NIGERIA'S INFRASTRUCTURE: INVESTMENT OPPORTUNITY FOR FIDUCIARIES OF PENSION FUNDS.

Infrastructure - the future for pension fund managers…

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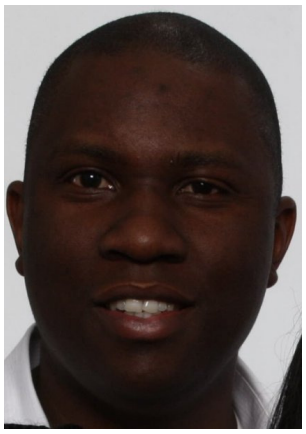

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Executive Summary

This paper is an attempt to marry opportunities stemming from the infrastructure needs of Nigeria and private Pension Fund Managers. An opportunity worthy of embrace; one which attracts acceptable returns on investment, while offering guidance in unlocking the country's economic gridlock stemming from lack of adequate infrastructure. In addition, it serves as an advisory document on current regulations guiding investments of pension funds (types of instruments- alternative asset classes; investment ceilings etc) that inhibit creative and innovative investments customized to meet acceptable risk-return appealing to affiliates of Pension Fund Managers.

A review of two fundamental areas inhibiting infrastructure investments are discussed with recommendations on focus areas directed at government and the private sector.

This paper does not propose that special subsidies, guarantees or tax benefits be granted infrastructure works in making them more attractive to private pension fund managers; neither does it propose that public pension fund resources be directed or forced into infrastructure investments on account of their positive externalities or social benefits; rather, it speaks on the need to restructure Nigeria's investment climate and (investment) strategies such that they promote investment in infrastructure in such manners that are deemed attractive to private investors and fund managers. Appropriate changes in pension fund regulatory framework is a major step in the right direction.

The overall intent is to promote a voluntary private sector participation in Nigeria's infrastructure (roads, sea ports etc) with appropriate level public sector participation. The public sector as facilitator, grantors etc control most of the rules of the game and actions, and therefore, are seen as key

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stakeholders that can either make or break such a mutually beneficial relationship.

Introduction

The fallout from the world financial crisis of 2007/8 continues to deliver shockwaves to investors everywhere. Major institutional investors, pension fund fiduciaries across the globe constantly navigate these troubled waters in search of better investment opportunities. Amidst economic uncertainties, trustees and pension scheme managers must remain focus in searching for opportunities amongst various investment options. One of such opportunities lies in the relatively untapped infrastructure market.

Nigeria's National Pension Commission (PENCOM) and particularly trustees fiducially responsible for managing pension funds may need reminding of the huge potentials of this asset class (infrastructure investments) in meeting Nigeria's long term goals, given its contribution to economic development. However, like any investment decision, trustees must undertake due diligence in understand the risks / rewards trade off and be satisfied with the validity of any allocation to such investment.

This paper attempts at reviewing Nigeria's infrastructure problem; the role and expectations of the private sector; and opportunities that lie therein for Pension fund managers.

Dealing with Nigeria's infrastructure decay poses huge financial challenge on the nation's public coffers; one likely to persist without appropriate level private sector participation. With the Federal Government in recognition of this problem and its impact on economic development, Government's recently inaugurated Infrastructure Concession and Regulatory Commission (ICRC) has been tasked with accelerating investment in Nigeria's infrastructure through private sector participation. Reforms to the Pension act have equally created windows of opportunities, but more can be done. To begin, a perspective on global investments in infrastructure and its direct contribution to development is offered.

Global Infrastructure Outlook

The recent global economic problems of 2007 / 08 left a bitter taste in the mouths of investors. Many were risk averse towards long term investment opportunities opting for more conservative short term opportunities. Institutional investors in the infrastructure market showed little or no interest as well. Nonetheless, recent sentiments amongst institutional investors have improved in recent times. A positive outlook which fits more with a slightly improved investment development in an otherwise downward trend in global

infrastructure activity, over the last four years, is something that offers hope in the years to come. According to *Infrastructure Journal* report: Fig 1 shows the total value of infrastructure deals closed peaked in the second half of 2007, reaching US$140.5bn but then declined rapidly during the financial and economic crises to a low of US$84.4 bn in H1 2009. Nonetheless by H2 2009 the number of deals closed rose slightly with better results in 2010; reflecting a much improved outlook.

