Employment Ratio, Consumption Expenditure, Government Expenditure and Economic Growth in an Emerging Economy: Spillover Effects

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The interrelationship between macroeconomic variables and their role in harmonising the economy towards sustainability cannot be overlooked, especially in developing countries. Economic growth and development in any economy is usually interpreted based on how well the country's major macroeconomic variables are performing. In a situation whereby a variable's growth rate is weak, this is likely to have a negative spillover effect on related variables, thereby making it impossible for growth-enhancing reforms to yield the desired results. In the present globalised world, national economic prosperity, improved economic prospects and sustainability have been used as a benchmark to measure a country's ability to compete favourably in the global economy, or its economic competitiveness (Katusiime et al., 2015). With the above in mind, one might question whether much effort should be directed towards balancing the relationship between macroeconomic variables.

For more than two decades, South Africa's macroeconomic policy framework has yielded minimal improvement in terms of achieving sustainable, inclusive growth. Instead, the systemic gap between the upper and lower class has continued to widen due to the disequilibrium among its major macroeconomic variables (Iwegbunam & Robinson, 2019). Since its independent in 1994, the country has been struggling to improve the performance of its major macroeconomic factors, namely employment ratio, aggregate consumption expenditure, gross government expenditure and economic growth. These models can be considered as significant determinants of South African economic success, not only because of its economic past, but also based on how these variables are related to each other. Therefore, the complementary negative effect between the variables can be strong enough to overturn fiscal policy and induce a decline in all sectors of the economy. This requires an analysis of the spillover effects, so that government will be better equipped to balance the relationship between the variables. This current research represents the latest attempt to do this in South Africa.

Arguably, macroeconomic variables can assert pressure differently on the economy, just in the same way, these variables can impact on each other, which can also influence productivity. Proponents of the endogenous growth theory, such as Romer (1986) and Lucas (1988), maintained that growth in any economy can occur through external capital accumulation, human capital development and technological innovations. On the other hand, Keynes (1936) is of the view that aggregate private consumption expenditure is determined by the current level of disposable income. Okon (1962) suggests that the unemployment rate decreases in years when the real growth is high, but increases when the real growth rate is low (Linnemann, 2006). Ram (1986) supports the ideology of increased government expenditure to enhance economic growth. The implication of these theories is that none of the macroeconomic factors can operate in isolation in South Africa, especially when the economy is at a collective and constantly stagnant level in all sectors.

Although aggregate private consumption expenditure increased slightly after 1994, it has been steadily declining for over a decade. The South African Reserve Bank (SARB) quarterly bulletin (2017) reported that slow employment growth has been reducing the ratio of aggregate private consumption expenditure to GDP. There was a reduction in the growth of aggregate private consumption expenditure from 1.7% in the first quarter of 2015 to 0.9% in the first quarter of 2016, and then from 2.1% in 2017 to 1.8% in 2018. In the same way, the unemployment rate has moved from 27.7% in the second quarter of 2017 to 27.1% in the final quarter of 2018. Currently, the rate stands at about 29% in the second quarter of 2019. The number of discouraged job-seekers stands at 37%, while the unemployment rate amongst the youth is currently at 54.7%. The positive growth rate reached after democracy decreased to -1.5% in 2009 and 1.7% in the second quarter of 2017. In 2018, the economy entered a technical recession and the GDP declined from 1.7% to 1.5% in 2019. The gross government expenditure rate has moved from 19% in 2005 (ten years after democracy) to the current rate of 1.9% in 2018.

Despite the plethora of global theoretical and empirical literature that seeks to explain this relationship, such as Nasir (2012); Inuwa (2012) and Carter et al. (2013), the findings are mixed. Likewise, the empirical literature for South Africa (Odhiambo, 2016; Iwegbunam, 2017; Leshoro, 2017) provides mixed results. In this context, the debate in existing studies is usually focused on the relationship between a particular model and economic growth. This shows that results are inconclusive, because the appropriate channel of the spillover links has not been properly determined nor explained. This study therefore attempts to fill in the gap in the literature. To evaluate the spillover link, the selected macroeconomic factors need to be measured against each other, in order to determine how the impact runs.

The theoretical framework adopted for this study is Keynes' (1936) consumption theory, which postulates that household consumption is determined by the current level of disposable income. This model has been selected because for households to consume, they have to earn an income through employment or receive financial support from the government, hence the theory has been modified to include variables such as employment uncertainty. The ideology behind Keynes' theory is that aggregate household consumption boosts aggregate demand, including other macroeconomic indicators, as well as economic growth. The methodology chosen for the analysis is the vector error correction mechanism (VECM) by Johansen (1995), due to its ability to measure the long-run relationship between variables. The co-integration test introduced by Granger (1981), Engle and Granger (1987) and Johansen and Juselius (1990) was also carried out to determine whether there is a long-run equilibrium relationship among the variables. The Augmented Dickey Fuller (ADF) (1971, 1981) and Philips-Perron (PP) (1988) unit root tests were employed to determine if the variables are of order 1[0] or 1[1]. Thereafter, the Wald coefficient approach was used as the diagnostic test.

