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GOVERNMENT EXPENDITURE ON TRANSPORTATION AND ECONOMIC DEVELOPMENT IN NIGERIA.

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Abstract:

This study is an assessment of the relationship between expenditure of the federal government and economic development in Nigeria. The main sources of analytical data were from secondary sources collected from the Central Bank of Nigeria statistical Bulletin and United Nations Development Programme (UNDP). Both descriptive and inferential statistics (such as Augmented Dickey-Fuller unit root test method) were used for statistical analysis. The stationary series were also subjected to long run cointegrating test using Engle-Granger residual-based technique. Statistical results revealed no long run cointegrating relationship between government recurrent expenditure components and per capita income. However, the Ordinary Least Square methodology provides insightful short run findings indicating a positive and significant relationship between transport and per capita income. We conclude that recurrent expenditure of the government does not meaningfully support development beyond the short run. Government expenditure in transport gives a profitable good account of the wealth dedicated to their operation. It is thus recommended that transportation expenditure should be revisited by the budget office or Authority to Incur Expenditure (AIE) department of the government. It is important that funds appropriated for transportation spending be honestly expended. Put differently, the manages of the economy should devote more resources to transportation.

Keywords: Economic development, Economic growth, Capital expenditure,Recurrent expenditure Transportation Expenditure.

INTRODUCTION

Despite the increasing government expenditure in Nigeria, the problem of translating this to a significant development of the country has been daunting over the years. This is showing by the high rate of unemployment, high rate of illiteracy and the number of citizens who continue to struggle in abject poverty, while more than 65% of people live on less than US $1 per day.

In the last decade, Nigerian economy has metamorphosed from the level of million naira to billion naira and postulating to trillion naira on the expenditure side of the budget. This will not be surprising if the economy is experiencing surplus or equilibrium on the records of balance of payments. On the other hand, if there are infrastructure to improve commerce with the system or social amenities to raise the welfare of the average citizen of the economy, all these are not there still will always have a very high estimated expenditure which indicates that something is definitely wrong either with the way government expands budgets or with the ways and manners it has always been computed.

Bearing in mind the importance of transportation and the complaints of various stakeholders over the poor situation of the Nigerian road transport infrastructure, this current study is an attempt to examine the relationship between government expenditures and economic development in Nigeria. In specific terms, the objective of this study was to ascertain how the Nigerian Government expenditure on transportation affects per capita income.

Research Hypothesis

The research hypothesis was formulated in its null form as follows;

Ho_1: There is no significant relationship between Government expenditure on transportation and per capita income.

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LITERATURE REVIEW

Theoretical Foundations

Public expenditures are expenditures by State agencies, administrative management units or non-productive agencies under the control and sponsorship of the Government. Apart from state budget balancing expenditures, public expenditures basically represent the Government spending as adopted by the National Assembly. Public expenditures represent the value of the goods the Government buys to supply public goods to society in order to perform the State's functions (Pham The Anh 2008). In the economy, public expenditure activities of State agencies impact upon Gross Domestic Product (GDP) through interactions with the private sector such as in developing infrastructure, eliminating or regulating external factors so as to speed up economic activities and improve the distribution of resources. In the world, there have been numerous models of economic theories that study the relationship between public expenditures and economic growth, but studies as such yield contradictory results or cannot explain clearly the effects of this relationship. Most studies are carried out on a national scale; this issue in localities is still a subject being left open; no or very few studies specifically focusing on the situations, characteristics of the local level. The previous studies chiefly indicated the negative intervention of macroeconomy policies on economic growth. In the late 1970s, Keynesian economics channeled their effort into answering the question "What role government plays in economic growth?" (Gujarati, 2003). Accordingly, their study results showed that public expenditures - particularly the expenditures through Government borrowing & debts may impact on GDP by stimulating the aggregate demand of the economy. Irrespective of the reasonable causes provided by the Keynesian theory of spending, its biggest limitation is to ignore the impact of tax and borrowing & debts while these are two extremely essential factors that directly reduce the purchasing power or the aggregate demand of the economy. Especially when the global economic crisis occurred in 1970, the Keynesian theory revealed its not completely correct points, as interest rate during this period, only owing to cutting down public expenditures and reducing tax could the global economy escape from the crisis and began to show signs of recovery in the 1980s. Kiskanen (2007) announced his study results, in which the author opined that civil servants in the public sector tended to avail themselves of the budget to achieve their own benefits. As a result, public expenditures grew bigger and bigger but public goods were insufficient to meet the social demand, namely public expenditures did not impact on the GDP of localities. Till 1986, economist Richard Rahn described the relationship between government spending and economic growth in a graph known as Rahn curb. This curb shows that if public expenditures are moderate and completely distributed to the basic goods such as infrastructure, legal protection, ownership…, then economic growth and GDP will achieve the maximum. On the contrary, when government spending exceeds the necessary threshold, it will hinder economic growth and the distribution of resources will be less efficient. The study by Barro (1990) was one of the first studies of optimal point of public investment. According to him, the impact of public investment on economic growth undergoes three stages and in an upside-down U shape. Accordingly, the level of public investment to point A (while public investment is still low) will increase private investment profit, private savings ratio and growth rate. After point A, the negative impact of higher tax will compensate for the more positive impact of capital on profit for private investment and the further increase of private investment and reduction of savings ratio between A and B, increase in public investment will continue to speed up economic growth as public investment still yields high productivity. After that is point B, public investment yields lower productivity and increases savings ratio, together with reduction in growth rate.