But the outlook is still uncertain. Projects in fields that rely on high volumes of use, such as toll roads and airports, have been hit hard by the downturn in GDP. Investors in infrastructure, even amongst emerging economies – especially the rapidly developing BRIC (Brazil, Russia, India and China) are faced with a complex picture offering both huge opportunities and risks. According to a recent academic research study, internal risk factors (e.g. organization risk perception) when placed alongside external risk factors (e.g. economic instability, political and legal risks) add to crucial input risk parameters that drive investments decision-making (Akinyosoye, 2010). When summed up they bring a whole new flavour to risk perception of opportunities (ibib). One of many possible ways that address such concerns is the provision of an investment climate considered conducive to attract investors while introducing incentives like tax breaks etc over attractive periods of time; but then the desire to invest, amidst other drivers such as demand and supply, has to be attractive given a rather slow but upward movement in outlook perception.

Infrastructure Demand and Opportunities

Demand for infrastructure is driven largely by economic and population growth. Looming energy crises and environmental factors are other but less pertinent reasons. Though many governments struggle with funding and procurement strategies aimed at addressing growing demand, infrastructure is not something that can be ignored or wished away by any government.

An OECD report outlined the need for investment to support either fiscal stimulus or improved infrastructure capacity aimed at re-injecting life to ailing economic downturn. EU member states, including the US, committed several billions of US$, in the form of stimulus packages, to infrastructure renewal and transportation redevelopment. Input to such decision-making was the recognition of the impact of short term investments to economic recovery while understanding derived benefits of such a plan to long term goals. Failure to

continue on such trajectory could amount to significant economic problems as they pulled out of recession.

In addition to getting out of recession, other drivers included:

- Increasing demand for air transport: Global air transport is expected to reach 7 billion by 2020. With global capacity currently at 6 billion, a shortfall of 1 billion necessitates additional infrastructure at the earliest possible time.

- Increased seaborne trade: Seaborne trade (global) has doubled since the mid-1980s and this growth has begun to stretch current port handling capacity. Container traffic is expected to grow by 8% per annum until 2015. Investments required to build new capacity globally have been estimated to be US$73bn.

- Rail and Road: OECD has identified 'bottlenecks' for freight capacity in North America and parts of Europe. This has led to restrictions on capacity to provide freight supply to some regions. This issue is left to persist will only get worse, impacting quality of life and ease of trade. Huge opportunity again lies to expand existing infrastructure and / or build new ones.

These are some of many areas where current demand outstrips existing infrastructure handling capacity. An insight on where global infrastructure needs will be concentrated in the coming years.

Infrastructure Assets – Definition.

While traditional infrastructure are seen more for their physical characteristics, transforming natural environments to meet human needs; economist tend to view infrastructure differently, defining them more along their input to aggregate output and standards of living.

Infrastructures defined by social-economist are instruments considered as factors of production, increasing aggregate output and driving economic growth. From a development stand point: they are seen to enhance quality of life, improving average living standards.

They are generally classified along two asset class:

- Economic Infrastructure: utilities (water, sewage systems, power); transport (toll roads, airports); communication (telephone, TV); and renewable energy.

- Social Infrastructure: education facilities; health (hospitals); security (prisons); and recreation (tourism parks).

Financial industry analysts have a different approach to viewing infrastructure. While they emphasize certain commonalities with economists, they often stress the limited competition. Other views and characteristics recognized include: their high entry barrier; inelastic demand; long duration (concessions 30 years, leases 99 years).

From the foregoing the financial industry and investors deduce a number of favourable investment characteristics of infrastructure assets, such as:

- stable and predictable cash flows;
- long term income streams;
- return insensitive to the fluctuations in business, interest rates, and stock markets;
- relatively low default rates.

With this in mind, many investors view infrastructure as assets with potential to generate revenue streams; quite a different view from its physical characteristics that many tend to see them as. The pertinent question of many is their degree of variance from one another on return on investment.

