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Statistical Analysis of the Impact of Maritime Transport Gross Domestic Product (GDP) on Nigeria's Economy

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Abstract : Nigeria is referred as the 'Giant of Africa' due to high population, land mass and large economy. However, it still trails far behind many smaller economies in the continent in terms of maritime operations. As we have seen that the maritime industry is the spark plug for national growth, because it houses the most crucial infrastructure that generates wealth for a nation, it is worrisome that a nation with six seaports lag in maritime activities. In this research, we have studied how the Gross Domestic Product (GDP) of the maritime transport influences the Nigerian economy. To do this, we applied Simple Linear Regression (SLR), Support Vector Machine (SVM), Polynomial Regression Model (PRM), Generalized Additive Model (GAM) and Generalized Linear Mixed Model (GLMM) to model the relationship between the nation's Total GDP (TGDP) and the Maritime Transport GDP (MGDP) using a time series data of 20 years. The result showed that the MGDP is statistically significant to the Nigerian economy. Amongst the statistical tool applied, the PRM of order 4 describes the relationship better when compared to other methods. The recommendations presented in this study will guide policy makers and help improve the economy of Nigeria in terms of its GDP.

Keywords : maritime transport, economy, GDP, regression, port