**REALISM AND PARADOX IN**

**FINANCING NIGERIA’S HUGE INFRASTRUCTURE NEEDS**

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**Introduction**

The issue of Nigeria’s huge infrastructure deficit is well acknowledged and so is the attempt to finance its solution along various lines suggested by conventional wisdom. The point of departure of this discussion paper derives from the following four propositions:

1. Infrastructure development is important, not only for the solution of the problem of economic backwardness but also for the solution of the problem of defective fiscal federalism and ambivalent, inconclusive nation-building.
2. The scale of infrastructure development required for meaningful transformation has to be bold, massive and rapid; not timid, incremental and sluggish and, therefore, requires substantial financing. Unfortunately, government’s ability to contribute its quota, even after taking into account the contribution of the private sector, is already highly constrained by unfavourable fiscal realities, indicating the imperative of substantial public debt financing. This is a paradox, given Nigeria’s problematic debt profile, debt history and public allergy to public borrowing.
3. However, reliance on a well-articulated and detailed business-type transformation plan for ensuring that debt-financed infrastructure is effectively used to achieve a diversified, significantly growing and self-sustaining economy, that is to say an end-to-end or macro value-chain approach to public debt-financing of infrastructure investment, provides the answer to the dilemma.
4. There is need to change the mindset to emphasize Nigeria’s infrastructure deficit as also an opportunity for, rather than as only a constraint to, growth and development. This is evident for at least one reason: additional investment in infrastructure in itself constitutes increase in the gross domestic product. As Bello-Schunemann and Porter (2017: 23) have aptly noted, “...Nigeria is the biggest infrastructure market on the continent. However, the investment climate in Nigeria is very complex.”

From the foregoing, we can claim that the required financing posture is one that is confident and assertive, rather than ambivalent and ambiguous.

Accordingly, we will present this paper on the “Realism and Paradox in Financing Nigeria’s Huge Infrastructure Needs” under three parts: Part I discusses not only the economic but also the socio-political context necessitating massive investment in infrastructure; Part II deals with the imperative and paradox of financing the big infrastructure programme with public debt; and, Part III outlines the argument for, and the essentials of, the transformation plan - the technical working document - which is needed to make debt financing of infrastructure development programme not only a viable venture but also a debt-sustainable strategy.

1. **Economic and Socio-Political Context for Big Infrastructure Development**

We are all familiar with discussions about the litany of economic deficiencies which are routinely blamed for Nigeria’s weak and unstable economy: huge infrastructure deficit – particularly of electricity, road, rail and waterways transportation, clean water and sanitation, and ICT, with the country ranking an abysmal 132 out of 138 countries on infrastructure sufficiency (Bello-Schunemann and Porter, 2017: 2) ; low productivity in the real sector, including in agriculture and manufacturing; failure to develop a variety of natural resources available in huge quantities, including several solid minerals – which represent missed and delayed opportunities in terms of substantial employment, which could have been generated if those idle resources were exploited; domination of foreign exchange earnings and public revenue by crude oil and gas exports – to the tune of 87% and 77% respectively ; weak non-oil tax revenue of about 6% compared to peer group range of 18% - 20%; weak and unstable exchange rate; high cost of production, high inflation rate and high interest rate; etc.

But what we are not familiar with is an explanation of how these conditions are all interrelated and have a common denominator in infrastructure deficit.

 While it is acknowledged that Nigeria’s weak and inadequate infrastructure accounts largely for the poor performance of the real sector and is estimated to be causing a loss of about 4% in real GDP growth per annum relative to other middle-income countries in Sub-Saharan Africa (Foster and Pushak, 2011:iv), it is also important to note that poor performance of the real sector has repercussions for macroeconomic indicators: high-cost of production arising mainly from deficiency of infrastructure leads to high prices of final goods and services and high inflation, which in turn influences the monetary authority (the Central Bank of Nigeria) to set high policy rates because it would be a distorting and costly economic policy to set the policy rate below the rate of inflation and thereby generate negative real interest rate. High monetary policy rate, in turn leads to high market interest rates, including interest rates on bank credits. Of course, a high-cost economy is an uncompetitive economy, which encourages imports and discourages exports, thereby making the external sector, in terms of balance of trade and payments, unfavourable.