Types of Infrastructure

Certain types of infrastructure have been known to be more resilient to economic shocks than others. The Utilities sector is considered less likely to be affected by economic cycles especially when consumption patterns are also unaffected. Other opportunities considered less likely to be affected include transportation and 'green investments'; and those going after replacement of traditional energy sources.

While transport, power and renewable energy were clear leaders in growth prospects, these sectors have experienced turbulent track records over the last five years as illustrated in Fig 1. This was however largely driven by the economic down turn of 2007/08 and not necessarily due to demand constraints.

The transport sector (Fig 2) shows elements of strength amongst PPP infrastructure investments on a global scale. According the Infrastructure Journal, spending on transportation amounted to two-thirds of all global infrastructure PPP investments going by H1 2010 figures; demand, on the other hand, provided a firm basis for onward investments.

Global Threats to Infrastructure.

Amongst developed countries, government funding has decreased and financial restrictions have impacted on ability to move project forward. Expert assessments of the economic crisis on future (infrastructure) investments

vary widely. Pessimists expect funding to diminish over the next four to five years, while others point-out that, although concerns about the availability of funding and PPP and PFI were valid, money can still be found for the right projects. Either way, the heightened scrutiny and prioritization of infrastructure is expected to mean only bankable projects attract funding. Government support is also vital. Political commitment should support strategies to encourage investments. As mentioned earlier, incentives (e.g tax holidays) to attract the capital market is one means to show government commitment.

With the general trend amongst governments gradually reducing financial participation in infrastructure, a role change is imminent: from one of a project funder to that of a project initiator. Emphasis is therefore gradually shifting toward private sector for future funding.

Figure 1

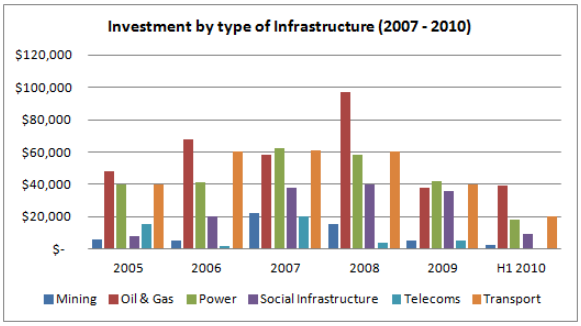

Fig 1: Investment by type of infrastructure (2007-2010)

Source: Infrastructure Journal, Global Infrastructure Finance Review, 2010.

Figure 2

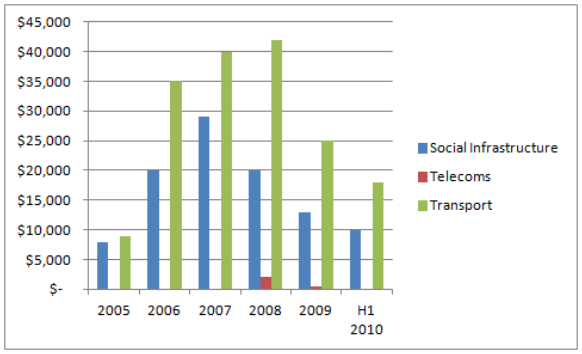

Fig 2: PPP by sector type (2005-2010)

Source: Infrastructure Journal, Global Infrastructure Finance Review, 2010

The expectation that governments will play a smaller part in funding future infrastructure is not shared by all. The number of infrastructure deals that reached closure fell in H2 2007; majority of those however were funded by government. Government participation actually grew from less than 2% in 2007 to nearly 18% in H1 2010 [Fig 3] (BLP, 2010).

