Biennial Economic Society of South Africa Conference, 30 August – 1 September, 2017, Rhodes University, Grahamstown, Eastern Cape, South Africa.

Government Expenditure and Economic Growth in South Africa: Causality and Cointegration Nexus

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Much emphasis has been on the level of economic achievements in developing countries around the world since late nineteenth century. Despite the performance level in these countries, huge levels of unemployment, inequality and poverty rates still prevail and the quest for all-inclusive, equitable and sustainable economic growth has challenged the structure of government expenditure with its relationship to economic growth.

Keynes (1936) proposed the approach of using public spending to stimulate economic growth especially when private spending and investment are insufficient. The ideology behind Keynes view is that the expenditure if well utilized can stimulate the macro-economy through the use of discretionary fiscal policy and increasing aggregate demand. Though, Wagner (1883) already proposed a law based on the direction of causality between government expenditure and economic growth with the view that increases on the level of GDP as a result of industralisation will increase the share of government expenditure.

Various studies on government expenditure and economic growth have emphasized the need to look at different categories of government expenditure due to the argument that each category affects economic growth differently. For example, Deverajan et al. (2006) highlighted the importance of considering how recurrent and capital expenditure impact economic growth differently. On the other hand, Barro (1990) came up with a model of government expenditure in a theory of endogenous growth whereby the long-run rate of growth depends on the structure of government expenditure which is classified as productive and non-productive. The belief of these economists is that the productive expenditure is more effective to economic growth, therefore, government needs to direct more of its resources to the productive side.

As a developing economy, South Africa has done significantly well in terms of improving its economic outlook since independence and most of the country's macroeconomic policies have been towards bridging the socioeconomic gap and creating an enabling environment for all-inclusive growth. Some of the remarkable achievements since independence includes: earning its place as the second largest economy in Africa with investment opportunities for foreign investors, improved infrastructural development, sophisticated financial institutions and accountability for its private institutions, rated as upper middle income country with a GDP ratio of three hundred and fifty billion US dollars and per capita income of about six thousand, four hundred and eighty-three US dollars (World Economic Forum Report, 2015), member of BRICs and one of the emerging markets in the world, open and engaging more in international trade, increased government expenditure in terms building human capital development amongst others.

The largest sector of the economy according to South African Reserve Bank (2016) is services which accounts for around 73 percent of GDP. Within services, the most important are finance, real estate and business services: 21.6 percent, government services: 17 percent, wholesale, retail and motor trade, catering and accommodation: 15 percent. Then transport, storage and communication: 9.3 percent. Manufacturing accounts for 13.9 percent; mining and quarrying for around 8.3 percent and agriculture for only 2.6 percent. Based on the growth trends in term of GDP, it has been from 4.1% in 1970 with a sharp increase to 6.6% in 1980 and decreased to -2.14% in 1992. The 1994 political transition in the country helped the GDP to growth to about 3.23% but was estimated to be at 0.52% in 1998. By 2003, the country recorded another growth increase of 5.60% which later decreased to 1.89% in 2013. Presently, the GDP rate is at about 0.7% by the second quarter of 2017. Government expenditure as percentage of GDP has been moving around 18% and 20% from 1970 to 1980. In 1990, the total government expenditure as percentage of GDP was at 20% but dropped to 18% in 1999; increased to 21% by 2009 with an expected increase of 7.1% for another three years from 2016.

Despite these achievements recorded in the economy after its independence, the structural problems associated with the country's political and economic history is still deepening. This is due to the economic structure put in place by the apartheid regime thereby making the economy that has a sophisticated financial and industrial economy growing alongside an under-developed informal economy. The second informal economy is characterized by: high poverty rate 62% black Africans, 29% of mixed race (Coloureds), 11% Asians and 4% whites; among which 20.2% live in extreme poverty and 45.5% in moderate poverty (Statistics South Africa, 2015). There is also increasing rate of inequality that is largely race-based due to poor educational system and economic marginalization of the black majority from the past regime which has resulted into high level of unemployment of about 27.7% by the second quarter of 2017.

According to Budget Speech (2017), 98% of the country's wealth sits with 10% of the country's population. South Africa's trade and current account deficit is at 2.1% in the second quarter of 2017 from 1.7% at the fourth quarter of 2016. In addition, three international investment rating agencies namely: Standard and Poor, Fitch and Moody had downgraded the country's investment rating to junk status and Baa3 status respectively though Fitch reaffirms with BB+ rating later and place the country's economic outlook at negative due to its political instability, uncertainties surrounding policies and consistent low growth rate. The effects of the above mentioned issues including the underlying structural problems is that South Africa's economy has continued to operate on low GDP growth rate currently at 0.7% whereas government expenditure has continued to increase, low confidence leading to low investment and increase in job loses. There is also decrease in household consumption due to inflation rise and exchange rate volatility with weak balance sheet in all the state owned sectors as well as increase in social vices.