David Alan Aschauer (2000), based on his study conducted in 1989, brought out novelties in the relationship between economic growth and public investment. The author still defined the relationship between these two factors as a nonlinear relationship, public capital supplemented to private capital, realized the positive and statistically significant effect of public investment and pinpointed the optimal point for public investment in economic growth. Notwithstanding the more optimistic results than that of the previous studies, it was still very difficult to draw any firm conclusion from this proof. Till 2011, researcher Dandan tested the effect of government spending on economic growth in Jordan during the period 1990 - 2006 by applying different regression models. The author's study also showed that public expenditures have positive effect on the economic growth and GDP in Jordan. Also in 2011, Mpatswe conducted a test on the financial cycle in 6 African countries during the period 1980 - 2008 by employing equations with delayed variables that represent long-term values and regressing the first differences. The findings showed that the total public expenditures were characterized by their drastic cocyclic nature despite the different cyclic coefficients among countries, in which public investment is the component that reacts excessively to economic growth

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for its elasticity is greater than 1. Stepping into 2012, a series of well-known studies of the relationship between public expenditures and GDP were conducted in many countries over the world. Typically, the study by Al-Bataineh (2012) tested the relationship between public expenditures and GDP growth in Jordan during the period 1990 - 2010 by employing time series data. The study showed that the total public expenditures had positive effect on the economic growth at a general level but the government's payment did not have any effect on this issue in this country.

CONCEPTUAL REVIEW

Government Expenditures

Government expenditure means expenses incurred by the government for its own preservation; the expenses can be social as well as economical. The government expenditure should reveal the policy choice of the government. The cost of carrying the policies is determined by the decision of the government expenditure on type and quantity of goods and services provided by the government. The justification behind the need for government expenditure is related to the existence of externality associated with the market failure. Thus without market failure there is no rationale for the additional public sector investments to be more productive than investment of private sector. Government expenditure on public services has a reflective effect on standard of living of the people and life opportunities. The objective of expenditure on public service is the provision of chance to the citizen to realize the potential associated on that service and strengthening a competitive economy. The government objective for public expenditure should cover both elements of equity and efficiency. There is argument that improvement of efficiency must not be realized on the expenses of equity. Conversely inefficiency in the provision of government service has the result that chances for improved equity are missing because of uneconomical use of resources. This consequence may worsen to the extent that financing and provision of public service crowds-out the private sector and finally reduce economic growth. This in turn reduces the availability of resources to undertake the social programs.

Additionally financing and provision of services is not basically concerned with the redistribution of income but also the provision of equal opportunities and incentive for merit and effort. Government expenditures can be characterized by two broad categories namely development expenditure and recurrent expenditure. Development expenditures are those which correspond with government development activities like investment on infrastructure, education, health, communication and agriculture. Recurrent expenditures correspond with the government spending on suppliers and services, wages and salaries rent and administration services. In truth, there is no standardized approach of classifying expenditure into development or recurrent hence countries may suffer conceited differences in classifying government expenditures. Moreover because it is easier for countries to obtain concessional credit and foreign grants for development expenditure than recurrent expenditure, there is a reason for countries to make larger development expenditures. However, Barro (1990) classified government expenditure into productive expenditure and non-productive expenditure. Productive government expenditure would include the resources committed to property rights, reinforcement and those activities on production function. Unproductive government expenditures are those which could not enter into production function such as government service consumptions. On the other hand Bleaney (2001) categorized education expenditure, defense expenditure, general public service expenditure, transport and communication and health expenditure as productive expenditure. Education expenditure because of its additional to human capital is considered as investment. Expenditures on welfare, social security, recreation and economic service expenditure are classified as unproductive expenditure. There is no strong conclusion generated by the economic theories on development expenditure to faster economic growth as there are circumstances in which lower development expenditure would enhance economic growth and other circumstances in which higher development expenditure would be undesirable. Nonetheless, economic theories provide guidance that expenditure on physical infrastructure and human capital under effective public budget administration can influence growth in developing countries.

Effects of Government Expenditure on Economic Growth

The argument of non-state intervention and allowing for self-correcting system of economic activities advocated by the classical economists was thought to be a failure due to the nature of public expenditure to rise greatly in unconditional terms. Musgrave (1999). Brown and Jackson (1996) and Bailey (2002) acknowledged three macro models of public expenditure on how government expenditure performs over a long term. These models are development models of public expenditure, the Peacock and Wiseman's model of public expenditure growth and Wagner's law of

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expanding of state activity. Public expenditure growth on development model was explained by Musgrave and Rostow (1999) by examining many different cases of developed economies. In the early stages, they argued, public sector investment as a component of the total investment of the economy influences capital formation which finally leads to the economic growth. Governments therefore provide social infrastructure, transportation system, education, health, law and order and other investment. The investment is seen to be important on increasing productivity and speed up the economic growth and development from middle stage up to the growth stage. Governments continue to supply investment goods in the middle stage of growth where it comes the time the government investment is corresponding to the growth in private sector investment. Government involvement is seen to be very important as it deals with the market failures which exist and which can discourage the push towards maturity.

Musgrave (1999) explained that over the growth period total investment as a percentage of GDP increases, while the public sector investment share falls relatively, leading to the availability of large flow of savings due to the growth of economy which built up the capital stock in private investment and agriculture. The situation will cause the creation of stock of social overhead capital, comparable to public utilities which turn to a declining share of net capital formation. On the other hand, Rostow argues that when the economy comes to the maturity period there will be a shift of mix of public expenditures from expenditures on infrastructure to increasing expenditures on health sector, welfare services and education sector. On the mass spending period there will be policies intended to redistribute welfare, income maintenance programs, which will grow considerably relative to other substance of public expenditure and also relative to GDP.

Wagner developed further his "law of increasing public expenditure" by examining trends in the growth of government expenditure and the size of government sector in many countries of the world. In his law of increasing expenditure he assumed that; (i) government function expansion will lead to an increase in government expenditure on administration and regulation of the economy (ii) Because of the modern industrial society there will be increasing political pressure for social development and claims for increased expenditure for social thought in the conduct of industry (iii) the increase in government expenditure will become more than comparative increase in the national income and the outcome will be the expansion of public sector.