Figure 3

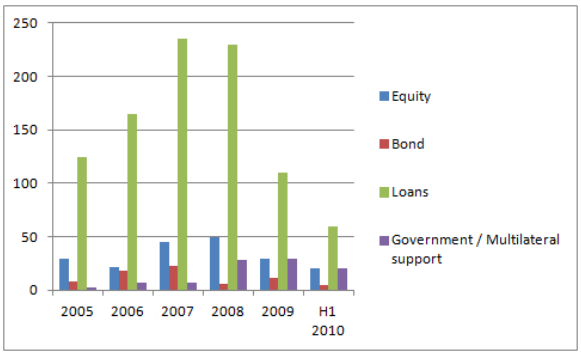

Fig 3: Sources of Funding (2005 -2010)

Source: Infrastructure Journal, Global Infrastructure Finance Review, 2010

Infrastructure Performance – Past and Future

This view is more from a private sector perspective. Sampled opinions of experts see investments in infrastructure to be reliable with moderate levels of return on investment. Telecommunication infrastructure is generally seen to exceed expectations due largely to its relatively small capital outlay and potential high returns. On the other hand, projects that rely on high volumes of use, rather than an underpinned concession or availability backed structure, have not performed as well due to overarching GDP declines. Investor experience on toll roads and airports have been cited to be reasons why projects, based on availability of regular onward payments from governments rather than user demand, were generally seen as better prospect for stable returns. However, indications suggest these sectors are adversely affected by political bias towards investments in alternative forms of public transport.

While there has been mixed views on the performance of various infrastructure assets amongst financial experts, one cannot but acknowledge the potentials that lie therein. Assessments investigated delineated performance over two fundamental principles:

(a) The ability for infrastructure to return modest returns on investment in comparison to other competing investment classes (e.g. bonds, stocks, cash etc)

(b) Consistent long-term revenue stream amongst some institutional investors, like pension fund managers, where an harmonic chord is struck between investment outlook strategies and long-term liabilities of most pension plans.

With ever growing need of various governments to meet their infrastructure development / maintenance obligations, more efforts are going towards attracting the private sector into this relatively new investment class. With several successes recorded in recent past in countries like Australia and Canada, and even

more recently amongst many South East Asian countries adopting the PFI/PPP procurement option, the future continues to looks bright for more private sector participation. With growing innovation in financial structuring, investments will only continue to follow existing trends in the years to come.

Pension fund managers in Canada, for example: (OMER – Ontario Municipal Employees Retirement System), have several billions of Canadian dollars invested in infrastructure through its subsidiary Borealis Infrastructure set up in 1988. Ontario Teachers' Pension Plan (OTPP) is another example (Inderst, 2009). The US Pension fund, CaIPERS, adopted a new investment policy of assets or US$7.2bn in infrastructure. The target return is a net 5% above inflation (ibid).

With many market potentials in private infrastructure finance shaped by the financial industry, Ernst & Young estimates the global infrastructure could exceed 1 trillion dollars annually, similar in nature to that of global real estate (Inderst, 2009).

RREEF[2] (investment managers) estimate the current value of the global infrastructure market, including public and private sector, to be around $10 – $20 trillion. European economic infrastructure is valued at €4 - €5 trillion. This is comparable to European stocks of €8 trillion, bonds €11 trillion and commercial property €5 trillion (ibid).

With the likes of UBS, the investment bank, starting a Global Infrastructure Index in 2006 (calculated by S&P), many institutional investors now have access to tools to benchmark infrastructure investment pools against others to gain better understanding of risk / rewards infrastructure investments bring relative to other asset classes.

Widely acknowledged that the private sector are better managers of funds, underpinned by many state governments moving away from providers of infrastructure to purchasers, the future looks bright for institutional investors given the huge market potential.

At the early stages of global infrastructure boom, returns expectations were often estimated at about 15% plus(+) per annum . The Australian market was a good example of markets that saw such returns according to Mercer, 2005. JP Morgan Asset Management went further: they estimated internal rate of returns, for various categories of infrastructure, as follows:

Table 1

[2] http://www.rreef.com/home/index.jsp

	Infrastructure	Internal Rate of Return (IRR)
1	Toll Roads	2 – 8%
2	PFI/PPP	9 – 14%
3	Airports:	15 – 18%
4	Broadcast network	15 – 20%

Table 1: IRR of Infrastructure sectors:

Above table averaged out at about 10 – 15% (Quadrant, 2008).

