Article

Testing for Simultaneity: The Nexus between Foreign Private Investment, Capital Formation and Economic Growth Using Nigerian Data

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Abstract

This work studied the relationship between foreign private investment (FPI), capital formation and economic growth. Given the likely simultaneity between FPI, capital formation and growth, we used the two-stage least squares (2SLS) method of estimation to examine the nexus between these variables using Nigerian data. We found that foreign private investment has a negative impact on capital formation in Nigeria. We also found that both foreign private investment and capital formation, in addition to other factors, significantly determine economic growth in Nigeria. The study finds that the long-run impact of capital formation, and foreign private investment on economic growth is larger than their short-run impact. There is, thus, a long-run equilibrium relationship among the variables as the error correction term is significant, but the speed of adjustment is small in both models. The 2SLS estimates are very close to the OLS estimates suggesting that OLS estimates are consistent and unbiased. Hence, endogeneity was not a problem in the estimated models. There is, therefore, no simultaneity between GDP growth and capital formation model. These findings, therefore, have some policy implications as discussed in the work.

JEL Classification: E22, F43

Keywords: Capital formation, foreign private investment, investment, economic growth, credit

1. Introduction

Economic theory shows that economic growth can be realised in two ways—increase in the amount of factors of production; and increase in the efficiency with which those factors are used. Thus, growth is induced by the increases in investment (that is, capital accumulation) and the efficiency of investments (De-Gregorio et al. 1998).

In the late 1970s and early 1980s, most developing countries of Africa (including Nigeria) experienced unprecedented and severe economic crisis. These crises manifested in several ways such as persistent macro-economic imbalances, widening savings–investment gap, high rates of domestic inflation, chronic balance of payment problems and huge budget deficit (Akpokodje 1998).

Although different reasons have been adduced for the slowdown of these economies, Green and Villannueza (1991) attributed the problem to the decline in investment rates in the affected economies. In Nigeria, for example, Akpokodje (1998) maintained that domestic investment as a ratio of gross domestic product (GDP) declined from an average of 24.4 per cent during 1973–81 period to 13.57 per cent during 1982–96 period. The average investment rate during the 1982–96 period implied that the country barely replaced its dwindling capital. In the same vein, private investment rate depreciated from 8.6 per cent in 1973–81 period to 4.2 per cent in 1982–96. Due to the fact that investment determines the rate of accumulation of physical capital (otherwise called capital formation), it then becomes a vital factor in the growth of productive capacity of the nation and contributes to growth generally.

It is in the light of this that prominence is being attached to increasing the magnitude of real asset investment in the economy. In particular, central to the less than satisfactory growth registered by countries of sub-Saharan Africa is low level of investment as a result of low domestic savings. Attracting foreign investment is, therefore, crucial from a number of standpoints and, of course, there is never shortage of theoretical arguments (Chete 1998). First, inflow of foreign investment provides an important source of foreign exchange earnings needed to supplement domestic savings and raise investment levels. Second, import substituting investment would serve to reduce the import bills as investment in export industries will directly increase the country's foreign exchange earnings.

Some other benefits might also accrue from increased foreign investment. These include the creation or rather expansion of local industries to supply inputs to the newly established plant; a rise in the overall level of domestic demand to boost incomes and through taxation, state revenues; and the transference of labour (human capital), skills and technology.

Although United Nations Conference on Trade and Development's (UNCTAD) *World Investment Report 2004* reported that Africa's outlook for foreign private investment (FPI) is promising, the expected surge is yet to manifest. FPI is still concentrated in only a few countries for many reasons, ranging from negative image of the region, to poor infrastructure, corruption and foreign exchange shortages, an unfriendly macroeconomic policy environment, among others.

Nigeria is one of the few countries that have benefited from the FPI inflow to Africa. Nigeria's share of FPI inflow to Africa averaged around 10 per cent, from 24.19 per cent in 1990 to a low level of 5.88 per cent in 2001 up to 11.65 per cent in 2002 (CBN 2004). UNCTAD (2004) showed Nigeria as the continent's second top FPI recipient after Angola in 2001 and 2002. The nominal FPI inflow ranged from ₦128.6 million in 1970 to ₦434.1 million in 1985 and ₦115.952 billion in 2000. This was an increase in real terms from the decline of the 1980s. FPI forms a small percentage of the nation's GDP, however, making up 2.47 per cent in 1970, –0.81 per cent in 1980, 6.24 per cent in 1989 and 3.93 per cent in 2002 (CBN 2006).

External capital inflows could also be non-debt-creating flows (as in official transfers of grant in aids and direct investment flows), debt-creating flows (as in official development finance), commercial