Brown and Jackson (1996) criticizes Wagner's model on his assumptions as they explained that Wagner by employing an organic theory of state didn't consider the problem of public choice and his predictions have lack of theoretical basis. They go further by saying that Wagner assumes as if the state acts as individual existence with independently decision of the members of society.

Musgrave (1999) says Wagner's assumptions were based on expectation on greater expansion of public enterprises as growth occurred; while this failed to materialize but also is not the kind of activity which can be explained within the perspective of public expenditure development. Brukheid and Miner (1999) described the relevant expenditures to be those which are not the result of a saleable product; that is, expenditure made for services provided without direct charge or transfer payment.

One of the most known analyses of the public expenditure is Peacock and Wiseman's analysis founded on political theory of public expenditure determination explaining that government wishes to spend more money, while society does not like to pay more taxes, and governments have to consider the wishes of the society. Peacock and Wiseman (1996:26) continue by saying that government expenditure increases at the time of war or during social crisis periods and falls after the ends of war or when the social crises have been resolved. Beside the three macro-models mentioned above demographic change has been frequently mentioned as a factor that contributes to the growth of public expenditure. It is being seen that the population increase would expand the activity produced by the government sector for the purpose of saving the large population. On considering the demographic trends we have to take into account the structure changes of the population like age, sex and geographical distribution. The relationship between the expenditure size and population size is mostly depends upon the goods and service that is being supplied. As it is known that the marginal cost of public goods of an additional member to the population is zero. For that matter in the case of public goods there is no reason to expect that an increase in population will cause an increase in expenditure. In other words, if population increases and the level of output consumed by every member of the population remains constant then for those goods that are close to public goods an increase in population would result in a less than relative increase in expenditure. The general effect of the different trends on government expenditure may be such that cancelling each other out. Generally the growth of population and the growth of government expenditure depend upon

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the specific circumstances in different countries. Dickson (1996) Brown and Jackson (1996) provide awareness on modelling of the relationship between rate of change of total government expenditure and population size.

Priest (1995) explaining that in developing countries the accumulation of human capital is the most significant reason for growth in government expenditure mainly in education expenditure. He continued by insisting that mental dexterity, greater willingness to take risks, better knowledge of job opportunities and commencing on new enterprises with new jobs and the possible effect of bringing down the growth rate of population as potential qualitative advantages. He finally argued that in developing countries it is not always easy to measure the economic advantage of education expenditure due to intervention of the political and social influence. Tanzi and Schuknecht (1997) together explaining that, the expansion of public role in education, provision for public pension, health, and government assistance on unemployment generally increases government expenditure. Tanzi also emphasizes that the policy adds to the growth of public welfare in different ways and also increases the literacy rate in the country. Trotman–Dickenson (1996) says the new technology and science, nationalization and external aids contribute to the growth of government expenditure. Although in developing countries the general trend of increasing government expenditure is explained to have a limit to the level of government expenditure of a country at a particular moment of time. Tanzi (1994) on his conclusion explain that a country in a given fiscal year may plan to have any level of expenditure in nominal value but on the future the country will come to realize that there is limitation in expenditure as proportional of GDP due to the source of financing. On other hand higher level of public sector borrowing may cause higher interest rate which lead to lower private sector investment and on the long run result to inflation. Alternatively there will be increase in general price level and reduction of the of country real monetary unit due to the monetary expansion. The real revenue from inflationary finance would fall if the rate of monetary expansion is pressed above certain level. Generally there are clear limitation to the size of government expenditure and the size of these sources of financing.

Economic Development

Economic development is the process by which economic well-being and quality of life of a nation, region or local community are improved according to targeted goals and objectives. When it is achieved, it leads to increase of a country's potential Gross Domestic Product (GDP) which is caused by the increase on advanced technology, improvement in the quality, capital stock and level of literacy. Economic development is essential for countries that want to get out of poverty especially a developing country like Nigeria. Government spending can engender economic development.

Government spending as a fiscal instrument serves useful roles in the process of controlling inflation, unemployment, depression, balance of payment equilibrium and foreign exchange rate stability. In the period of depression and unemployment, government spending causes aggregate demand to rise and production and supply of goods and services follow the same direction. As a result, the increases in the supply of goods and services couple with a rise in the aggregate demand exalt a downward pressure on unemployment and depression.

In the case of persistent rise in price (inflation) and the depreciation in the value of money, it is expected that reduction in government expenditures discourages aggregate demand and inflation and falling in the value of exchange rate are controlled. It is worth to note that these two tools may be adopted simultaneously in the economy. A rise in the government expenditure has the same effects as a reduction in the tax rates on aggregate demand. Similarly, the effects of a reduction in the government expenditures are the same as increases in tax rates.

Easterly and Rebelo, 1993; and Barons, de Groot and Nijkamp, 1999 supported that government activity determine the direction of economic growth likewise Dar Atul and Amirkhilkhali 2002 supported the relevance of fiscal policy in influencing economic growth.

Yasin (2000) in trying to find a conclusive position examined the effect of government spending on economic growth using panel data set from Sub-Saharan Africa. The results he got by employing Fixed and Random estimation techniques indicated that government spending had positive and significant effect on economic growth. By nurturing productive activities, reducing unproductive ones and implementing appropriate policies, the relationship between government spending and economic growth can be maintained in the positive direction. This is reflected in Kelly's (1997) study. It was found out from the study of 73 countries over the period 1970-1989 that the contribution of public investment and social expenditures to growth has a positive effect on economic growth. In a study of the Greek economy, Alexiou (2007) reported a positive association between

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government spending and economic growth; thus, further supporting increase in government spending. The result from Alexiou (2009) gave further evidence when he applied two different panel data methodologies to seven transition economies in South Eastern Europe. The result showed that government spending had significant and positive relationship with economic growth.