Conversely, adverse fiscal and monetary conditions impact adversely on the real sector. For example, high interest rates charged on bank loans limit access to finance and inhibit growth of the real sector, particularly small and medium enterprises. More importantly, once the two-way causation between the real and nominal sectors has been set in motion, this mutually reinforcing relationship assumes a momentum of its own – a new variable different from the original ones is created – with a life different from the individual lives of the original factors.

Besides the internal deficiencies, Nigeria’s economy in general and investment inflows, in particular, are also vulnerable to shocks built up from economic policies of other countries. For example, changes in the U.S. Federal reserve rates, such as the hikes in the first and second quarters of 2018 and announcement of the same stance into and through 2019, generated anxiety in the Nigerian money and capital markets and even in the real sector because of the implications for cost of borrowing from the international capital market by both the public and private sectors. There is also trepidation on account of expected negative capital flows. Given Nigeria’s delicate exchange rate management approach, such a development also impacts expectations and volatilities regarding the foreign exchange market. In the last analysis, these external shocks are relevant because of the internal weaknesses; when the domestic economy is transformed and strengthened, the external vulnerability will significantly decline but such a transformed, diversified, strong and self-sustaining economy can only be achieved on the back of adequate infrastructure.

At this stage of the discussion, it would be appropriate to highlight the critical role of infrastructure development in the pursuit of the all-important goal of economic diversification.

*Infrastructure and Diversification*

Adequate and reliable infrastructure, particularly electricity, transport, clean water and sanitation, and ICT infrastructure is critical for stimulating economic activities around the country’s varied natural resources. As can be learnt from the case of Norway, which strategically invested its oil revenue in infrastructure in order to stimulate activity in other sectors (Pariona, 2017), for Nigeria, diversification from oil requires deliberate and dedicated investment in infrastructure. However, we must caution that it is quite another matter whether the source of funding Nigeria’s infrastructure would still be oil revenue, in view of the irrational pattern of public expenditure with oil revenue established over the years, with its distortive implications (Nwankwo, 2011:11). In particular, spatial connection of the country’s vast land mass will be critical. As the World Bank has noted in its Nigeria Bi-annual Economic Update (2018), the lack of connectivity dampens economic collaboration and cooperation among the country’s regions. It argues that economic diversification can be strengthened through connectivity. It would stimulate diversified, long-term growth; it would promote spatial integration and sub-national specialization; it would help develop nationally integrated markets for goods and services, thereby enabling the exploitation of economies of scale. This condition would attract much-needed private sector investment that would want to benefit from a big home market with a growing middle class and about 65 million economically active people. Again, what is being emphasized here is that infrastructure is key to any serious programme of economic diversification in Nigeria.

 One can discern that there is a vicious cycle of underdevelopment, and the bottom-line of the vicious cycle is a devastatingly high rate of unemployment and of poverty. This cycle of underdevelopment and poverty needs to be boldlybroken and reversed into a virtuous cycle of prosperity.

More importantly, one can discern from the foregoing that the whole gamut of deficiencies and failures in the real sector, fiscal sector, monetary sector and external sector can be traced substantially to, and remedied from, the state and performance of infrastructure.

*Infrastructure, Insecurity and Violence*

Beyond the economic front, it is noteworthy that even the pervasive challenges of violent crimes, insecurity led by internal and external agents, as well as separatist inclinations and agitations have much to do with the weak economy, not only in terms of low per capita income, but also the high degree of inequality in income distribution and the consequent high poverty level. These underlying maladies can be significantly reduced with a more prosperous and equitable economy and corresponding advancement in nation-building. However, the required rapid transformation of the economy will be made feasible only with a single-minded massive financing of infrastructure projects.

*Infrastructure and the Challenge of Nigeria’s Fiscal Federalism*

Indeed, it is plausible to reason that infrastructure development is key to achieving a viable federation because it would make feasible the development of the resources in each geographical area and make the regions more economically viable. By enhancing the internal revenue generating capacity of constituent units of the federation, infrastructure development will make them less apprehensive of a future where dependence on oil revenue is not the basis for fiscal viability. They would, therefore be better disposed to prosperity-friendly political restructuring.

