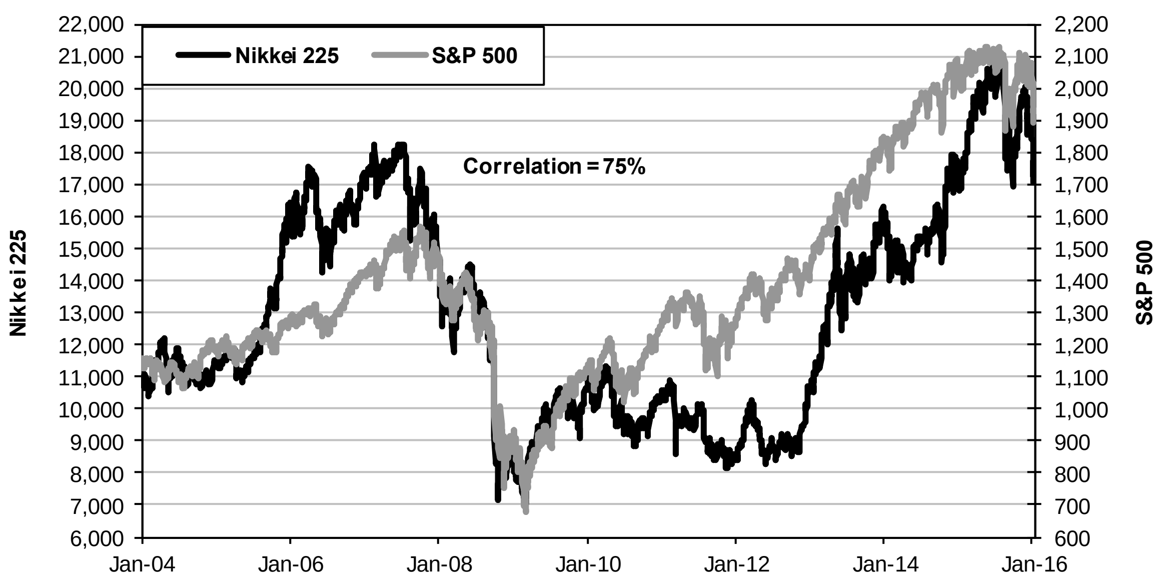
Source: *Nikkei*, Yahoo

Figure 5: Hardly The Same Correlation Over Previous Three-and-a-Half Years



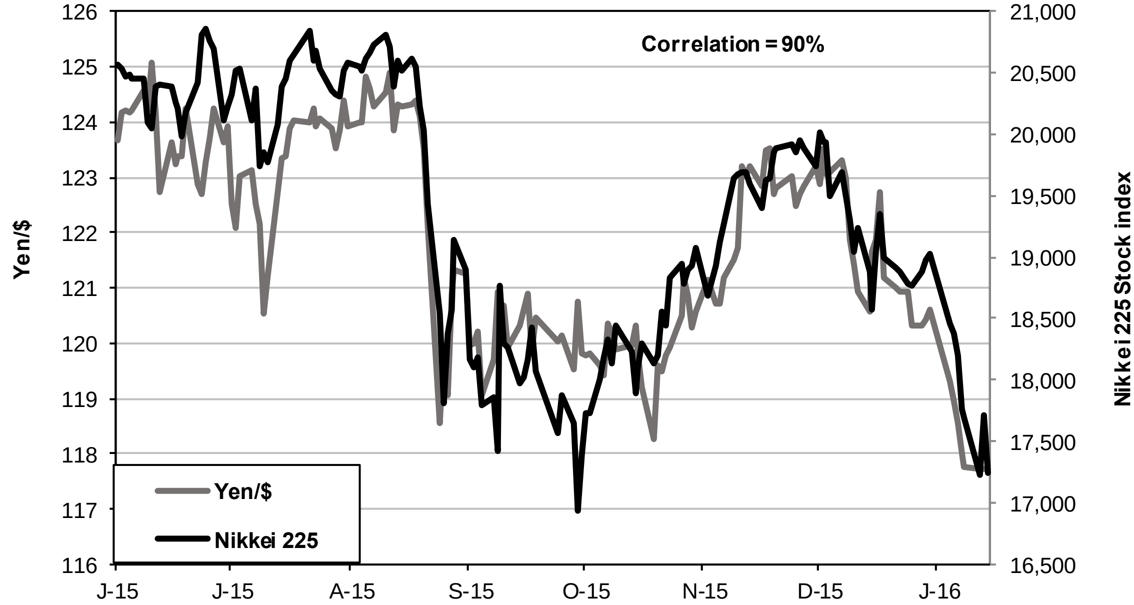
Source: *Nikkei*, Yahoo

Figure 6: Comparing Nikkei and S&P In Past Twelve Years



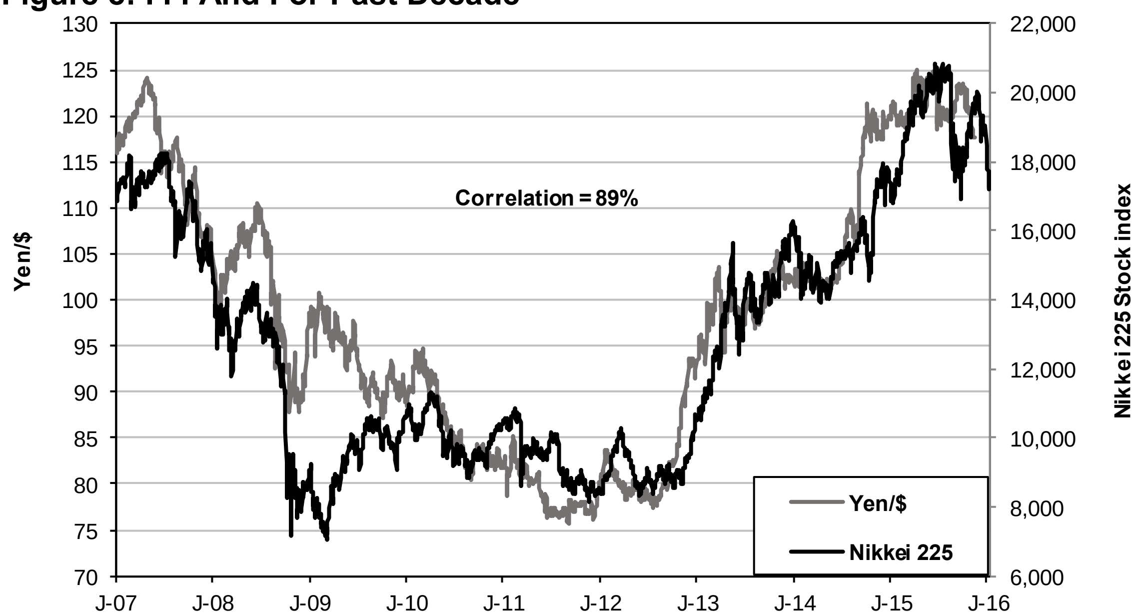
Source: *Nikkei*, Yahoo
Note: Left-hand scale for Nikkei is exactly 10 times the right-hand scale for S&P

Figure 7: Stocks Closely Tied To the Yen Since June….



