

Improvements to the BOKDSGE Model for Economic Forecasts and Policy Analyses

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The Bank of Korea has been continually developing and improving various short- to long-term models for highly accurate economic forecasts and policy effect analyses. In particular, in order to complement the BOKDPM, which had been used as a primary model for economic forecasts, it further developed the BOKDSGE model, which has higher theoretical coherence, in 2014. However, several structural changes in the Korean economy, such as strengthened global value chains, heightened oil price volatility, and weaker trend growth, have been working to weaken the suitability of data of the existing BOKDSGE model and reduce the model's forecasting accuracy. Against this backdrop, to enhance the data explanatory and predictive power of the model, several improvements have been made to it.

First, households are now categorized into those who have access to the financial market and those who do not, and the fiscal sector has been strengthened, such as by including government transfer expenditures. Second, the world economy is modeled by a DSGE structure instead of the three-variable VAR model to enhance the theoretical coherence and data explanatory power of the model. Third, the world trade growth variable has been included as the determinant of Korean exports, thus allowing more accurate identification of factors causing changes and greater accuracy of export forecasts. Fourth, oil has been incorporated into the model to assess the impacts of oil price changes, thus allowing forecasts related to them. Fifth, trends on the expenditure side such as consumption and investment, have been reflected

in the model. Finally, changes of trends in growth and inflation are reflected indirectly in the model in order to reduce the occurrence of structural forecasting errors.

These improvements in the BOKDSGE model are expected to further improve the accuracy and reliability of economic outlooks going forward.

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