The data used for analysis was compiled from the World Development Indicators (WDI) database in 2019. The data comprises of: gross domestic product (GDP), aggregate private consumption expenditure proxy for household consumption expenditure (PEXP), gross government expenditure proxy for total government expenditure (GEXP recurrent and capital) and employment to population ratio proxy for employment level (LAB). The GDP is the dependent variable and PEXP, GEXP and LAB are the independent variables. The analysis is based on quarterly data for the period 1980 to 2018. The choice of sample and data frequency were considered based on the availability of data. The results from the empirical analysis indicate that the variables are integrated of order 1[1] from the unit root test, and that a long-run equilibrium relationship exists among the variables, which suggests their interconnectedness. The findings from the long-run estimates indicate a negative spillover effect from aggregate private consumption expenditure and employment-to-population ratio to economic growth, with a positive spillover effect from gross government

expenditure to economic growth. The analysis was further confirmed by the findings from the VECM, which points to the amplification of dynamic conditional correlations among the variables before and after democracy in South Africa. The Wald coefficient test conforms to the previous results that were obtained. The implication of the findings is that the negative spillover effects from aggregate private consumption expenditure affect the other macroeconomic variables that were selected. Therefore, as the increased unemployment rate continues to decrease aggregate private consumption expenditure, the increase in gross government expenditure also decreases aggregate private consumption expenditure through taxation and the inability of the government to create more employment in the country, due to the loss of investment opportunities. As a result of the complementary nature of these variables, the cyclical movement of cause and effect between them causes as steady decline in the country's economic growth. This makes the rate of economic growth in South Africa too low to generate sufficient productive employment opportunities to increase aggregate household consumption expenditure and government revenue.

In conclusion, the spillover shocks transmitted from one macroeconomic variable to another can be daunting for economic growth, which makes it important to clearly identify the effects for balanced economic reform policies. However, the spillover impact can sometimes not be easy to access, partly because of the fast-movement with some of the variables, which requires careful identification. This study therefore suggests that since the variables are interconnected for economic sustainability, the government should concentrate more on increasing efficiency and creating a balance between them. More importantly, government needs to dedicate more funds to the training and retraining of its citizens, in order for them to keep up with the global economy, which has become increasingly skills-intensive.

References

Carter, J., Craigwell, R. & Lowe, S. (2013). Government expenditure and economic growth in a small open economy: a disaggregated approach. *Central Bank of Barbados,* 1-28.

Dickey, A.D. & Fuller, I.I.A. (1971). Distribution of the estimators for autoregressive time series with unit root. *Journal of American Statistical Association*, 75, 427-431.

Dickey, A.D. & Fuller, I.I.A. (1981). Distribution of the estimators for autoregressive time series with unit root. *Journal of American Statistical Association*, 102, 53-69.

Engle, R.F. & Granger, C.W.J. (1987). Co-integration and error correction: representation, estimation and testing. *Econometrica,* 55(2), 257-276.

Granger, C.W. (1981). Testing for causality. *Journal of Economic Dynamic and Control,* 4, 229-252.

Inuwa, N. (2012). Government expenditure and economic growth in Nigeria: co-integration analysis and causality testing. *Academic Research International,* 2(3), 718-723.

Iwegbuanm, I. A. (2017). *Government expenditure and economic growth in South Africa: causality and co-integration nexus.* Master's dissertation. Pretoria: University of South Africa.

Iwegbuanm, I. A. & Robinson, Z. (2019). Economic growth models and government expenditure in South Africa: a disaggregated impact analysis. *International Journal of Economics and Finance Studies*, 11(1), 33-48.

Johansen, S. & Juselius, K. (1990). Maximum likelihood estimation and inference on co-integration with applications to money demand. *Oxford Bulletin of Economics and Statistics,* 52(2), 169-210.

Johansen, S. (1995). *Likelihood-Based Inference in Co-integrated Vector Autoregressive Models.* Oxford: Oxford University Press.

Katusiime, L., Agbola, F.W. & Shamsuddin, A. (2015). Exchange rate volatility-economic growth nexus in Uganda. *Applied Economics*, 48(26), 2428-2442.

Leshoro, T.L.A., (2017). *An empirical analysis of disaggregated government expenditure and economic growth in South Africa.* Working Papert10/2017. Pretoria: University of South Africa.

Linnemann, L. (2006). The effect of government spending on private consumption: A puzzle? *Journal of Money, Credit and Banking*, 38(7), 1715-1735.

Lucas, R.E. (1988). On the mechanics of economic development. *Journal of Monetary Economics*, 3–42.

Nasir, Z.A. (2012). Household consumption and economic growth: co-integration and causality analysis of Malaysia. *International Journal of Business and Society,* 56-70.

Odiahmbo, N.M. (2015). Government expenditure and economic growth in South Africa: an empirical investigation. *Atlantic Economic Journal,* 43(3), 393-406.

Okun, A. M. (1962). *Potential GNP: its measurement and significance* (98-103). Yale University, Cowles Foundation for Research in Economics.

Philips, P. & Perron, P. (1988). Testing for a unit root in time series regression. *Biometrika,* 75(2), 335-346.

Ram, R. (1986). Government size and economic growth: a new framework and some evidence from cross-section and time-series data. *American Economic Review*, 76, 191–203.

Romer, P.M. (1986). Increasing returns and long run growth. *Journal of Political Economy*, 1002–1037.

South African Reserve Bank (SARB). 2017. *Annual reports, various years.* Retrieved 08 May, 2017, from http://www.resbank.co.za/annual reports/Pages/aspx