A risk profile review of infrastructure placed its inherent volatility between that of equity and bonds. The asset liability model used by Morgan Stanley Investment Management compares five main asset classes. It puts infrastructure (volatility 7.9%, return 9.3%) second only to bonds (4.4%) in terms of expected volatility and second only to private equity (10%) in expected return (Inderst, 2009)

Despite the comparative risk /reward review of Infrastructure from a global perspective there has been a general, but recent, decline in investment. This is however largely due to the recent credit melt down. On a global scale, investment in infrastructure declined marginally with expected returns reduced from double digit numbers to single digit rates. However, infrastructure was not the only asset class affected by these circumstances; reductions were also seen in other investment portfolios. Nonetheless, in comparison with other asset classes, infrastructure - over a ten year period - returned annualized figures of 9.5% placing it second behind private equity (11.3%). Other similar comparison returned the following results: stocks (9.0%); bonds (5.1%) and cash (3.7%).

While there is no established and widely accepted benchmark for infrastructure investments for decision-making, in theory, there are a number of empirical benchmarks used amongst investors today, some of which include:

- Absolute return figure (e.g 9%)
- Inflation plus margin (e.g. CPI + 5%)
- Bond yield plus margin
- Bond index return plus margin.

Enunciation of the global trend by analyst speaks volumes of the opportunities that lie in such investments. Many continue to take advantage of data and risk assessments information in guiding decision – making involving investment potentials in medium to

long term opportunities. With the global trend encouraging more private sector participation in infrastructure investment, through government relaxation on investment guidelines and taxes, the future remains bright and strong in this new asset class.

Nigeria's Infrastructure Outlook

State of Nigeria's Infrastructure

Assessing the country's infrastructure could be described meaningless in the absence of bench marking. The assessment carried out is in comparison with other African countries considered lower-middle income economies (GDP per capital of $1,006 - $3,975); Nigeria, with a GDP per capital of $2,500 (2009 figures), happens to falls into this category.

Overall and relative to other (African) countries, Nigeria is considered to have a fairly developed infrastructure backbone. Few areas remain unconnected to national backbones, and they are largely concentrated in the central west and eastern parts of the country. That said, road networks conditions are quite patchy, adversely affecting national connectivity according to a 2011 World Bank report titled: *Nigeria's Infrastructure – A Continental Perspective,* authored by Foster V and Pushak, N.

Infrastructure in Nigeria, like many other countries, is largely sub-divided into two categories: economic and social infrastructure. Further classification divides economic infrastructure into: Transportation (Roads, Railways), Power, Water Resources and Sanitation, Air Transportation and Sea Ports. Social infrastructure, on the other hand, is divided into: schools, hospitals and recreational facilities.

Though receiving a relatively decent pass mark on the state of the country's infrastructure more is required to get to desired levels that support true economic development. This however requires the right level of investment.

Discussions on investments will therefore focus on infrastructures that attract economic returns. For this reason, investments in Nigeria's infrastructure are aimed at Pension Fund Managers (PFMs) with a focus on areas that yield decent returns on investment (roads, sea ports and power).

Roads

Nigeria, by comparison to other African countries, is considered to have a relatively developed and extensive road network. Both paved and unpaved network densities are more than twice as high as those for the peer group of resource-rich African countries (Foster V and

Pushak, 2011). Nonetheless, Nigeria's roads still face challenges. Maintenance of existing roads and road expansion programs are paramount amongst issues that need urgent attention.

Challenges

Nigeria's classified road network is estimated at 85,000 km, but their physical state is well below that expected to engender development.

Nigeria's Federal Road Maintenance Agency (FERMA) is saddled with the responsibility of maintaining primary or Federal road networks. Though a good initiative taken by government to help address Nigeria's infrastructure problems, their operations and execution philosophy are less than optimal. Many of their staff, systems and processes are entrenched in current public sector norms and considered inefficient.

A review of the road sector indicates Nigeria has only 67 percent of its paved roads in good or fair condition in contrast to 33 per cent for unpaved roads. Summed up, all these support the notion that roads are generally under-maintained in the country.

Road maintenance and rehabilitation is largely funded via more traditional forms (government funding). Like many African countries, Nigeria has revenue generating schemes designed for the purpose of road maintenance, such as: road tax, fuel levies etc; more can be however be achieve through other innovative means (private investments).