Nigeria operates a federal system with three tiers of government: it has the Federal Government, 36 State Governments and the Federal Capital Territory and, 774 Local Governments. The total area of the country covers a diversity of climatic, soil and vegetation types which provide the basis for diversified economic activities. In such a federal system, States or regions should be fiscally autonomous and each would be creating a diversified range of economic activities based on the natural resources in its territory. From such economic activities, including exploitation of solid minerals, a sub-national entity would generate revenue to finance its development projects and programmes while contributing to the federal treasury for the running of the country’s common services. In essence revenue generation and utilization would be decentralized and the revenue base of the entire economy would be highly diversified because it would be a combination of a diversified range of revenue sources from the various sub-nationals based on their varied natural resources.

A country that is practising federalism should, therefore, naturally incline towards economic diversification but the subsisting arrangement in Nigeria works against that expectation and renders the system a sharing one rather than a producing one; a contractionary one, rather than an expansionary one. Oil revenue which accounts for between 75 and 80% of public revenue over the past four decades is adjudged owned by the federation and not the sub-national territories where they occur. Following the unitary approach to administration entrenched by military governments for about 30 years starting in 1966, the 1999 Federal Constitution requires that such revenue be moved to the federal treasury, from where it is shared to all the governments according to the prevailing revenue allocation formula. The sharing formula has nothing to do with useful contribution to the revenue, which could have resulted from effective response to their environment and day-to-day natural conditions. Rather it is based on such factors as population, school enrolment and land mass. This economic model encourages sharing and irrational consumption rather than production and strategic investment. The weakening of the economic aspect of federalism is akin to cutting of the limbs of an animal: having been amputated, the animal can neither walk nor work effectively. As a result, States get lazy about developing and depending on internally-generated revenue and neglect diversification of their revenues. This behaviour is a variant of Resource Curse generated in a disjointed federal system like Nigeria’s. We would name this pathology “Amputation Effect”. It is the result of an amputated federalism.

In essence, it would be noticed that there is asymmetry in Nigeria’s federal system: while the political arrangement is federalism, the economic arrangement is essentially unitary. Therefore, from the perspective of the nature of Nigeria’s federalism, the economy is not diversified. The unitary arrangement in the conceptualization and management of Nigeria’s economy, particularly oil economy, is a major factor inhibiting economic diversification.

Therefore, a strategy that pushes massive infrastructure development for achieving effective diversification springing from the constituent units is good for building a vibrant, stable and progressive federation and nation. Infrastructure development is good for the building of a politically sustainable nation. It is good for making political restructuring acceptable because as noted earlier in this section, it will make the constituent units less apprehensive of a future where dependence on oil revenue is not the basis for fiscal viability

*The Wand of Big Infrastructure*

Our thesis is, therefore, that the most effective approach to addressing Nigeria’s socio-economic development deficit is to frontally address its infrastructure deficit – with rapid and massive investment in infrastructure. What is required is not the mere enhancement of budgetary allocation to infrastructure because this will not create the degree of momentum needed, given the depth of the hole that needs to be filled. What is required is a bold and creative initiative not only to cover decades of arrears of what ought to have been achieved but also to meet up with the ever-advancing target of peers and other groups of countries on the global stage. For example, in terms of electricity, Nigeria’s current electricity need is more than 12,000 megawatts, but the actual supply has been hovering below 5,000 megawatts in the past 5 years (even though the installed generation capacity is about 12,500 megawatts) and the electricity access ratio is about 45 percent; compare this with South Africa’s current power supply of over 51,303 megawatts and access ratio of 86 percent.

In terms of overall economic wealth, according to World Bank’s 2016 data, Nigeria’s per capita income was USD2,180 compared to South Africa’s USD5,316. This means that even if Nigeria’s output (GDP) is shared equitably, we would all still be relatively poor compared to our South African counterparts. This means that our GDP is still very low relative to our population and the commensurate output expected of it, even though in absolute terms, our GDP is currently the largest in Africa. In any case, Nigeria’s infrastructure stock-to-GDP ratio is only 35% compared to 70% in advanced economies.

In essence, Nigeria is decades behind schedule and needs a big push.

1. **Financing the Big Push: The Imperative and Paradox of Public Debt Financing**

For such a big-push programme, the challenge which must be addressed is how to design an appropriate strategy for mobilizing and managing the enormous investment. Going by the estimates of the National Integrated Infrastructure Master Plan (NIPP) (2015: xiii), Nigeria needs to invest, on the average, about USD100 billion per annum for 30 successive years to sufficiently address its infrastructure deficit. This is the total amount to be provided from a variety of public and private sector sources.

