Biennial Conference of the Economic Society of South Africa (ESSA), 3-5 September, 2019, Johannesburg, South Africa.

Investigating the Dynamic Relationship between FDI, Government Expenditure and Economic Growth in South Africa

Ifeoma Anthonia Iwegbunam
Wits Business School
University of Witwatersrand, South Africa

The South African economic system is one that requires the intervention of foreign direct investment (FDI) to be able to absorb and possibly reduce the increasing unemployment rate, which has been a major issue in the country. This problem arose as a result of low skills, lack of technological skills and an unstable economy. However, technology transfer, together with other forms of investment through FDI, can have a positive impact on the economy. Carbonell and Werner (2018) maintained that the International Monetary Fund (IMF) and the World Bank have advised nations to borrow savings from abroad through loans, portfolio investments and FDI, in order to augment domestic savings and achieve the targeted growth rate. This implies that improved infrastructural development and other government expenditure, both capital and recurrent, are needed to enhance the smooth operation and productivity of FDI in the economy. According to Le and Suruga (2005), increased public expenditure is perceived as a factor contributing to capital accumulation, which is the key determinant of growth. In the same way, an increase in public expenditure requires an increase in tax, which directly reduces the benefits of taxpayers and eventually lowers the economic growth rate. The nature of government expenditure in South Africa is such that although a huge proportion of the budget is always dedicated to productive expenses, the portion for consumption is higher, making it impossible for government to achieve its sustainable goals. Another problem with increased government consumption expenditure - for instance, transferred payments, is that individuals willingly avail themselves of this opportunity, instead of participating in the economy in order to increase productivity and growth. This means that excessive government expenditure, combined with other structural factors in the economy, could reduce the impact of government expenditure on economic growth, as well as having a negative effect on FDI (Iwegbunam & Robinson, 2019).

In line with the above, Baxter and King (1993) and Linnemann (2006) found that higher government expenditure through increased taxation lowers private wealth, but increases labour supply through the reduced demand for leisure. This is not the case in South Africa, however, because the unregulated payment of social securities has made individuals unwilling to participate in the production process. In support of this view, Christie (2012) and Chirwa and Odhiambo (2016), cited in Leshoro (2017), embraced the idea of public choice theorists that as the size of government increases, given the high distortionary effects of taxes, governmental inefficiencies will increase, and government spending will have an adverse effect on economic growth. FDI through technology transfer has contributed immensely towards economic growth and development, and can help create employment opportunities in its host country. Nonetheless, studies such as Durham (2004); Almfraji and Almsafir (2014) and Rahaman (2015) have refuted the possibility of FDI having a significant impact on the increased economic growth of the host country, especially in developing countries. This doubt arose from the notion that FDI only extracts profit and increases the level of inequality and poverty in host economies. Therefore, capital, instead of flowing from rich to poor

countries, flows from poor to rich countries (Gourinchas & Jeanne, 2013). Some authors (Vernon, 1993; Tafirenyika, 2017) are of the opinion that the advantages of FDI do not occur automatically in the host country. They believe that benefiting from FDI depends on the recipient country's ability to absorb and integrate policies that will help FDI to thrive, such as the free trade policy, including human capital development, among others.

The South African government, through the presidential economic stimulus, recovery and investment drive, was able to secure pledges of R300 billion for its investment plan (National Treasury Economic Review, 2019).

Furthermore, in a bid to drive the economy towards the much-needed global standard, the country has a plan for rolling out its fourth industrial revolution, which has to come in the form of technology transfer. The Vernon (1993) product life cycle theory assumes that technological advantage is one of the main reasons for foreign trade or foreign direct investment, since technology transfer is considered to be a key factor in economic growth (Iwegbunam, 2017:102). The rate of FDI in South Africa has been on a downward trend, but this was reversed in 2018. The total inflows of foreign direct investment into the economy decreased by 20%, from US$ 7.3 billion in 2001 to US$ 1.5 billion in 2002. Then between 2009 and 2013, FDI was 1.0% and 2.6%, but changed to 0.6% in 2009 and 0.9% in 2013. Another increase was from 20% in 2015 to a R70.7 billion increase in 2018, which was higher than R26.8 in 2017. In terms of GDP and gross government expenditure, the GDP has also not been on the positive side for the past ten years, and currently, it has been reversed from 1.7% to 1.5% for the year 2019. The gross government expenditure was at 1.9% in 2018. According to the Industrial Development Corporation (2019), FDI inflows in 2018 were the highest since 2013, mainly as a result of considerable inflows during the second and third quarters of the year.

