Effects of Recent Changes in External Conditions on the Korean Economy

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Volatility in external conditions has increased since the global financial crisis, and it is estimated that this has brought about changes in the previously stable relationships among economic variables. In this regard, this paper examines how the effects of major external variables, such as major countries'growth rates, international oil prices and the global trade volume, on the Korean economy have changed over time, in order to enhance the accuracy of economic analyses and improve the predictability of economic forecasts. First, rolling regression analyses and rolling Granger causality tests are conducted to examine changes in the relationships between major external and domestic variables and changes in the degree of their contributions to forecasts. In addition, a TVP−VAR model that internalizes changes in the relationships among economic variables is developed, in an attempt to analyze the effects of external shocks on the Korean economy and to assess the predictability of economic forecasts.

According to the results of the analyses, the effects of shocks from the US growth rate on Korea's real economy have steadily decreased, while the impacts of China's growth rate have continuously increased. Meanwhile, the effects of the euro region's growth rate declined significantly right after the financial crisis but have recently grown somewhat, while the effects of Japan's growth rate have remained weak. Rises in international oil prices caused the domestic economic growth rate to decline, but this effect has weakened since the global financial crisis. Finally, growth in the global trade volume has affected Korea's exports but not heavily affected its GDP.

The TVP−VAR model, which was developed to reflect changes in the effects of external variables, is seen to have been relatively superior in forecasting the GDP growth rate amid the heightened volatility of variables since the global financial crisis. In future economic forecasting, the TVP-VAR model is expected to serve as a reference model that can supplement the current forecast system, which is based on a structure model.

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