Apart from previous studies on global, Africa and South African economies concluding with mix results, the studies showed some weaknesses in the approaches employed. Within the South African economy, previous studies are based on aggregate government expenditure which does not provide all the answers because isolating the precise effects of a specific component of government expenditure on aggregate economic performance might be impossible. Moreover, some of the studies applied the ordinary least square (OLS) model with variables that are represented in each other which can result to multicollinearity, autocorrelation disturbances or specification bias while some studies relied on cross-sectional data which might not help to identify country's specific issues. This study empirically examined the long-run, short-run and causality relationship that exist between different categories of government expenditure and economic growth in South Africa from 1970 to 2016 and the theoretical framework is based on Ram (1986) model.

The aim of the study is to answer the following questions: of all the categories of government expenditure in South Africa, to what degree is their effects on economic growth in the country? What is the relationship between government expenditure and economic growth in South Africa? Is there the need to redirect government spending to the most productive sectors of the economy using appropriate implementation of macroeconomic policies to make it all inclusive? How appropriate and effective is the proposed framework?

The analysis was carried out using five variables namely: gross government expenditure, aggregate private consumption expenditure, gross fixed capital formation, employment to population ratio and net inflows of foreign direct investments. This variables were chosen due to their respective roles in South African economy regarding the structure in place. The study employed cointegration test to analyse whether there is the existence of long-run relationship between the variables, Granger-causality test was used to determine the direction of causality between government expenditure and economic growth and to estimate the long-run equilibrium relationship, the short-run relationship and the short-run dynamics between the variables vector error correction mechanism (VECM) was applied.

The empirical findings of this study showed that all the five variables are cointegrated and the results from trace statistics and maximum Eigen statistics confirmed in affirmative. This implies the existence of long-run equilibrium relationship among the variables.

In terms of the direction of causality between government expenditure and economic growth, results revealed that there is a bi-directional causality between real gross domestic product (GDP) and gross government expenditure (GEXP) in South Africa. Though, more causality runs from real gross domestic product to gross government expenditure in South Africa at ninety-nine percent confidence level and less causality runs from gross government expenditure to real gross domestic product in South Africa at ninety-five percent confidence level.

The results for long-run relationships between the regressands (real gross domestic product and gross government expenditure) and regressors (aggregate private consumption expenditure, gross fixed capital formation, employment to population ratio and net inflows of foreign direct investment) were as expected. The estimation with economic growth (real gross domestic products) in South Africa shows that gross government expenditure, gross fixed capital formation and net inflows of foreign direct investment have positive impact on real gross domestic product but aggregate private consumption expenditure and employment to population ratio have negative impact on real gross domestic products in South Africa from 1970 to 2016. This is in conformity with the current economic situation in South Africa that still operates a market based economy with high unemployment rate currently at 27.7%, increased dependency ratio and decreased gross savings ratio as well as aggregate private consumption expenditure.

Investment gap in the country is at about 3.4% while current account and trade deficit rate has risen to 2.2% by the second quarter of 2017. The gross savings ratio in South Africa is about 16.4% which does not compare well with other BRICS economies. For instance, China has a savings ratio of about 48% and India about 32%. The low savings has resulted into the economy's huge reliance on foreign capital inflows and portfolio inflows. A significant portion of these inflows is used to finance consumption which has not done any good to the economy and its currency either (consider recent downgrades and currency volatility).

The empirical results on economic growth (real gross domestic product) indicated that the VECM is statistically significant at one percent significance level and negative, therefore, there is long-run equilibrium and causality running from aggregate private consumption expenditure, gross government expenditure, gross fixed capital formation, employment to population ratio and net inflows of foreign direct investment to real gross domestic product in South Africa from 1970 to 2016. The gross government expenditure model estimations show that the VECM is positive and statistically significant, therefore, there is no long-run causality running from real gross domestic product, aggregate private consumption expenditure, gross fixed capital formation, employment to population ratio and net inflows of foreign direct investment to gross government expenditure in South Africa. The above results complied with the findings from Granger-causality tests that economic growth in South Africa Granger-causes government expenditure and not otherwise.

The short-run estimates like Wald coefficient test was also used to test the short-term equilibrium relationships and dynamics of the variables and they all correspond to the initial results from the long-run estimates and the VECM estimates.

In conclusion, this study examine the relationship between different categories of government expenditure and economic growth in South Africa from 1970 to 2016 and the results showed that South Africa continues to lag behind in terms of its growth rate despite increased government expenditure and various macroeconomic policies designed to curb its structural differences. As pointed in the result analysis, employment to population ratio and aggregate private consumption expenditure impact negatively to GDP growth in South Africa from 1970 to 2016. This implies that the issue of vicious circle in the South African economy is not with government increasing its expenditure but the direction of its expenditure which has to be towards the vast majority of the poor and previously disadvantaged. This can achieved through increased human capital development, capital flight, creation of middle income jobs, structural reforms which allows workers to migrate from low income jobs to high income jobs amongst others.

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