Studies by Borensztein et al. (1998), Gurbiel (2002) and Omri and Kahouli, (2013) found that FDI is an important channel for technology transfer and contributes significantly more to economic growth than domestic investment. However, Kolawole and Odubunmi (2015) established that there is no relationship between government capital expenditure and FDI. In terms of the South African economy, Tafirenyika (2017) and Masipa (2018) agreed that there is a positive relationship between FDI and economic growth. However, their research only measured whether a positive or negative relationship exists between FDI and economic growth. Considering the level of economic uncertainties and structural imbalances in South Africa, the question is whether FDI and government expenditure complement or substitute each other. Again, empirical research on which of the factors - FDI or government expenditure - contributes more to economic growth has mixed results. This leaves a gap that needs to be filled, in that a proper analysis of the existing relationship between FDI, gross government expenditure and economic growth will help policy makers to formulate macroeconomic policies that will help revive the ailing South African economy, and attract more foreign investors. This study will therefore add to the existing literature.

The theoretical framework adopted for this study is the Solow (1956) and Swan (1956) neoclassical growth model. This is a modified version of the Harrod (1936) and Domar (1946) model, which states that all countries possess identical aggregate production functions, and that the three factors that drive economic growth in any economy are technology, capital accumulation and the labour force. Carbonell and Werner (2018: 428) established that when the neoclassical growth theories of Solow and Swan replaced the Harrod–Domar theory, a new rationale for the flow of funds from rich countries to developing nations was formed, namely that returns on capital should be higher in developing countries, thereby encouraging the flow of international capital from rich to poor countries, and helping the latter to catch up.

The methodology employed in this study is the vector error correction mechanism (VECM) by Johansen (1995). The co-integration test introduced by Granger (1981), Engle and Granger (1987) and Johansen and Juselius (1990) was also used to measure the relationship among the variables. The Augmented Dickey Fuller (ADF) (1971, 1981) and Philips-Perron (PP) (1988) tests were carried out to determine if the variables are of order one. Thereafter, the diagnostic analysis was done using the Wald coefficient test. The datasets for this study consisted of quarterly time series data from 1970Q1 to 2016Q4. The variables were sourced from the South African Reserve Bank database. To avoid the problem of endogeneity, only variables directly related to the study were selected, and they included the following: real gross domestic product (GDP), gross government expenditure (GEXP) and net inflows of foreign direct investment (FDI). The dependent variable for the study is real gross domestic product (GDP), while the other two, GEXP and FDI are independent variables. In addition, the extrapolation and interpolation approaches were used to complete the missing series in the data for FDI, which ranged from 1985 to 2016. The empirical findings showed that the variables are stationary and co-integrated. The long-run estimates revealed that FDI is statistically insignificant and negatively related to economic growth, which is not in agreement with the a priori expectation. The analysis also revealed that FDI, though statistically significant, was negatively related to gross government expenditure. This finding is in agreement with Le and Suruga's (2005) conclusion that excessive public capital expenditure can hinder the beneficial effects of FDI. This implies that excessive government expenditure in South Africa does not only impact negatively on economic growth, but also affects the sustainability of FDI. It has resulted to investment downgrade by the investment rating agencies as a result of its increasing current account deficit and negative economic outlook in the country. Therefore, government expenditure in South Africa needs to be monitored in order to not distort the impact of foreign direct investment on the economy.

