

Revisiting the Relationship between Korea's Stock Market and Economic Growth Rate

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Global stock markets have been on a steady rise after the financial crisis in 2008. The KOSPI 200 index also returned 80% for the period from 2009 to 2018, but underperformed the stock market indices of other countries. For the period from 2012 to 2018 in particular, the KOSPI 200 rose just 10% and became stalled. Over the same period, the S&P 500 increased 100%. Korea's flat stock market and the return differential between the Korean and US stock indices seem primarily attributable to the falling growth rate of the Korean economy.

In 2018, the domestic economy slowed and the stock market also became bearish. With the impacts of external factors like the US interest rate rises and trade war, downward revisions to the growth projection and the economic slowdown led to a correction in the stock market despite previous rosy outlook. For the stock market to make another leap forward, it is important for Korea to restore the momentum of economic growth. To that end, Korea needs to strive for higher growth rate by strengthening its industrial competitiveness and fostering innovation-driven growth.

Following severe corrections before and after the 2008 global financial crisis, the world's stock markets, albeit with some differences across regions, recovered and entered a bull phase. Although corrections occurred in 2018, stock market indices in Figure 1 enjoyed gains of 80% to 180% for the period from 2009 to 2018. Over the same period, the KOSPI 200 rose approximately 80%, but underperformed the stock market indices of other countries. From the period from

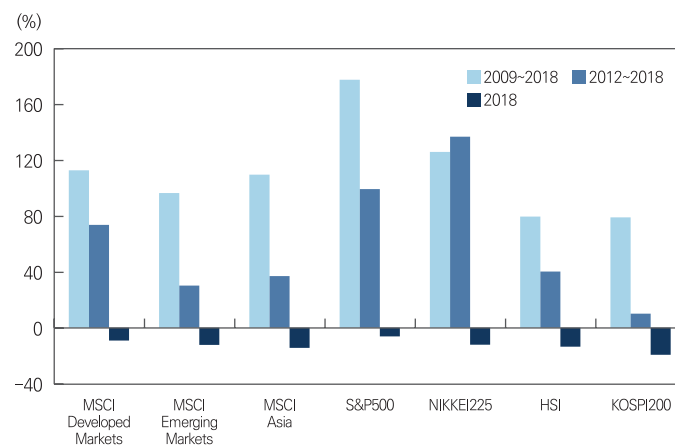
* All opinions expressed in this paper represent the author's personal views and thus should not be interpreted as Korea Capital Market Institute's official position.

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2012¹⁾ to 2018 in particular, the KOSPI 200 index was up just 10%, indicating that the Korean stock market faced a slowdown in its upward trajectory and hit a plateau. On the other hand, other stock indices returned more than 30%. The S&P 500 rose 100%, driving the bull run in global stocks. In 2018, the KOSPI 200 performed poorly while global stock markets slipped into a correction.

This article intends to highlight that Korea's consistently flat stock market is due primarily to a fall in its growth rate²⁾ and that the relativity between the Korean and US markets reflects the difference between the growth rates of the two economies. And it compares last year's domestic stock market movements with changes in the growth projections and draws out implications from the findings.

Figure 1. Major stock index returns after the global financial crisis



Note: MSCI Asia Index excludes Japan.

Source: Bloomberg

Growth rate and stock market

Figure 2 illustrates trends in KOSPI 200 returns and Korea's growth rate.³⁾ A structural shift is observed in the rate of growth by the end of 2011 when the KOSPI 200 entered a plateau phase. The dotted line on the graph below represents the average growth rate for the period before and after the end of 2011.⁴⁾ After the end of 2011, the average growth rate coupled with volatility

1) As shown in Figures 2 and 3, Korea saw changes in its growth trend (i.e., a drop in the average growth rate and a decline in volatility) beginning around the end of 2011. These changes are reflected in the comparative analysis of stock returns from 2012 to 2018.

2) In this article, this term refers to the rate of economic growth.

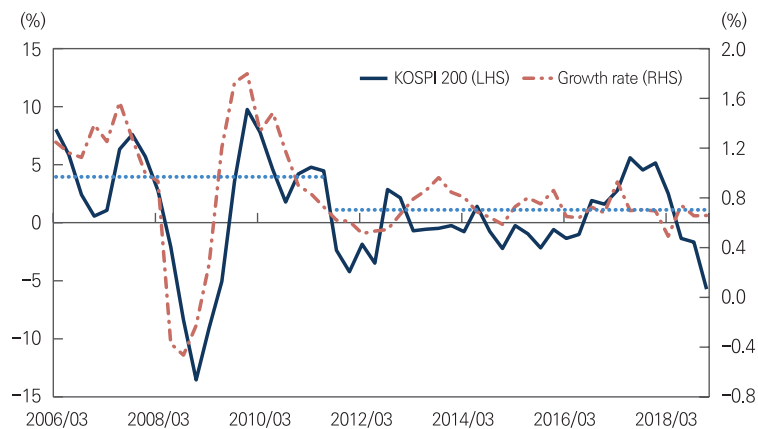
3) Stock prices as a leading indicator of the economy move ahead of economic growth. Figures 2 and 3 compare stock market returns and growth rates which lagged two quarters.