On the other hand, Fosler and Henrekson (2001) conducted a panel study over a period of 26 years to discover the relationships that exist between public expenditure and economic development. His empirical findings support the position that large public spending affects growth negatively. The studies of Pevcin (2003), Brady (2007), Pham (2009) and Maku (2009) further support this position. These results, hence, postulate that it is detrimental to increase government expenditure owing to its effect on growth.

It is predicted from mainstream theory that a negative effect is expected in economies where government size exceeds a certain threshold. Thus, there is an optimal size of government above which growth will start to decline. Pevcin (2003) panel data estimates of Armey Curve, using a sample of 12 European countries, suggests that optimal government size is approximately between 36 percent and 42 percent of GDP. This may not be in other countries. But what if the reason for the negative relationship is not increase in government expenditure in itself? What if the root of the problem is the inability to nurture productive activities, reduce unproductive ones and implement the appropriate policies as stipulated by Kelly (1997)? If that is the case, Keynes (1936) may be right after all in all cases. All that is just required is for such government spendings to be channelled towards nurturing productive activities and implementing appropriate and rewarding policies.

Besides the kinds of relationship that exist between government spending and economic growth, the question that has come up is which of them causes the other. Keynes (1936) postulated that government spending is the one that causes growth and not otherwise. However, (Wagner, 1958) postulated that it is economic growth that determines government size. Olugbenga and Owoye (2007) in their study of a group of 30 OECD countries during the period of 36 years found out a unidirectional causality from government spending to economic growth for 16 of the countries, while causality runs for 10 countries from economic growth to government spending. Thus, result for 16 countries supported Keynes hypothesis, 10 supported Wagner's law and the rest 4 countries had a feedback relationship between government spending and economic growth. Liu, Hsu, and Younis (2008) examined the causal relationship between economic growth and government spending for US data to further clarify which of them causes the other. Their result further supports Keynes' postulation. Thus, in the US, Keynes postulation has a stronger position than Wagner's. With respect to ECOWAS countries Iyare, Lorde and Francis (2005) and Oteng-Abayie and Frimpong (2009) found no long run causal relationship between government expenditure and economic growth. Oteng-Abayie (2011) thus revisited the issue using an expanded data covering five ECOWAS member countries, as against three by Oteng-Abayie and Frimpong (2009). His result however showed that there is no long run relationship between government expenditure and economic growth in the five ECOWAS Countries (Gambia, Ghana, Guinea, Sierra Leone and Nigeria) covering from 1986 to 2004. This study will therefore revisit this issue by using an expanded data set covering the 14 ECOWAS Countries. The objective of this study, therefore, is to investigate whether a long run relationship exists between government spending and economic growth in ECOWAS Countries.

Empirical Review

There are many studies analysing the relationship between public spending and economic growth in developed and developing countries. However, there is no consistent evidence that there is an important relationship between public spending and economic growth, in a positive or negative direction. The empirical estimates of the impact of public spending on economic growth vary depending on the country (region), the methods and the tests of econometric models used, as well as the categorisation of public expenditures. The exogenous growth theory, i.e., the basis of the neoclassical theory developed by Solow (1956) and Swan (1956), suggests that fiscal policies cannot bring changes in economic growth. In other words, changes in fiscal variables such as the level of taxes and public spending are temporary economic blows. According to Dar & AmirKhalkhali (2002), "economic growth can only occur as a result of exogenous technological changes". Thus, according to the neoclassical theory, an expansionist fiscal policy will absorb some of the private savings to finance the budget deficit, which in turn will create a disparity between private savings and investments. Long-term consequences may cause lower levels of GDP. In response to this model of economic growth supported by Solow (1956) and Swan (1956), a new model of economic growth – called the endogenous economic growth model developed by Romer (1986) and Lucas (1988) – came to the conclusion that economic growth was due to endogenous growth

