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Oil Demand Forecasting in China: A Structural Time Series Analysis

Authors : Tehreem Fatima, Enjun Xia

Abstract : The research investigates the relationship between total oil consumption and transport oil consumption, GDP, oil price, and oil reserve in order to forecast future oil demand in China. Annual time series data is used over the period of 1980 to 2015, and for this purpose, an oil demand function is estimated by applying structural time series model (STSM). The technique also uncovers the Underline energy demand trend (UEDT) for China oil demand and GDP, oil reserve, oil price and UEDT are considering important drivers of China oil demand. The long-run elasticity of total oil consumption with respect to GDP and price are (0.5, -0.04) respectively while GDP, oil reserve, and price remain (0.17; 0.23; -0.05) respectively. Moreover, the Estimated results of long-run elasticity of transport oil consumption with respect to GDP and price are (0.5, -0.00) respectively long-run estimates remain (0.28; 37.76;-37.8) for GDP, oil reserve, and price respectively. For both model estimated underline energy demand trend (UEDT) remains nonlinear and stochastic and with an increasing trend of (UEDT) and based on estimated equations, it is predicted that China total oil demand somewhere will be 9.9 thousand barrel per day by 2025 as compare to 9.4 thousand barrel per day in 2015, while transport oil demand predicting value is 9.0 thousand barrel per day by 2020 as compare to 8.8 thousand barrel per day in 2015.

Keywords : china, forecasting, oil, structural time series model (STSM), underline energy demand trend (UEDT)
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