 According to the NIIMP which “provides the roadmap for building a world class infrastructure that will guarantee sustainable economic growth and development”, out of the total investment required over 30 years, 52% would be provided by the public sector and 48% by the private sector; it also identifies four major options for financing government’s share of the needed investment: government budgets, government debt, other government-controlled sources such as sovereign wealth fund and pension funds (2015: xiii).

As regards the planned private sector contribution, the public sector would need to encourage Private Direct Investment (PDI) as well as Public Private Partnership (PPP), including through the use of incentives and enhancements, for example, provision of Sovereign Guarantees. Such special supports would be almost imperative where the private sector shows interest in investing in infrastructure and mega industrial projects that would conventionally be provided by the public sector.

However, there is always a high degree of uncertainty around the quantum and speed of private sector contribution to financing infrastructure projects, even with the best incentives. Therefore, the onus of predictable outcome lies with the public sector and requires it to proactively lead and implement its share of the responsibility. Indeed, it is our view that sustained implementation of the government’s part of the investment plan would inspire the private sector to play its part.

Regarding the plausible strategy for financing the public sector contribution, the intriguing conclusion is that given the existing resource constraint facing the country and the well-acknowledged lack of domestic fiscal space, the plausible source of a greater proportion of public sector capital injection is external borrowing. We need to look at this proposition more closely.

*Why Borrow?*

The logic is simple:

(i) The quantum of funds needed to cover the infrastructure deficit is quite huge;

(ii) From the existing public revenue and expenditure profile, it is evident that available resources are not adequate for the structurally and historically established recurrent expenditure; accordingly, capital expenditure is seriously jeopardized;

(iii) Even with effective revenue and expenditure reform measures, up to the next five years, much of the improvements in revenue from such fiscal reforms would still be used up in recurrent expenditure, which for several years have been eating into borrowed money;

(iv) In the modern market economy, private firms, as well as governments need to combine equity and debt in an appropriate ratio to be competitive and to grow adequately: that is, there is need for optimum leveraging or gearing; and,

(v) Public debt can be designed to be sustainable after the projected positive impact of the huge infrastructure investment and development, in terms of substantial and sustained boost of activities in diverse sectors of the economy.

For the above reasons, it is appropriate for Nigeria to borrow to fund a big infrastructure programme.

*Why Domestic Borrowing is Not appropriate*

In contrast to external borrowing, domestic borrowing in Nigeria will not be appropriate at this stage for the big-push infrastructure funding due to a number of reasons:

(i) Average cost of domestic debt is significantly higher than average cost of external debt.

(ii) In the existing public debt portfolio, the ratio of domestic debt to external debt ratio is still far from the 60:40 mix recommended in Nigeria’s Medium Term Debt Management Strategy (2012-2015) formulated by the Debt Management Office – although some progress is being registered in the right direction.

(iii) Given the existing high domestic interest rate structure, significant additional domestic borrowing would exacerbate the domestic debt service revenue ratio, which has already become unacceptably high.

(iv) In order to avoid crowding out the private sector, government domestic borrowing should be minimized.

1. Moreover, as government provides the policy and infrastructure environment for rising economic activity, the private sector is expected to respond by playing the lead role in direct production in the real sector. It stands to reason that government should also leave ample borrowing space for the private sector to enable it adequately and affordably fund its production activities. This will enable the achievement of the ultimate objective of big infrastructure development, leading to a diversified, big and growing real sector.

As a corroboration of the above point, the African Development Bank (AfDB) has observed that the domestic capital market lacks the size and capacity “to fund a substantial portion of the equity and debt requirements of the proposed infrastructure programme” (2014:46). The bank further noted the inadequacy of the domestic banking system as well.

But disappointedly, the AfDB proposes the development of the domestic capital market as a solution to inadequate financing of infrastructure. While the development of the domestic capital market is not an arguable need for an economy, we consider that it is less than imaginative to suggest that the financing of Nigeria’s or any African country’s pressing infrastructure needs will have to wait until the domestic capital market is developed. Rather, the proactive solution is to design a credible framework for safely accessing, and productively utilizing, the enormous pools of debt funds available in the external markets.