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factors. The theory of endogenous growth provides us with a mechanism that fiscal policies can generate permanent effects on growth rates (Barro,1990; Barro &Salai-Martin, 1992; Mendoza, Milesi-Ferretti, & Patrick, 1997) and predict that the tax structure and the composition of public expenditures are influential in economic growth, because they affect the rate of savings and incentives to invest in human capital. According to Williamson (2006), fiscal policies can affect economic growth by changing taxes and spending. Dar & AmirKhalkhali (2002) also pointed out that in the endogenous growth models the size of fiscal policy was a very important determinant of economic growth. It is now well accepted by many scholars that public spending as an important fiscal policy instrument can be an important determinant of economic growth if used efficiently (Gemmell, Kneller, Sanz, & Ismael, 1999; Fölster & Henrekson, 1999; Tanzi & Zee, 1997; Kaas, 2003; Ghosh & Gregoriou, 2008; Angelopoulos, Economides, & Kammas, 2007). Ram (1986), taking on a sample of 115 countries for the time period from 1960 to 1980, estimated the effect of public spending on economic growth. In his model, Ram elaborated and derived the general expression of production function Y = f(L, K, G) by incorporating the public expenditure variable G and concluded that the effect of public expenditures on economic growth was positive and statistically important at least at the 1 % level. Other authors support Ram's idea that expanding public spending will promote economic growth. For example, Kormendi and Meguire (1983); Alexious (2007); Aschauer (1990); Chen and Lee (2005); Kocherlakota and Yi (1997); Wu (1994); Anyadiegwu, Danladi, Akomolafe, Olarinde (2015); Cheng and Lai (1997); Nworji, Okwu, Obiwuru, and Nworji (2012) found a positive relationship between public spending and economic growth. However, in support of this view, some other authors (Nurudeen & Usman, 2010; Abdullah, 2000) conclude that expanding public spending provides two basic functions of economic activities, namely: protection and provision of certain public goods such as roads, education, health, defence and infrastructure. Securing these two functions decreases the cost of production, encouraging private sector investment, thus boosting economic growth. However, some authors (Sjoberg, 2003; Nizalov & Loveridge, 2005; Barro, 1991) do not support the claim that public expenditures affect economic growth positively; instead, they proclaim that higher public expenditure may harm economic growth. An expansion of public spending beyond key functions will have a negative impact on economic growth. Beyond this function the discouraging effects such as a high level of taxes, high level of public debt, inefficient allocation of government resources, return to the scale of public capital, "rent-seeking" activities start. All of the statements above are factors that reinforce the existence of a hypothesis for a non-linear relationship between public expenditure and economic growth. Many authors (Bergh & Henrekson, 2011; Grier & Tullock, 1989; Landau, 1983; Engen & Skinner, 1992; Dar & AmirKhalkhali, 2002; Cameron, 1982; Marlow, 1986; Conte & Darrat, 1988; Fölster & Henrekson, 1999; Afonso & Furceri, 2010; Maingi, 2017) have found a negative correlation between public spending and economic growth. They suggest that expanding the size of public spending will have a negative economic growth effect, also causing the "crowdout" effect of private investment. In addition, public spending often translates into inefficient spending due to distorted resource allocation, because policymakers often effort to gain popularity and ensure the retention of power by increasing public spending on non-productive projects. Moreover, some scholars argue that increasing public spending will affect the demand for more taxes to support this growth. This tax expansion will hurt the economy, discouraging innovation, lowering private investment that affects the economic downturn (Chen & Lee, 2005). Christie (2014), on the other hand, presents a nonlinear relationship through the growing effect of tax rates that are required to finance public spending and economic growth. Hence, according to Hindriks & Myles (2006), economic activities of public sector intended to provide public goods pose a conflict between those that require higher public spending and those who demand a lower tax burden. Revising the literature for this nonlinear relationship, Lynch (2004) concludes that if taxes and expenditures are down, the positive impact of lowering tax rates is lower than the negative impact on public spending cuts, and overall the net effect is negative.

Ram (1986) study marked a rigorous attempt to incorporate a theoretical basis for tracing the impacts of government expenditure to growth through the use of production functions specified for both public and private sectors. The data spanned 115 countries to derive broad generalizations for the market economics investigated. He found government expenditure to have significant positive externality effects on growth particular in the developing countries (LDC) sample, but total government spending had a negative effect on growth. Lin (1994) used a sample of 62 countries (1960-85) and found that non-productive spending had no effect in growth in the advanced countries but a positive impact in LDCs. Other studies have investigated the impact of particular (functional) categories of public

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expenditure. For example, Deverajan et al (1993), using a sample of 14 OECD countries, found that spending on health, transport and communication have positive impacts whereas spending on education and defense did not have a positive impact. Seymour et al. (1997) used a disaggregated approach to examine the impact of government expenditure on economic growth in the OECD. Josaphat et al. (2000) investigated the impact of government spending on economic growth in Tanzania (1965-1996) using time series data for 32years. They formulated a simple growth accounting model, adapting Ram (1986) model in which total government expenditure is disaggregated into expenditure on (physical) investment, consumption spending and human capital investment. It was found that increased productive expenditure (physical investment) have a negative impact on growth and consumption expenditure relates positively to growth, and which in particular appears to be associated with increased private consumption. The results revealed that expenditure on human capital investment was insignificant in their regression and confirm the view that public investment in Tanzania has not been productive, as at when the research was conducted. Nitoy et al. (2003) employed the same disaggregated approach as followed by Josaphat et al. (2000). They examined the growth effects of government expenditure for a panel of thirty developing countries (including Nigeria) over the decades of the 1970s and 1980s, with a particular focus on sectoral expenditures. The primary research results showed that the share of government capital expenditure in GDP is positively and significantly correlated with economic growth, but current expenditure is insignificant. The result at sectoral level revealed that government investment and total expenditures on education are the only outlays that remain significantly associated with growth throughout the analysis. Although public investments and expenditures in other sectors (transport and communication, defense) was found initially to have significant associations with growth, but do not survive when government budget constraint and other sectoral expenditures were incorporated into the analysis. Also private investment share of GDP was found to be associated with economic growth in a significant and positive manner. Junko and Vitali (IMF, 2008) investigate the impact of government expenditure on economic growth in Azerbaijan because of the temporarily oil production boom (2005-07), which caused expectationally large expenditure increase aimed at improving infrastructure and raising incomes. Azerbaijan's total expenditure increased by a cumulative 160 percent in nominal value from 2005 to 2007 (i.e. from 41 percent of non-oil GDP to 74 percent) in their research reference which were made to Nigeria and Saudi Arabia (1970-89) who have also experienced oil boom and increased government expenditure over the years. The study simulated the neo-classical growth model tailored to the Azeri conditions. Their analysis suggested that the evaluated fiscal scenario poses significant risks to growth sustainability and historical experience indicates that the initial growth performance largely depends on the efficiency of scale-up expenditure. The study also sheds light on the risks associated with a sudden scaling-down of expenditure, including the political difficulties to undertake an orderly expenditure reduction strategy without undermining economic growth and the crowding-out effects of large government domestic borrowing.