Finally, the insistence that South Africa's structural problems, such as political instability, growth uncertainty, constant load shedding, and high crime rates, amongst others, are the only cause of poor investment in the economy needs to be revised, as excessive government expenditure also plays a role. As already stated, increased taxation associated with increased government expenditure can make it difficult for any investment to operate. Therefore, this study concludes that increased government expenditure should be directed towards investment, rather than consumption.

References

Almfraji, M.A. & Almsafir, M.K. (2013). Foreign direct investment and economic growth literature review from 1994 to 2012. *Procedia-Social and Behavioural Sciences*, 129, 206-213.

Borensztein, E., De Gregorio, J. & Lee, J.W. (1998). How does foreign investment affect economic growth? *Journal of International Economics,* 45,115-135.

Carbonell, J.B. & Werner, R.A. (2018). Does foreign direct investment generate economic growth? A new empirical approach applied to Spain. *Economic Geography,* 94(4), 425-456.

Chirwa, T.G. & Odhiambo, N.M. (2016). What drives long run economic growth, empirical evidence from South Africa. *International Economics*, 69(4), 425–452.

Christie, T. (2012). The effect of government spending on economic growth: testing the non-linear hypothesis. *Bulletin of Economic Research*, 66(2), 183–204.

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.

Domar, E.D. (1946). Capital expansion, rate of growth and employment. *Econometrica,* 14,137-147.

Durham, J. B. (2004). Absorptive capacity and the effects of FDI and equity foreign portfolio investment on economic growth. *European Economic Review*, 48, 285–306.

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

Gourinchas, P.O. & Jeanne, O. (2013). Capital flows to developing countries: the allocation puzzle. *Review of Economic Studies,* 80(4), 1484–1515.

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

Gurbiel, R. (2002). *Impact of innovation and technology transfer on economic growth: the Central and Eastern Europe experience.* Centre of International Production Cooperation*,* 1-18.

Harrod, R.F. (1939). An essay in dynamic theory. *Economic Journal,* 49, 14-33.

Industrial Development Corporation. (2019). *Economic trends: Key trends in the South African Economy,* Department of Research and Information*,* 1-28, Retrieved 10 June, 2019 from http://www.idc.co.za./economics

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.

Iwegbunam, A.I. & Robinson, Z. (2019). Revisiting the applicability of Wagner's law in the South African economy. *ECONOMICA*, 15(2), 39-54.

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.

Kolawale, B.O. & Odubunmi, S.A. (2015). Government capital expenditure, foreign direct investment and economic growth relationship in Nigeria. *Mediterranean Journal of Social Sciences,* 6(4), 444-453.

Le, M.V. & Suruga, T. (2005). Foreign direct investment, public expenditure and economic growth: the empirical evidence for the period 1970-2001. *Applied Economics Letters,* 12(1), 45-49.

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.

Masipa, T.S. (2018). The relationship between foreign direct investment and economic growth in South Africa: vector error correction analysis, *Acta Commercii*, 18(1), a466.

Omri, A. & Kahouli, B. (2013). The nexus between foreign investment, domestic capital and economic growth: empirical evidence from the MENA region. *MPRA* paper no. 82505, 1-19.

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

Rahaman, A. (2015). Impact of foreign direct investment on economic growth: empirical evidence from Bangladesh. *International Journal of Economics and Finance*, 7(2), 178-185.

Solow, R. M. (1956). A contribution to the theory of economic growth. *Quarterly Journal of Economics*, 70(1), 65-94.

South African National Treasury (2019). *Budget Review*. Retrieved 22 July, 2019 from http://www.treasury.gov.za/publications/other/chapterspdf

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

Swan, T.W. (1956). Economic growth and capital accumulation. *Economic Record,* 32, 334-361.

Tafirenyika, S. (2017). Foreign direct investment and economic growth: ARDL and causality analysis for South Africa. *Research in International Business and Finance,* 41, 434-444.

Vernon, R. (1993). International investment and international trade in product cycle in Buckley P. (ed), *Internalisation of the firms*. London: Academic Press.