Accordingly, the preferred sources of the un-delayed strategic public borrowing would be external.

*Paradox*

But how can a country like Nigeria borrow substantially without intolerably breaching the standard debt sustainability? This question is germane because following the country’s exit from the London Club and the Paris Club debt overhangs in 2005 and 2006, even though its debt-GDP ratio remains the lowest among its peer group, its debt service-to-revenue ratio has been above the safe threshold, thereby leaving the overall public debt profile a matter of concern. Apart from the high debt service ratio, the poor acceptability of debt public debt financing by most Nigerian stakeholders can be appreciated against eloquent historical facts:

1. The unsustainable debt crisis among the less developed countries of Africa, Asia and Latin America in the last three decades of the 1900s and early 2000s; in the case of Nigeria, it experienced a tortuous and torturing route to obtain debt relief during 2005 and 2006.
2. The sovereign debt crisis among the more advanced economies during 2008 – 2014, as exemplified: in such Eurozone countries as Spain, Italy, Ireland and Greece; in the U.S., debt and financial sector crisis caused mainly by sub-prime mortgage lending; as well as in Japan’s experience of lingering crisis of ballooning public debt which co-exists with stagnation.

More importantly, in our view, a major implicit factor of scepticism for public debt financing in Nigeria is the failure of officials in charge of planning, finance and central banking to demonstrate with detailed and credible macroeconomic plan, how debt financing could be predictably used to deliver economic and social development goals. Those public bodies have not delivered on the responsibility imposed on them – to ensure the development of a robust economy – either by virtue of their statutory mandate or by virtue of professional standing or by virtue of historical circumstances.

At the same time, the International Monetary Fund (IMF) tends to be overly alarmist about borrowing by African governments with a tinge of blackmail by pointing at the inadequacies of the present and failures of the past, instead of helping in the shaping of a better future by applying its vast reserves of technical knowhow in championing the development of a framework that would assure transparent, productive and transformative use of borrowed money.

Nor have scholars and expert institutions in this field helped matters. The posturing that Nigeria’s infrastructure deficit can be addressed with debt financing is not scarce; for example, Fatai , Omolara and Taiwo, (2016: 46) postulated as much. But what is scarce is the attempt to convincingly address the concerns of stakeholders about the undesirability of debt financing. Indeed, a report by the Institute for Security Studies (Bello-Schuneman and Porter, 2017:24) explicitly states that building Nigeria’s infrastructure would require “innovative funding and financing models”. Yet it did not suggest even the essential elements of such a model that would make it credible and able to counter the scepticism and revolt against public debt financing.

As already stated in this section, it has to be admitted that the conclusion that public debt should be used to finance Nigeria’s massive infrastructure need is intriguing and is indeed a paradox because of the existing precarious public debt profile. The resolution of that paradox lies in a creative unbundling of the concept of debt sustainability. In the context of financing infrastructure for the structural transformation of the economy, we are of the view that distinction should be made between conventional debt sustainability, which is essentially static, and what one would identify as structural debt sustainability, which is based on a forward-looking view of the economy. Assessment of debt sustainability in the latter case should focus on whether and how, the additional debt would be effectively applied to the development of infrastructure, to pull the economy out of backwardness; how it would enable the economy to establish a growth trajectory that will enable it re-gain or enhance debt sustainability and more stable growth, by a forecasted time.

The secret is that it is feasible to articulate a bold plan for the transformation of the economy, the Transformation Plan, financed with new debt towards one that is more diversified, more competitive, more export-capable and less vulnerable to external shocks. Specifically, the new debt will generate adequate output and cash-flow to cover its servicing and amortization and create surplus, while avoiding, by design, foreign exchange risk. The net impact of the new debt on debt sustainability, therefore, is that by creating substantial value added, it even helps to reduce the pre-programme debt burden, rather than exacerbate it.