It's been estimated that Nigeria spends over $700 million on road construction annually, but very little in road maintenance. Interesting to know that Network simulations assessments done by the World Bank show that an additional $580 million is required annually to complete pending rehabilitation and future periodic maintenance works (Foster V and Pushak N, 2011). The foregoing suggests tremendous opportunities for private sector participation in the absence of government funding to make up this short fall.

Opportunities

While earlier discussions focused on the challenges of urban road maintenance, little was discussed on the opportunities in rural areas.

Nigeria's rural population is considered to produce over 80 percent of the country's agricultural output. With that said, it only makes economic sense to link majority of the country's rural area to national road networks to enhance agriculture's[3] role as the highest

[3] Nigerian Bureau of Statistics: GDP performance for 2011

contributor to the country's annual GDP growth. To provide just 75 percent of the rural population with all season road coverage will require extending classified network by 20,000 km. To achieve this, rural road development must be closely aligned with agricultural policies.

Given above information, it is evident there are opportunities for road maintenance and rehabilitation of existing roads in addition to new road developments - linking rural areas and urban secondary roads with existing road networks.

Sea Ports:

Nigeria's port system has essentially put a stop to economic development due to poor performance and high costs. As at 2006, the performance parameters for Nigeria's major ports were very poor by global and even African standards. Global benchmark for container dwell time was around 7 days, compared with 30 to 40 days in major Nigeria ports. Similarly, truck cycle time (global best practice) is of the order of one hour, compared with approximately one day in some of Nigeria's ports (Foster V and Pushak, N, 2011). Cargo crane productivity was 8-9 tonnes / hr compared with 30 tonnes/hr internationally (ibid).

However, recent and comprehensive reforms has since helped Nigeria see major improvements in cargo handling at the ports. Such reforms introduced the private sector to cargo handling at the ports under various quasi-concessions arrangements. Despite such progress, challenges subsist giving room for more government deregulation and increased private sector participation.

Challenges

The reforms have not managed to circumvent some of the broader-based problems that negatively impact port systems, such as: poor custom performance and corruption. Other challenging areas include lack of adequate port handling infrastructure, over congestion of cargo and poor and inefficient systems responsible for cargo evacuation etc.

Opportunities

With current private sector participation coupled with the decentralization of the main ports in the country, opportunities exist to leverage current gains recorded. PFMs can invest in this sector by participating as direct or indirect investors through organizations or securities offered by existing companies operating in the sector. It is however worthy stating that direct investment is more complicated than indirect investment usually

done through equity purchase of listed companies.

Unlike listed companies, where equity can be acquired directly through the stock exchange, unlisted companies usually sell equity through private placements using variety of outlets. Some international pension plans have made incursion into these areas by investing directly in unlisted infrastructure companies, normally in partnership with other investors, including specialist funds. The more common route, however, is indirect investments through specialist private-equity funds.

Power

At a glance, Nigeria by year 2003 had electrified over 50 percent of its population, just slightly ahead of the peer group of resource-rich countries (Foster V and Pushak N, 2011). Given this achievement, Nigeria is still faced with tremendous power supply problems, with demand outstripping supply by a ratio of 2:1

Challenges

The economic impacts of Nigeria's power deficit are substantial. According to surveys, Nigeria is affected by power outages more than 320 days in a year, a level many times higher than those found in other African countries (Foster and Pushak, 2011). Formal private sector revenue loss, as a result of power outages, comes close to 10 percent. Needless to mention, the sector has been plagued with high degree of inefficiencies and underpricing - a major contribution to the many problems of the (power) sector.

Sector reforms embarked upon by Government, initiated in 2005, has seen some slight improvements. In 2010 the government issued: *The Road Map for Power Sector Reform*, aimed at galvanizing the process of sector reform and attracting private sector participation.

Opportunities

With the ongoing overhaul of the power sector involving both vertical and horizontal unbundling and selling off state generation and distribution assets, tremendous opportunities lie in this sector for investments. Local private power holding companies have and continue to show interest in this sector.

Secondary investment is one option for Pension Fund Managers to participate in this market. Another means involves investing in the primary market through financing start-ups (higher risks) or investing through SPVs (Special Purpose Vehicles).