Similarly, Gregoriou and Ghosh (2007) discovered that countries with large government expenditure tend to experience higher growth, but the effect varies from one country to another. Olugbenga and Owoye (2007) results show the existence of a long-run relationship between government expenditure and economic growth and a unidirectional causality from government expenditure to growth for 16 out of the 30 countries considered, 10 out of the countries confirmed Wagner's law and 4 countries had feedback relationship between government expenditure and economic growth. Cooray (2009) results revealed that both the size and quality of the government are associated with economic growth. Also, Frimpong and Oteng-Agbaiye (2009) reported that government expenditure does not play a major role in promoting economic growth. Some authors studied the relationship between the composition of government expenditure and economic growth in the context of Wagner's law and Keynesian notion. Singh and Sahni (1984) as far as expenditures on administration, social and development and defense are concerned upheld both the Wagnerian and Keynesian notion but Keynesian notion alone for debt servicing. Ariyo and Raheem (1991) report that the size and mix of government expenditure as a major determinant of the overall performance of an economy. Ekpo (1994) reported that capital expenditures on transportation and communication, agriculture, health and education had positive impact on economic growth. Ariyo (1996) found that the nature of government expenditure can crowd-in or crowd-out the private sector and Busari (1998) found government capital expenditure to be growth inducing. A disaggregated approach was adopted by Niloy et al. (2003) to investigate the impact of public expenditure on economic growth for 30 developing countries. They found that government capital expenditure in GDP has a significant positive

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association with economic growth, but the share of government current expenditure in GDP was shown to be insignificant in explaining economic growth while at the sectoral level, government investment and expenditure on education are the only variables that had significant effect on economic growth, especially when budget constraint and omitted variables are included. Devarajan et al. (2006) studied the relationship between the composition of government expenditure and economic growth for a group of developing countries the result show that capital expenditure has a significant negative association with growth of real GDP per capita and recurrent expenditure is positively related to real GDP per capita. Similarly, Maku (2009) investigated the link between government spending on and economic growth in Nigeria by incorporating the model that specifies the effect of government consumption and investment spending, and private investment on real gross domestic product in Nigeria and found that private and public investments have insignificant effect on economic growth during the review period. Ighodaro and Oriakhi (2010) found that increase in total government expenditure as well as specific expenditure on general administration and community and social services that propels economic growth. Adeniyi and Bashir (2011) found that governments spending on agriculture, education, defense and internal security services as well as structural adjustment programme are significant factors that influence economic growth in Nigeria. Usman et al. (2011) investigated the effect of federal government expenditure on economic growth in Nigeria by specifying an augmented Solow model in Cobb-Douglas form with public capital as one of the factors. Results of the regressions show that in the short run public spending has no impact on growth. However, Cointegration and VEC results show that there is long run relationship between public expenditure and growth. Adewara and Oloni (2012) explored the relationship between the composition of public expenditure and economic growth in Nigeria between 1960 and 2008 using the Vector Autoregressive models (VAR). Their findings shows that expenditure on education has failed to enhance economic growth due to the high rate of rent seeking in the country as well as the growing rate of unemployment. They also found that expenditure on health and agriculture contributed positively to growth. Other studies carried out country specific study since different countries have different levels of economic development. Such studies includes that of Abdullah (2000) in Saudi Arabia, also, Albatel (2002) in Saudi Arabia, Peter (2003) for Sweden, Mitchell (2005) and Liu et al. (2008) for the U.S., Verma and Arora (2010) for India.

Empirical works that examined the relationship between government expenditure and economic growth in Nigeria include: Oyinlola (1993) who reported a positive impact of defense expenditure on economic growth. Fajingbesi and Odusola (1999) observed real government capital expenditure has a significant positive influence on real output and real government recurrent expenditure affects growth only by little. Ogiogio (1995) revealed a long-term relationship between government expenditure and economic growth and also discovered recurrent expenditure exerts more influence than capital expenditure on growth. Akpan (2005) used a disaggregated approach to determine the components and concluded that there was no significant association between most components of government expenditure and economic growth in Nigeria. Nurudeen and Usman (2010) result show that the variables- total capital expenditure, total recurrent expenditure, and government expenditure on education have negative effect on economic growth. While government expenditure on transport and communication, and health, have positive impact on economic growth.

Moreover, Akpan (2005) also used the components of government expenditure and opined that no significant relationship exists among some government components and economic growth in Nigeria. Aregbeyen (2007) while carrying out his study concluded that a positive and significant relationship exists between capital expenditure and economic growth but a negative relationship between recurrent expenditure and economic growth. Modebe et al (2012) examined the impact of government capital and recurrent expenditure on the Nigerian economy from 1987 to 2010 using three variables multiple regression model. While capital expenditure had a negative and nonsignificant impact on the economy, recurrent expenditure had a positive and nonsignificant impact on the same economy. Amassoma, Nwosa, and Ajisafe (2011) used the error correction model to study the impact of government expenditure disaggregated into agriculture, education, health, transport, and communication on the Nigerian economy with data from 1970 to 2010. They concluded that only agriculture expenditure had a significant impact on the economy. Others had insignificant influence on economic growth. Oluwatobi and Ogunrinola (2011) also studied the impact of capital and recurrent expenditure on education and health (human capital) and their effect on economic growth using Augmented Solow model. They discovered that there is a positive relationship

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between recurrent expenditure on human capital and level of real output but a negative relationship between capital expenditure and the level of real output. Ogujiuba and Adeniyi (2004) examined the impact of government education expenditure on economic growth. Their result showed a statistically significant positive relationship between economic growth and recurrent expenditure on education, while capital expenditure was wrongly signed and not significant in its contributions. Loto (2011) studied the effects of government expenditures on security, health, education, transport, communication, and agriculture on the economy using error correction test. He opined that expenditures on agriculture negatively impact the economy. Education was both negative and non-significant to the economy.

Expenditures on health positively impacted the economy while security, transport and communication though positively were non-significant to the economy. Finally, Fajingbensi and Odusola (1999) found the contribution of recurrent expenditure to growth as insignificant.