 Moreover, for a country with identifiable and substantial idle capacity in agriculture and agro-processing, manufacturing, mining, ICT, etc, as shown in Table 1, the transformation plan hinged largely on debt financing of critical infrastructure, is propitious: the picture of the possibility of harnessing the idle capacity over the medium and long-term, to achieve diversification and sustainability is quite convincing. The existence of considerable idle capacity, which indicates more or less, that the economy is operating far from full employment, holds the key to the conviction that massive infrastructure investment financed with

**Table 1: Indications of Idle Capacity in Nigeria**

**(As at the beginning of 2016, unless otherwise stated)**

|  |  |  |
| --- | --- | --- |
|  | **Sector** | **Status of Capacity** |
| 1 | Geography and Ecology | * Land area: 923,768 square kilometers
* Coastline: 3,122 kilometers (World Resources Institute)
* Geo-vegetation variety: territory extends from mangrove swamp through: rain forest, deciduous forest, shrubland, guinea savannah, sahel savannah, to the desert
* Variety of fauna and flora
* Land mass conducive for commercial growing of a variety of legumes, grains, root crops, tree crops and livestock breeding

  |
| 2 | Agriculture | * Arable Land, 76,200,000 hectares
* Cultivated land, 39,200,000 hectares
* Uncultivated land: 48% of arable land
 |
| 3 | Solid Minerals | * More than 30 solid minerals available in commercial quantities
* Actual production, mainly on unorganized basis and estimated to be less than 10% of potential
 |
| 4 | Oil & Gas Reserves Favourable to a flourishing petrochemical industrial economy | * Crude oil reserves: 37.2 billion barrels and 10th largest in the world
* Gas Reserves: 5.1 trillion Cubic Meters and 9th largest in the world
* Opportunities for industrialization on fertilizer and other agro-chemicals; industrial and medical chemicals; polymer, plastics, etc.
 |
| 5 | Housing | * Deficit 17 million
* Rate of addition to the deficit: 2 million per annum
 |
| 6 | Water supply (Domestic + Industrial + Agriculture) | * Nigeria: 89.21 cubic meters
* Brazil: 306 cubic meters
* India: 613 cubic meters
* South Africa: 271.7 cubic meters
 |
| 7 | Power | * Current Electricity Requirement: 12,000 MW

Electricity Generated: less than 5,000MW |
| 8 | Stock Market Capitalization | * Nigeria: 21.5%
* India: 68%
* Brazil: 54.6%
* South Africa: 159.3%
 |
| 9 | Internal Market (A major strength factor for countries like U.S.A. and China) | * Large population: 177 million (2014)
* Population Growth Rate: 2.47% p.a. (2014)
* Youth Ratio: about 50% of total population

**.** 15-24 years – 19.3% **.** 25-54 years – 30.5% * (Index Mundi)
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Nwankwo, A.E.: (2016). From Economic Downturn to Turnaround & Prosperity. (Lagos). The Republic Media Limited.

public debt is a viable strategy – even from debt sustainability point of view.

*Mainstreaming the Real Sector*

As a corollary, therefore, infrastructure development investment must be undertaken, not in the hope of, but in conjunction with, real sector development; hence, the imperative of planning and executing it closely with the private sector. In addition, the business model for investment in infrastructure should be such that, as much as possible, infrastructure services are provided on fee-paying and cost-recovering bases and there should be no illusion of heaping the entire funding burden on the public treasury.

It is important to emphasize that Nigeria’s strategy of external borrowing would be to prioritize in favour of cheaper sources with sufficient moratorium period and long tenors of 10 years and above. Given that Nigeria is currently a “blend” credit country in the classification of multilateral financial institutions particularly, the World Bank Group and the AfDB, the main source of external borrowing will be

from the commercial windows of the multilaterals – the World Bank Group, the African Development Bank, the International Fund for Agricultural Development, the European Investment Bank, the Islamic Development Bank, the Asian Development Bank, as well as bilateral sources – Agence Francaise de Development (AFD), KFW of Germany, Japan International Cooperation Agency (JICA), China Eximbank, etc. These sources are still affordable because interest rate charged on their credits range from 3% to 5% per annum.

Besides, since the approach is to make as many as possible of the infrastructure projects bankable, the loans would be further softened by attracting co-investments from sovereign wealth funds, fund managers, ethical and green funds, among other global investors. There are also possibilities of attracting grants from foundations and charities, particularly for infrastructure related to clean water and sanitation, and education funding. In addition, creative funding models such as land capture value (LCV) can be introduced. For example, applying LCV to rail-line and waterways infrastructure would mean that part of the resulting enhancement of property value (capital gains) in the geographical space adjoining those infrastructures could accrue to the government while part would accrue to the private owners of the properties; that is, it is feasible to monetize, securitize and fiscalize land capture value as a funding option. In the last analysis, therefore, debt-financed infrastructure investment could be significantly sweetened, softened and de-risked with financing founded on a broad-based funding model.