4) Since the growth rate on the graph lags two quarters behind stock market returns, June 2011 in the graphs corresponds to the end of 2011.

decreased considerably. Such growth trend appears to have affected the stock market's flatness.

The KOSPI 200 earned 20% in the first half of 2017. In practice, the Korean economy in the third quarter of 2017 grew 1.4% quarter to quarter and 3.8% year over year, showing strong growth after 2012.⁵⁾ In the same period, Samsung Electronics' stock rose 30%, pushing the KOSPI 200 higher.⁶⁾ As the economy was unable to continue its robust growth and began slowing again in 2018, the stock market also tumbled into a correction, wiping out 2017 gains and wrapping up 2018.⁷⁾

Figure 2. Trends in KOSPI 200 returns and Korea's growth rate



- Note: 1) The index returns are adjusted for inflation using the Consumer Price Index (CPI). Quarterly index returns are used to compute a 4-quarter moving average.
 2) 4-quarter moving average of quarter-over-quarter (QoQ) growth rates, lagging 2 quarters. Economic growth data for the fourth quarter of 2018 and thereafter are based on KCMI estimates.
 3) The dotted line represents the average of growth rates for the period before and after the end of 2011.

Source: Bloomberg; KCMI

In the same vein, a distinctive pattern of stock market performance is more pronounced in Korea around the end of 2011 when comparing the Korean market with the US market that recorded a long bull run since the financial crisis. Figure 1 shows that KOSPI 200 returns (80%) are less than half of S&P500 returns (178%) for the 2009-2018 period. Furthermore, if the observation period begins in 2012, a striking difference between the returns of the KOSPI 200 (10%) and the S&P 500 (100%) can be observed. The graph in Figure 3 depicts the difference

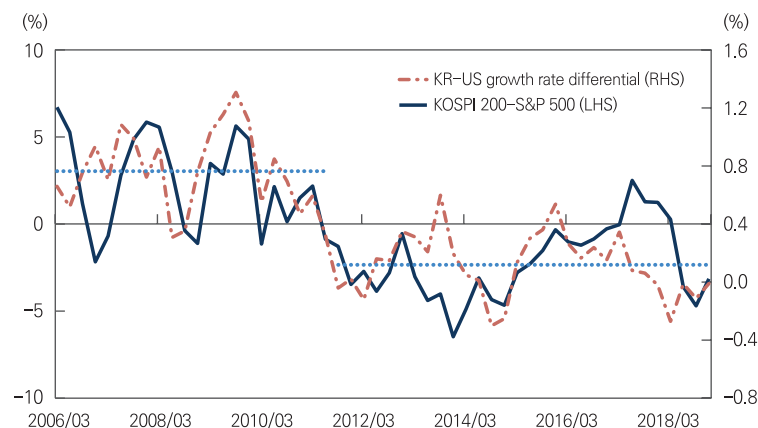
5) Because the growth rate lags by two quarters, the KOSPI 200 enjoyed solid gains in the first and second quarters of 2017 and the growth rate was the highest in the third quarter.

6) Samsung Electronics accounts for 22% to 24% of the KOSPI 200 index.

7) KOSPI 200 movements in 2017 and 2018 will be described further with respect to Figure 4 below.

between the returns of the two indices and the difference between Korean and US growth rates. The return differential between the KOSPI 200 and the S&P 500 exhibits a pattern similar to the growth rate differential between the two countries.⁸⁾ The dotted line on the graph represents the difference in the average growth rate between the two countries for the period before and after the end of 2011.⁹⁾ The growth rate differential decreased drastically after the end of 2011 owing to a relative slowdown in the Korean economy, which is viewed as the main reason for the continued flatness of the KOSPI 200. That suggests that the index return differential between the two countries is highly related to the growth rate differential between the two.

Figure 3. KOSPI 200 returns vs. S&P 500 returns and Korea's growth vs. US growth



- Note: 1) The index returns are adjusted for inflation using the Consumer Price Index (CPI). Quarterly index returns are used to compute a 4-quarter moving average.
 2) 4-quarter moving average of QoQ growth rates, lagging 2 quarters. Economic growth data for the fourth quarter of 2018 and thereafter are based on KCM I estimates.
 3) The dotted line represents the average of growth rate differentials for the period before and after the end of 2011.

Source: Bloomberg; KCM I

Stock market movements and growth forecast changes in 2017 and 2018

The stock market started 2018 with the bullish rally, which began in 2017, and hit a record high in January. Then, it slid into a correction despite previous rosy outlook. As seen in Figure 1, the

8) The correlation between the stock return differential and the growth rate differential is clearer in Figure 3 than Figure 2 because country-specific characteristics become more distinctive when common factors in global stock markets and common factors in economic growth rates are excluded.