RESEARCH METHODOLOGY

This empirical study examined government expenditure and its effect on economic development in Nigeria, while adopting the causal design approach. The study covered the entire country (36 states) using secondary data obtained from the Central Bank of Nigeria Statistical Bulletin and the United Nations Development Programme (UNDP). The content scope covered the transportation Sector and Gross Domestic Product (GDP). The study covered Government expenditure on transportation and economic development in Nigeria for a period of 11 years (1990-2020). The statistical analyses consisted of descriptive statistics involving the mean, standard deviation, skewness and kurtosis and further test for normality using the Jarque-Bera statistics through hypothesis. However, it started with data refining which removed the problem of outliers through logarithm transformation to capture change. As is necessary in this type of research, historical data series are expected to be normally distributed or stationary prior to a regression. In situations where the data is not stationary, the normal distribution curve is distorted. Other tests include,

i). Stationarity Test (Augmented Dickey-Fuller (ADF) test).

ii). Long-Run Cointegration Test

Model Specification

The regression analysis model of the long run relationship is states as follows:

$$LOGPCI = \beta_0 + \beta_1 LOGGOVTRAN + \mu_t \quad (1)$$

Where;

LOG is a natural logarithm of the series;

PCI represents per capita income;

GOVTRAN is government expenditure on transportation; GOVTRAN is government expenditure on transport; μ_t is residual. $\beta_1 - \beta_3$ are parametric constants which are expected to be positive. The *a priori* expectation of positive sign is influenced by the Keynesian theoretical model.

RESULTS AND DISCUSSION

Research Results and Analyses

In finding the relationship between government expenditure and economic development we commence this section of chapter four with descriptive statistics.

Descriptive Statistics Analysis

Below is the descriptive statistics of this study however we limit analysis to first, second, third and fourth moments. The analytical data is found in appendix I of this study.

Table 1 Tabular Result of Descriptive Statistics

	mean	std- deviation	skewness	kurtosis	JB(*P-value*)
GOVTRAN	0.078866	2.515153	0.236506	1.725579	0.303180
PCI	8.267670	0.246346	0.052897	1.353550	0.172398

From the Table 1 above we could understand the distribution of the variables. The mean of government expenditure on transport is 0.078866 with minor deviation observed in the standard deviation of 2.5151153. The series is also positively skewed (0.236506) indicating fat tails to the right. A kurtosis

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coefficient of 1.725579 is less than 3 which means the series is platykurtic. The null hypothesis indicating normality is not rejected at a *p*-value of 0.303180.

Unit Root Test

For a series to be stationary the null suggesting that a variable has a unit root has to be rejected at 5% critical value and the order of integration is determined for long run test.

Table 2 Augmented Dickey-Fuller Result

Variable	ADF-statistic	5% Critical Values	Order of Integration
GOVTRAN	-4.687383	-2.971853	I(1)
PCI	-3.098463	-2.967767	I(1)

In the table above we reject the null hypothesis suggesting presence of unit root in the single time series random variables of GOVTRAN and PCI. After first differencing, GOVTRAN and PCI are stationary and integrated of order 1. Observe that in all the test, ADF statistics is more negative than the critical values at 5% suggesting absence of unit root. Subsequent results can be relied upon to validly explain the relationship between government expenditure and development in the economy.

Next is to employ Engle-Granger single equation method to test for a long run relationship irrespective of whether the variables are mutually integrated.

Long- run Cointegration Test Analysis

Table 3 Cointegration Result

Date: 04/03/21 Time: 18:04
Series: LPCI LGOVTRAN
Sample: 1990-2020
Included observations: 31
Null hypothesis: Series are not cointegrated
Cointegrating equation deterministics: C
Automatic lags specification based on Schwarz criterion (maxlag=6)

Dependent	tau-statistic	Prob.*	z-statistic	Prob.*
PCI	-4.231004	0.0790	-21.44960	0.0996
GOVTRAN	-3.360378	0.3003	-17.44402	0.2474

*MacKinnon (1996) p-values.

Intermediate Results.

	PCI	GOVTRAN
Rho - 1	-0.714987	-0.581467
Rho S.E.	0.16898	0.173036
Residual variance	0.006259	1.420190
Long-run residual variance	0.006259	1.420190
Number of lags	0	0
Number of observations	30	30
Number of stochastic trends*	4	4

**Number of stochastic trends in asymptotic distribution

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The Table 3 presents all proxies as predicted variable. However with a focus on the per capita income (PCI), The *p*-value of 0.0996 which corresponding to PCI is greater than 0.05 level of significance which means that government expenditure and development do not converge in the long run. The absence of long run cointegrating relationship which does not support error correction model test, implies that the relationship only exists in the short-run.

Short Run Analysis and Hypotheses Test the Engle-Granger estimation the relationship only exists in the short run. Ordinary least square estimator only captures short run dynamics which is presented in Table 4.

Table 4 Ordinary Least Square Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.176444	0.081394	100.4554	0.0000
GOVTRAN	0.048090	0.009016	5.333629	0.0000

R-squared	0.877058	Mean dependent var	8.267670
Adjusted R-squared	0.863398	S.D. dependent var	0.246346
S.E. of regression	0.091049	Akaike info criterion	-1.834927
Sum squared resid	0.223827	Schwarz criterion	-1.649897
Log likelihood	32.44137	Hannan-Quinn criter.	-1.774612
F-statistic	64.20531	Durbin-Watson stat	1.311623
Prob(F-statistic)	0.000000		

With the establishment of the relationship between government expenditure and GDP existing only in the short run, Table 4 presents the short run result. The expenditure variables, government expenditure on transport has positive effect on per capita income. It has a coefficient of 0.048090 which is positive indicating other things being equal, an increase in per capita income by approximately 0.048090% is as a result of unit rise in level of government expenditure on transport. Hypothetically the *p*-value of GOVTRAN is 0.0000 which means an acceptance of alternative hypothesis because the 5% significant level is greater than the *p*-value.