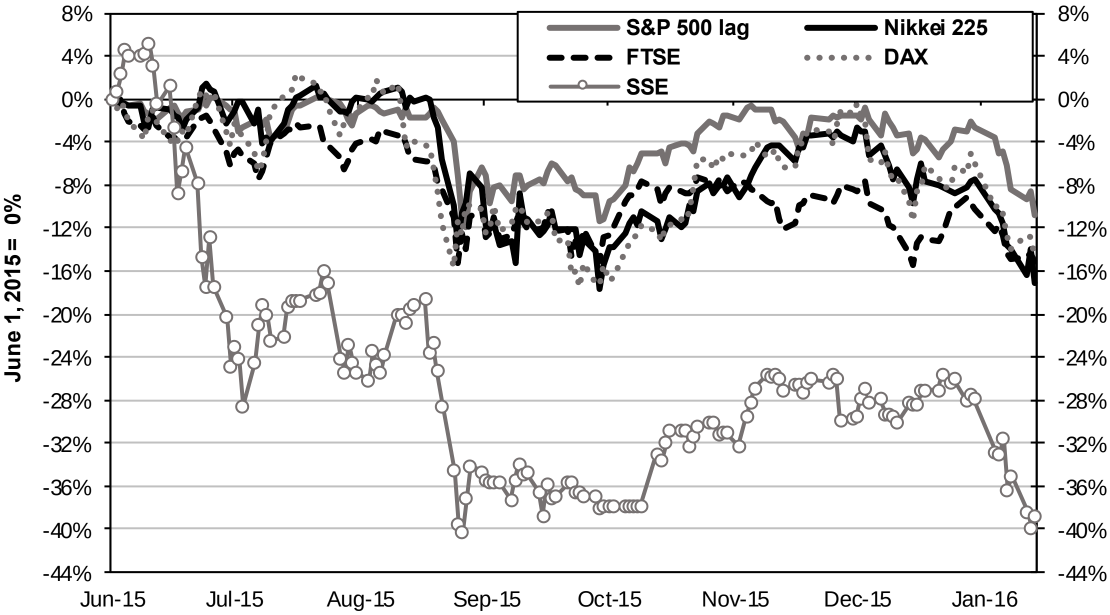
Source: *Nikkei*, US Fed

Figure 8: . . . And For Past Decade



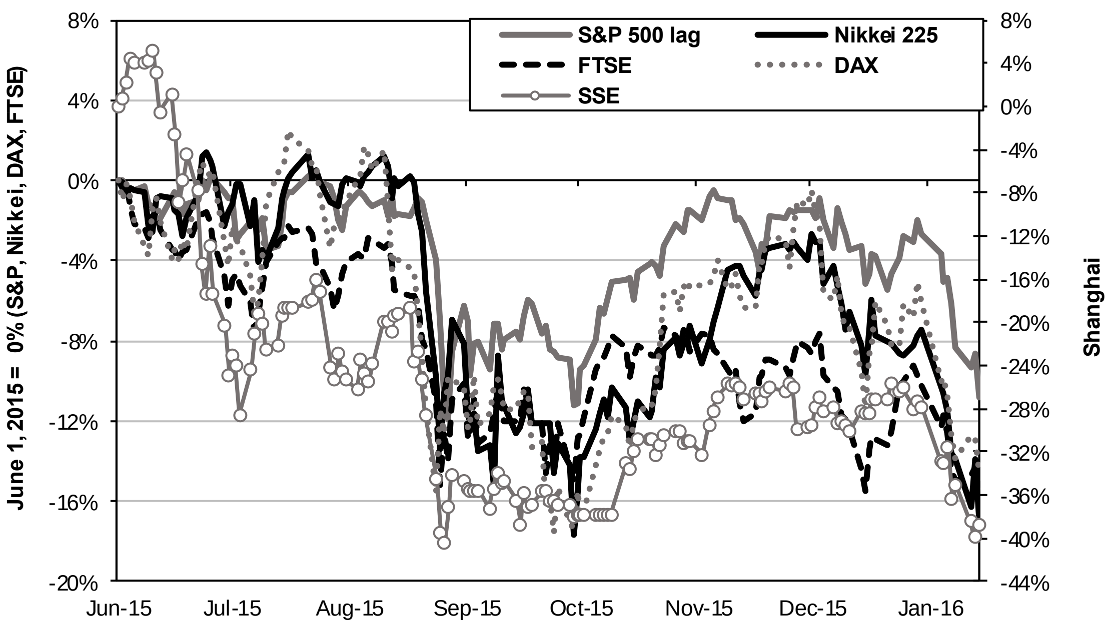
Source: *Nikkei*, US Fed

Figure 9: China May Have Been Trigger, But Not The Cause



