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Determinants of Budget Performance in an Oil-Based Economy

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Abstract : Since the enactment of the Fiscal Responsibility Act (2007), the Federal Government of Nigeria (FGN) has made public its fiscal budget and the subsequent implementation report. A critical review of these documents shows significant variations in the five macroeconomic variables which are inputs in each Presidential budget; oil Production target (mbpd), oil price ($), Foreign exchange rate(N/$), and Gross Domestic Product growth rate (%) and inflation rate (%). This results in underperformance of the Federal budget expected output in terms of non-oil and oil revenue aggregates. This paper evaluates first the existing variance between budgeted and actuals, then the relationship and causality between the determinants of Federal fiscal budget assumptions, and finally the determinants of FGN's Gross Oil Revenue. The paper employed the use of descriptive statistics, the Autoregressive distributed lag (ARDL) model, and a Profit oil probabilistic model to achieve these objectives. This model permits for both the static and dynamic effect(s) of the independent variable(s) on the dependent variable, unlike a static model that accounts for static or fixed effect(s) only. It offers a technique for checking the existence of a long-run relationship between variables, unlike other tests of cointegration, such as the Engle-Granger and Johansen tests, which consider only non-stationary series that are integrated of the same order. Finally, even with small sample size, the ARDL model is known to generate a valid result, for it is the dependent variable and is the explanatory variable. The results showed that there is a long-run relationship between oil revenue as a proxy for budget performance and its determinants; oil price, produced oil quantity, and foreign exchange rate. There is a short-run relationship between oil revenue and its determinants; oil price, produced oil quantity, and foreign exchange rate. There is a long-run relationship between non-oil revenue and its determinants; inflation rate, GDP growth rate, and foreign exchange rate. The grangers' causality test results show that there is a mono-directional causality between oil revenue and its determinants. The Federal budget assumptions only explain 68% of oil revenue and 62% of non-oil revenue. There is a mono-directional causality between non-oil revenue and its determinants. The Profit oil Model describes production sharing contracts, joint ventures, and modified carrying arrangements as the greatest contributors to FGN's gross oil revenue. This provides empirical justification for the selected macroeconomic variables used in the Federal budget design and performance evaluation. The research recommends other variables, debt and money supply, be included in the Federal budget design to explain the Federal budget revenue performance further.

Keywords : ARDL, budget performance, oil price, oil quantity, oil revenue
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