*Management Model*

In terms of management of the proposed infrastructure businesses, appropriate models of private sector management will be relied upon, even in cases where there is no non-government equity. In cases of Public Private Partnership (PPP), co-investment and other forms of participation by private funding and resourcing, private enterprise management model would be the natural position. In view of significant government ownership in such enterprises, it is important to propose the type of government-side institutional arrangement responsible for programme conceptualization, policy design, project implementation monitoring and regulation, which is compatible with private enterprise. It would be appropriate to exercise these supervisory responsibilities outside the conventional public bureaucracy but there should not be an entirely new government agency created. An option that would be effective is one whereby an Infrastructure Work Team (IWT) is constituted across relevant public entities to include: Nigeria Sovereign Investment Authority, Infrastructure Concession Regulatory Commission, Debt Management Office, Central Bank of Nigeria, Ministry of Finance and Ministry of Budget and National Planning.

1. **The Transformation Plan**

The Transformation Plan (TP) is needed as the formal policy document narrating, macroeconomic model-wise, how infrastructure can be effectively financed with public debt to agitate economic growth without worsening the debt service situation. The TP is a condition-precedent to debt financing of infrastructure advocated by this paper and should, therefore, address the following issues:

(a) clarity of policy direction;

(b) logicality of the defined route of escape from economic backwardness through big infrastructure;

(c) plausibility of strategy; and,

(d) predictability of outcomes.

As Figure 1 shows, a credible plan would engender confidence, positive expectations and positive perceptions from stakeholders, local and foreign, including investors. What would be expected from this atmosphere is a more favourable economic decision behavior towards the economy.

A robust macroeconomic model with detailed financial programming is perhaps the most important component of the plan documents. The purpose is to build an integrated macroeconomic model that will elicit the trajectory of transformation, breakthrough and self-sustaining growth that would result from the capital injection in big infrastructure development. It will include specific project documents and business plans, including business plans for the major complementary real sector projects. The model will highlight how cash flow will be generated to successfully service and repay the capital-injection debts; it will, of course, capture existing debt obligations and their implications. It will include projections of the gross domestic product and its components over the next 10 years – to be revised annually or bi-annually. In addition to sectoral details, including external accounts, the projections will include nominal macro indicators such as policy interest rates, exchange rate and inflation. It will show how the balance of payments and the reserve position will trend towards healthy conditions.

*Risk of Exchange Rate Exposure*

A major issue which has to be addressed while using debt financing for infrastructure is the impact of exchange rate risk since substantial portion of the debt is obligated in foreign currency. Concerns about exchange rate risk and, generally, concerns about the ability of a country that is a weak player in the global market, to meet its external debt obligations are quite relevant. So how could one justifiably propose more foreign currency denominated borrowing under this condition? The answer lies in the Turnaround Plan: The essence of the financial and structural programming contained in the TP, is that within five to seven years, the implementation of the plan will have produced a sustainable and continuously strengthening economic progress, and that from about year eight to year ten, the economy will start generating adequate public revenue, including in foreign exchange, with which the external debt will be serviced and repaid. That is why the external borrowing for the purpose of achieving the turnaround will be at favourable terms including, particularly, a moratorium period and a long tenor.

With the structural diversification made possible by adequate and functioning infrastructure, a diversified export sector would have been achieved. With the improving and sustained investor confidence generated by the noticeable transformation gains, capital inflows would become favourable. The impact of the sectors individually and collectively would be to improve the economy’s reserve position, whilst improving the external value of the Naira. In essence, over the programmed period, the question mark on exchange rate risk would be removed: the country’s foreign exchange reserve will rise and the exchange rate will become more favourable. For these reasons, the country will have the capacity to service its external debt.

*How the Economy will be Stimulated*

 At this juncture, it is appropriate to identify the major channels or sources of stimulus for the economy derivable from a plausible transformation plan that supports massive debt-financed infrastructure investment (Figure1). These are:

1. Response by stakeholders in general and investors in particular, to a credible plan;
2. Inflow of the proceeds of the investments - equity as well as debt;
3. Activities that constitute the actual building of infrastructure; and,
4. Activities in the real sector stimulated by progressing infrastructure development.