In conclusion, Nigeria's infrastructure, despite positive steps towards establishing a stable foundation for economic growth, is in dire need

of further enhancement to its base infrastructure. While emphasis has, over time, been for government to improve the country's' infrastructure base, it is evident the public sector is stretched well beyond capacity for maintenance and new developments.

While many countries are adopting reform programs similar to those of Chile and other Latin involving private sector participation initiatives and pension funds, little progress has been recorded in Nigeria amongst fiduciaries of pension funds in the area of infrastructure investments. This may however stem from the fact that pension fund managers are risk averse towards investment opportunities considered: volatile; offer low degree of liquidity; and perhaps offer performance characteristics 'less favourable' than debt securities (as prescribed under the *Nigerian Pension Reform Act of 2004*). Such sensitivities are quite synonymous with infrastructure investments but should not be considered of significant value that precludes investments.

Outlook for Pension Fund Managers

The liberalization of many emerging market economies and the attendant realization of the many benefits of private participation in infrastructure, have resulted in a considerable need for private capital. This liberalization, occurring in the context of relatively underdeveloped financial markets, has meant reliance on foreign direct investment to finance growing infrastructure needs. However, the array of risks developing countries are saddled with have left many institutional (private) investors shying away from such investments. Their risk appetite could be described as a mirrored reflection of the challenges and risks of most developing countries. Flow of capital often ranges from being too small to non-existing. This situation underscores the importance of developing domestic sources of long-term capital. The major and sometimes only source of long term (private) capital is local pension funds. It is important to acknowledge, at this point, the strategic place of pension funds in unlocking the infrastructure gridlock of the country. It is equally important to recognize investments in infrastructure tend to differ between developed and developing countries largely due to disparity between each other's financial market.

In an attempt to deliver information commensurate with the maturity level of Nigeria's financial and infrastructure market, areas affecting performance potentials of pension fund managers were assessed towards attaining a positive sum game for investors.

Historical assessment of pension funds globally show a risk appetite for instruments considered: less volatile; having investments returns well above interest rate escalations and / or minimal foreign exchange risk exposure.

Policy papers have highlighted two fundamental areas affecting investments of pension funds in financial instruments targeted at infrastructure:

(a) **Regulations** – Regulations guidelines that cover range of allowable investments, liquidity, valuation, risk characteristics and other regulations such as expected minimum returns.

(b) **Infrastructure Financial Instruments** – Where existing (mature capital markets), restructure of investment financial instruments and making them more appealing to investors by: enhancing volatility of investment returns; yielding higher returns than traditional pension fund portfolios; and for less mature (capital) markets, introduction of infrastructure instruments is a good place to start.

The rest of the paper highlights existing opportunities while offering recommendations on the two aforementioned areas.

As an introduction, a review of Nigeria's Pension Fund regulations inhibiting private sector participation is discussed. This is aimed at identifying bottlenecks that legally inhibit pension fund managers from creative investments in infrastructure. In addition, a review is carried out on current infrastructure investment instruments; their model and factors that inhibit investments.

Investment Regulations

In order to protect the interest of affiliates, the Nigerian government regulates composition of pension fund investment portfolios. Portfolios are expected to provide or supplement the pensions that were previously provided by the state. They tend to place strict limits on allowable investments and the performance of portfolios. These regulations, as one would expect, tend to favour stability and uniformity of investments portfolio performance; one that tends to exclude worthwhile and economically and socially desirable investments (e.g. new infrastructure). Relaxation of such regulations is required if investments in infrastructure are to be a part of pension fund portfolios.

