PRESENT AND FUTURE TREND IN SAUDI SEABORNE TRADE AND OIL DEMAND: COULD BAU SCENARIO MEET NTLS'S MARITIME TARGET?

AHM Mehbub Anwar[1], +966 (0) 11 290 3187, mehbub.anwar@kapsarc.org
Rubal Dua[1], +966 (0) 11 290 3013, rubal.dua@kapsarc.org
Nora Nezamuddin[1], +966 (0) 11 290 3049, nora.nezamuddin@kapsarc.org
Abdulrahman Alwosheel[1], +966 (0) 11 290 3163, alwosheel.abdulrahman@kapsarc.org

[1]King Abdullah Petroleum Studies and Research Center (KAPSARC), Airport Road, Riyadh 11672, Saudi Arabia

Overview

Sea transportation is the most important industry that serves world trade substantially and marks a significant amount of oil demand to perform the trade. Growing world population and its expected living standard results in shrinking of local resources and thus, increases the dependency of the world economy on international trade. This in turn, results in an increase in world seaborne trade. Recently, Saudi Arabia has established several strategic tactics such as Saudi Vision 2030 to predict the future of the country. One of the key elements in this vision is to transform Saudi Arabia into a global transport and logistics hub, with its strategic location at the epicenter of three continents. Utilization of this locational advantage is expected to cause huge trade in future, which results in additional oil demand in this sector. This advantageous location gives Saudi Arabia unmatched competitive growth in the region and allows it to become a leading regional logistics hub. To realize a growth in the economy of the country, this paper predicts the future values of total seaborne export and then potential fuel consumption in the Saudi shipping sector. Furthermore, Saudi Arabia launched the country's National Transport and Logistics Strategy (NTLS) program and as a part of this program, NTLS has set a target of reaching a capacity of more than 40 million TEU (twenty feet unit) annually (Taha, 2021). The paper observes whether Saudi Arabia can reach the target depending on various GDP growth. Finally, as future oil demand is estimated using forecasted exports, understanding the key drivers relating to Saudi exports becomes imperative. This paper also investigates the key driving factors of Saudi exports. We utilized three different determinants including supply side GDP per capita (GDPpc-SS) i.e. Saudi GDP per capita, demand side GDP per capita (GDPpc-DS), i.e. top five export county's GDP per capita and Saudi crude oil spot price (spot price) to analyze their impact on seaborne export.

Methods

Time trend model with outlier and break detection approach was employed and calculated at a CAGR, called business-as-usual (BAU) scenario to forecast Saudi seaborne export up to 2040 and then, the corresponding fuel consumption in this sector is estimated using the energy intensity number. The error correction model (ECM) was applied to determine the long-run and short-run dynamics among the variables while fully modified ordinary least squares (FMOLS) cointegrating regression equation was estimated to determine the impacts of the variables on the seaborne export.

Results

As of 2019, the estimated fuel consumption in the Saudi shipping sector is about 0.173 million barrels oil equivalent per day (mboe/d). Considering it as a baseline demand, oil demand is expected to grow by 0.046 mboe/d by 2040 under the business-as-usual scenario. Regarding the key drivers' impact on Saudi exports, the results indicate that GDPpc-SS and GDPpc-DS positively correlates with seaborne export whilst spot price is inversely related to seaborne export. The results further indicate that GDPpc-SS is the most prominent determinant among all and has a higher impact on seaborne export. ECM has identified a sizable speed of adjustment of 53.04% for correcting the system previous period's disequilibrium annually, meaning that almost 53% of the discrepancy between long run and short run is corrected within a year. Based on the results, this study puts forward several policy implications. Finally, assumptions of various Saudi GDP forecasts lead to understand the potentials of achieving NTLS's target.

Conclusions

In conclusion, exploring the presence and the direction of causal relationship between a country's trade and economy can aid in the formulation of its long-term economic policies. The outcome of this paper indicating a significant relationship between GDP and seaborne trade is very worthwhile for the government officials, decision makers, and international affairs of a nation like Saudi Arabia. Because the decisions or actions taken by them might have economic repercussions, and therefore, they should realize the relationship prior to acting.

References

Taha, R. (2021). Saudi Arabia's Crown Prince launches National Transport and Logistics Strategy. Al Arabiya News: https://english.alarabiya.net/News/gulf/2021/06/30/Saudi-Arabia-s-Crown-Prince-launches-National-Transport-and-Logistics-Strategy accessed on December 15, 2021.