

## **PREDICTIVE MODEL WITH SQUARE-ROOT VARIANCE STABILIZING TRANSFORMATION FOR NIGERIA CRUDE OIL EXPORT TO AMERICA**

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### **ABSTRACT**

In the last few decades, crude oil claims to be in the topmost position in the Nigerian export list, constituting a very fundamental change in the structure of Nigerian international trade. In this study, secondary data on monthly crude oil export to the United States was obtained, from the Energy Information Administration (EIA) database. Using the Box-Jenkins (ARIMA) methodology, the results showed that, Seasonal ARIMA (0, 1, 1) (1, 0, 1)<sub>12</sub> model had the least information criteria, after the data was Square-Root transformed and non-seasonally first differences, in order to achieve series stationarity. The diagnostic tests on the selected model residuals, using the Ljung-Box, Shapiro-Wilk Normality and ARCH-LM tests revealed that, the residuals are Gaussian white noise.

**KEYWORDS:** Transformation, SARIMA, Unit Root, Crude Oil Export, ARCH-LM