**Figure 1: Stimuli for Economic Transformation**

 **from Debt-Financed Infrastructure**

Restoration of Confidence; favourable capital flow

Response by Economic Agents to Announcement of a credible Plan

**Sequence of Commencement of Stimulus**

Boosting of financing capacity; positive impact on reserves and foreign exchange rate

Inflow of Loan Proceeds

Activities Resulting from Building of Infrastructure

Significant employment of labour and materials

Ultimate results from diversification, and competitiveness begin to show on economic growth

Activities Resulting from Real Sector Production

Source: Nwankwo, A.E.: (2016). From Economic Downturn to Turnaround & Prosperity. (Lagos). The Republic Media Limited.

The first stimulus for economic progress is generated from the announcement of a bright future which the plan documents will convey. With the availability of a credible infrastructure investment plan, investors, local and foreign, will begin to frontload investments in the real sector – agriculture, manufacturing, solid minerals, etc, - in order to take advantage of the attractive future opportunities projected in the infrastructure development plan. Indeed, with the TP, government would attract co-investment for well-packaged infrastructure projects, thereby reducing the burden on itself. In addition, the TP will crowd in independent private sector investments, gingered by the confidence engendered by a credible plan of how debt-financed infrastructure can be economically and commercially viable. The second growth stimulus is the inflow of the proceeds of the external public borrowing and other private sector investment resources, with its multiplier effect on the economy.

The third stimulus in the sequence would result naturally from the activities around the actual building of infrastructure. Effective demand for labour and materials for constructing roads, railways, ICT infrastructure, electric power systems, etc, will trigger off a chain of economic activities and income multipliers. The fourth stimulus in the sequence is from the activities in the real sector in response to improvements in infrastructure. Existing firms will scale up their capacity utilization significantly, while new firms will be established by investors. Greatly improved quantum and efficiency of infrastructure will bring down cost of production and make the economy more competitive.

The position of this proposal is to insist that a bold plan for the transformation of the economy to make it more diversified, more competitive, more export-capable and less vulnerable to external shocks is what must be done to make public debt financing of infrastructure feasible.

Mainstreaming the real sector goals makes for viability. In designing and programming infrastructure development it will be explicitly linked to the real sector objectives: the need to boost and diversify agro and agro processing; the need to encourage small and medium enterprises; the need to bigly diversify exports via agriculture and agro processing, manufacturing and solid minerals. For example, the power supply boost strategy will be influenced by the recognition that it is necessary to emphasize independent and dedicated power facilities for industrial clusters, industrial parks, and viable residential estates, as a way of accelerating the impact of the economic plan.

 As has been indicated earlier, huge untapped opportunities for economic activities should make investment in infrastructure attractive even to the private sector. As shown in Table 1, there is diversity and abundance of exploitable opportunities and idle capacity in agriculture and agro-processing, in solid minerals and petrochemicals, in manufacturing and services. With such abundance of resources and the economies of scale they offer, it is reasonable to expect that the huge infrastructure investment will generate a reasonable cross-sectoral rate of return, in addition to pure economic rate of return and social rate of return.

**Conclusion**

Financing of Nigeria’s infrastructure development is an enormous task, given the size of the problem and the country’s dire fiscal condition. Even at that, all that is required is to proceed a little beyond the conventional space usually explored by experts to identify and provide an intelligent and relatively heterodox solution. This should be guided by the Igbo proverb which states that “the coconut always comes along with the rope with which it can be lifted”. The wisdom is that often, a good solution to a problem is embedded in the problem itself. Accordingly, in spite of the country’s problematic debt profile, a plan-based, project-tied, output-driven, commercially-modelled and private-sector-managed debt programme remains a robust option (arguably the most robust option) for financing the solution for Nigeria’s infrastructure development. It is a solution that can be structured to produce a transformed and self-sustaining economy without worsening debt sustainability. Indeed, it has the capacity to bail out existing debt un-sustainability while improving long-run debt sustainability. Accordingly, and importantly, such a plan-based solution can be readily marketed to a diverse universe of investors and development partners while enjoying the positive consideration of all stakeholders, including the general public.

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