9) Since the growth rate on the graph lags two quarters behind stock market returns, June 2011 in the graphs corresponds to the end of 2011.

KOSPI 200 underperformed the stock market indices of other countries. That is partly because of US interest rate hikes and trade war with China, but mainly because of slower growth in the Korean economy.¹⁰⁾

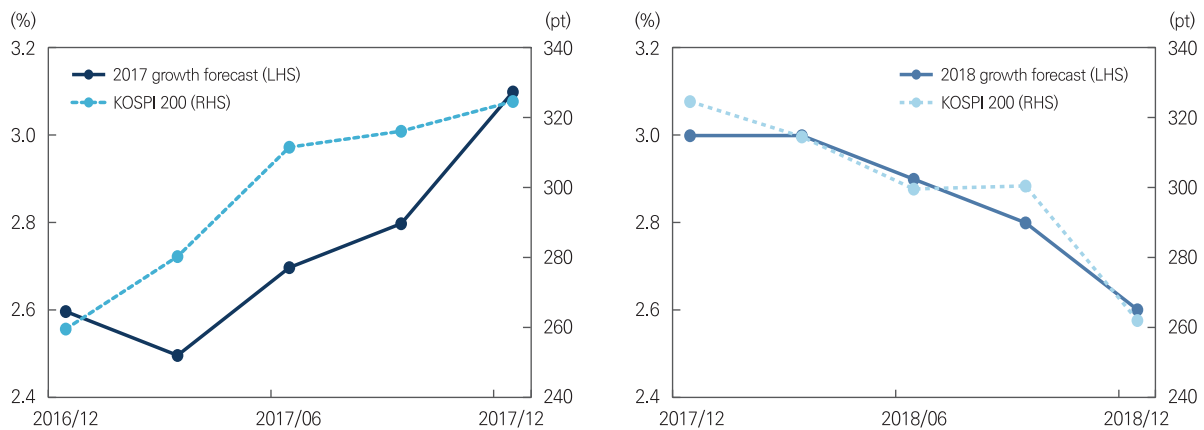
The graphs in Figure 4 show KOSPI 200 movements and growth forecast changes in 2017 and 2018 by forecast timing. The graph on the left-hand side exhibits upward revisions to the growth forecast for 2017 from 2.5% at the beginning of the year to 3.1% at the end of the year, and a steep rise in the KOSPI 200, especially until June 2017, which reflected the revised forecast in advance. On the contrary, the graph on the right-hand side displays downward revisions to the growth forecast for 2018. While the growth outlook was marked down from 3% at the start of the year to 2.6% at the end of the year, the KOSPI 200 erased much of the prior year's gains and was back to the 2016 levels.

The growth projections for 2017 and 2018 hovered below and above their potential (around 2.7%), which had bigger effects on the stock market. The potential rate of growth can be understood as a yardstick used to measure whether the economy is in a state of expansion or contraction. When actual growth is higher than potential, the economy is considered to be in an expansionary phase. Conversely, when actual growth is lower than potential, it is considered to be in a contractionary phase.¹¹⁾ The downward revisions to the 2018 growth projection (from 3% at the beginning of the year to 2.6% at the end of the year) indicate that the economy moved into the contractionary phase from the expansionary phase in 2017.

10) External factors such as the US rate hikes and the trade war seem to have impacts on the falling growth rate of the Korean economy.

11) See KCMI Economic Outlook (2H2018) for more information on the phases of the economic cycle. Different stock market characteristics can be seen throughout the economic cycle which reflects the economic growth rate. The stock market tends to perform well during the expansionary phase whereas the market tends to perform poorly during the contractionary phase.

Figure 4. KOSPI 200 movements and growth forecast changes in 2017 and 2018 by forecast timing



Note: The horizontal axis represents the timing of forecasts (using data on Bloomberg consensus growth forecasts). The graph on the left-hand side depicts the 2017 growth projection and the one on the right-hand side the 2018 growth projection.

Source: Bloomberg

Conclusion

This article has examined the relationship between the stock market returns and the growth rate in Korea. The findings are that the decline in the growth rate was a major driving force behind the flat stock market that began in 2012; the KOSPI 200's underperformance relative to the S&P 500 was attributable mainly to the relative slowdown in the domestic economy. In addition, this article has explored how KOSPI 200 movements in 2017 and 2018 are related to upward and downward revisions to the growth forecasts. It is expected that changes in the 2019 growth projection will be affected by external factors, such as future developments in the US-China trade war, a likely slowdown in the US economy showing strong growth, the path of the US monetary policy, and the likelihood of a soft-landing in the Chinese economy, which eventually would have positive or negative impacts on the stock market. Under these circumstances, it is important for Korea to recover its growth momentum to break through the stock market's plateau. To that end, Korea needs to strive for higher growth rate by strengthening its industrial competitiveness and fostering innovation-driven growth.