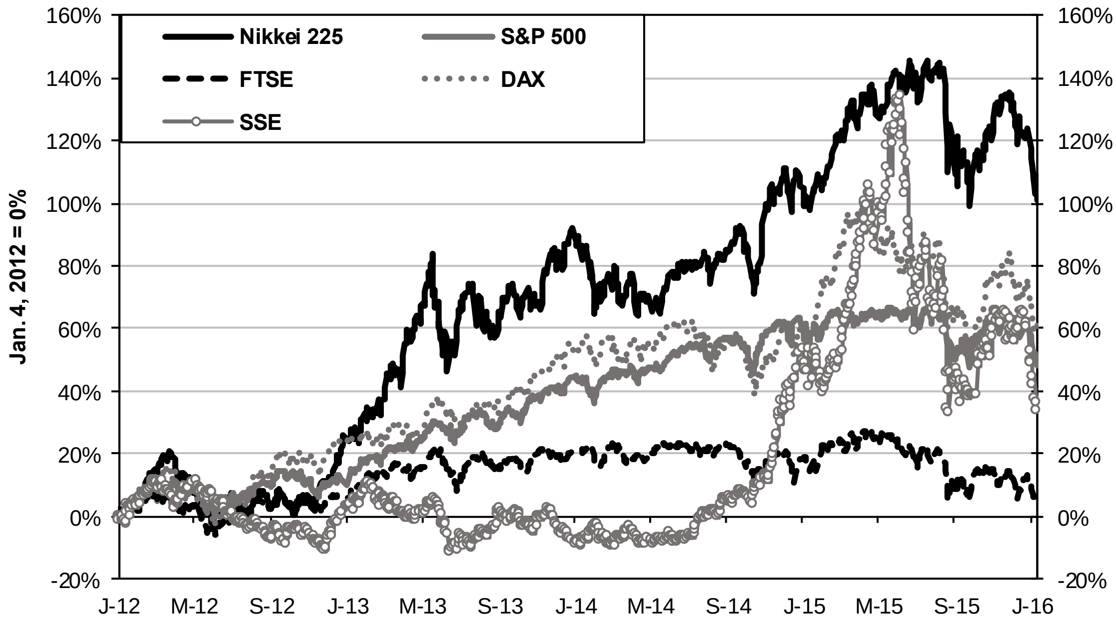
Source: *Nikkei*, Yahoo

Figure 10: Tight Correlation Includes Shanghai Index



Source: *Nikkei*, Yahoo

Figure 11: But Not In Previous Three-And-A-Half Years



Source: *Nikkei*, Yahoo