DISCUSSION OF FINDINGS

It could be observed that government expenditure on transport do not converge with per capita income in the long run. Statistically the expenditure behave in a way that is randomly different, thus the effect of expenditure in the transport sector can only be observed in the short run which is possibly due to the recurrent nature of the spending heads. This implies that recurrent expenditures do not support the economy beyond one or two lags, while it does in the short run as seen in the findings. As seen in the results, the relationship between spending in the transport sector positively and significantly influences per capita income. This finding conforms to theoretical expectations in one perspective. On the other perspective, our result is in support of the findings in Taiwo and Abayomi (2011).

CONCLUSION AND RECOMMENDATIONS

From the findings of this study there is absence of long run cointegrating relationship between government expenditure and economic development even though the series are not uniformly stationary. Government expenditure on transport positively influence per capita income. The relationship between government expenditure and economic development converges in the short run but fails in the long run. The result justifies recurrent expenditures' short run dynamics.

Motivated by our findings we make the following policy suggestions:

1. Funds budgeted for transportation should be honestly expended.
2. The managers of the economy should devote more resources to the transportation sector.

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LIMITATIONS

As it is well known in social research and perhaps in other studies, the process of empirical investigation has certain level of constraints in arriving at findings. With regard to this study, we have on the basis of availability extracted one measures of expenditure of the government which are within the fiscal framework of recurrent expenditure. Focusing on recurrent expenditure side of government may not comprehensively explain effect of government expenditure on development. Development is a long-term project; but exclusion of capital expenditure is a boundary of this research, nonetheless. More or less, we think that government capital expenditure could have more outstanding impact and long run effect on development than what we have done. Thus, data classification and availability stand out as a significant constraint in this research.

In addition, the frequency of observation is not quite wide to capture long run dynamics and at the same time the lag of per capita income is not included in the model. At best we have assumed that all variables are causally exogeneous in an ideal sense. However econometric theories have shown that lag of variables are dynamically preferable in time series studies which we have omitted. Hence, we have only focused on static model analysis which almost violates conditions for causality to take effect and by extension validity of our adopted causal design. Again, this omission is subject to model identification problem ceteris paribus.

Appendix I: Summary of Government Expenditure And Per Capita Income

YEAR	Per capita income $	Government expenditure on education N'billion	Government expenditure on health N'billion	Government expenditure on transport N'billion
1990	3221	2.40	0.50	0.29
1991	3157	1.26	0.62	0.24
1992	3191	0.29	0.15	0.55
1993	2995	8.88	3.87	2.03
1994	2912	7.38	2.09	0.45
1995	2872	9.75	3.32	1.08
1996	2924	11.50	3.02	0.03
1997	2946	14.85	3.89	0.04
1998	2936	13.59	4.74	0.03
1999	2932	43.61	16.64	0.04
2000	2828	57.96	15.22	0.05
2001	3011	39.88	24.52	0.05
2002	3381	80.53	40.62	0.18
2003	3499	64.78	33.27	0.23
2004	3699	76.53	34.20	0.30
2005	3819	82.80	55.66	0.29
2006	4166	119.02	62.25	0.24
2007	4207	150.78	81.91	0.55
2008	4375	163.98	98.22	2.03
2009	4573	137.12	90.20	0.45
2010	4793	170.80	99.10	1.08
2011	4924	335.80	231.80	90.03
2012	5017	348.40	197.90	42.41
2013	5220	390.42	179.99	13.10

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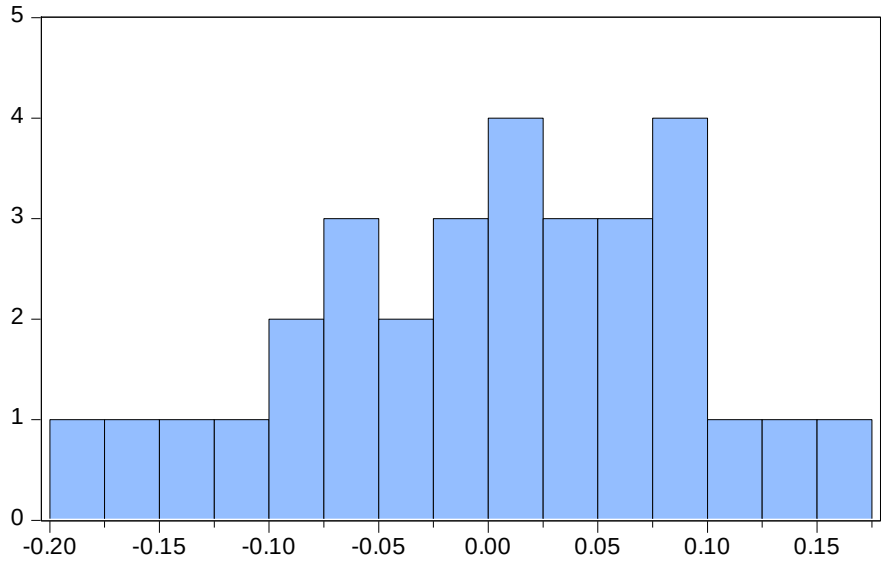
2014	5494	343.75	195.98	23.20
2015	5540	325.19	257.70	18.51
2016	5336	339.28	200.82	18.30
2017	5203	403.96	245.19	24.39
2018	5086	465.30	296.44	20.57
2019	5190	434.63	270.82	29.97
2020	4910	449.97	283.63	30.47

Appendix II: Residual Normality Test



Series: Residuals
Sample 1990 2020
Observations 31

Mean	-7.61e-16
Median	0.007481
Maximum	0.156517
Minimum	-0.185603
Std. Dev.	0.086377
Skewness	-0.300351
Kurtosis	2.386785
Jarque-Bera	0.951799
Probability	0.621326

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