Quoted from the Nigerian *Pension Reform Act 2004 No 2:* the act, subject to new guidelines issued by the Commission, limit pension fund administrators to investments in instruments such as:

(a) *Bonds, bills and other securities issued or guaranteed by the Federal Government and the Central Bank of Nigeria.*

(b) *Bonds, debentures, redeemable preference shares and other debt instruments issued by corporate entities and listed on a Stock Exchange registered under Investments and Securities Act 1999*

(c) *Ordinary shares of public limited companies listed on Stock Exchange registered under the Investments and Securities Acts of 1999 with good track records having declared and paid dividends in the preceding five years*

(d) *Bank deposits and bank securities;*

(e) *Investment certificates of closed-end investment fund or hybrid investment;*

(f) *Funds listed on a Stock Exchange registered under the Investments and Securities Act 1999 with a good track records of earning;*

(g) *units sold by open-end investment funds or specialist open-end investment;*

(h) *funds listed on the stock exchange recognised by the Commission;*

(i) *bonds and other debt securities issued by listed companies;*

(j) *Real Estate Investment; and*

(k) *Instruments as the Commission may, from time to time, prescribe.*

For investment considered outside those listed above, the act stipulates that pension fund administrators may invest pension fund assets in:

(1) *Units of any investment funds provided that such investment fund may only be invested in the categories of investments set out in subsection above and real estate.*

(2) *Subject to the subsisting Central Bank of Nigeria foreign exchange rules, the Commission may recommend to the President for approval the investment of pension fund assets outside the territory of the Federal Republic of Nigeria.*

With the understanding that pension funds could serve as a lever to obtaining long term financing toward addressing the country's infrastructure deficit problems, the Federal Government of Nigeria in 2010[4] embarked upon reforms to the existing pension act by revising regulations for pension fund investments; introducing new guidelines aimed at infrastructure funds for project finance. This

[4] *2010 PENCOM Regulation on Investment of Pension Fund Assets*

introduced a new asset class for pension fund investments. While efforts made to date to correct such legal bottleneck are commendable, it is important to highlight additional regulatory bottlenecks with the aim of optimizing recently revised regulations towards better performance in infrastructure investments.

Regulations that hinder investment

Ratings:

In order to account for risks in allowable assets and in compliance with the rules set by regulators, pension fund administrators are limited and can only invest in non-government paper which have been rated by an independent agency. The *Pension Reform Act 2004* explicitly requires rating scores of 'A'; one considered disproportionate to the country's sovereign and long term credit rating currently hovering around B+[5]. It's a challenge and oxymoron understanding this policy especially in the context of sovereign (rating) ceiling[6] . This tends to limit inroad to infrastructure investments as majority of instruments leaning towards infrastructure either fall short of the minimal investment grade (due to high volatility swings) or are non listed companies (private equity investments) and therefore are disqualified.

Liquidity:

To minimize problems with the valuation of security assets, most regulations prohibit or in the best cases, limit holdings of assets that are not traded or do not have a high degree of liquidity in major organized exchanges.

Valuation Rules:

Most regulations require mark-to market valuation, which by itself tends to favour investments whose prices are frequently quoted. This tends to stifle investments in new infrastructure because instruments backing those assets often tend to be traded infrequently.

While the above tend to hinder investments, others tend to discourage them.

[5] S&P Credit rating of Nigeria (2010)

[6] Sovereign ceiling policy – meaning that no private firm in a particular country can receive a rating higher than that of the sovereign

Regulations Discouraging Investments

Performance Regulations:

In order to protect the value of affiliates pension against over aggressive behaviour by administrators and to minimize the need for supplementary public pensions, most countries (including Nigeria) regulate the performance of portfolios. In many cases that are required to earn minimum returns measured in either nominal or real terms or relative to the performance of other sectors.

In order to avoid under-performance, pension fund managers tend to avoid volatility (inherent in infrastructure), hence they shy away from sectors having such characteristics, which may be safe but precludes opportunity for sizeable returns. Anecdotal information indicate a preference amongst many PFMs for relaxation in regulations, but truth remains many would rather go after safe investments in an attempt to avoid risk of reporting any 'underperformance'.

Allowable Investments:

Going by current regulations, Pension Fund assets may be invested in bonds and other securities issued and fully guaranteed by the Federal Government of Nigeria or CBN (maximum of 80%). Others are: Investments in bonds and other securities issued be eligible State Governments and Local Governments subject to:

- Maximum portfolio limit of 20% of pension assets under management where such bonds are backed by Irrevocable Standing Payment Orders (ISPO) or guarantees.
- Maximum portfolio of 3% where such bonds are not backed by ISPOs or guarantees.

Whereas, investments in infrastructure bonds attract a ceiling of 15% (PENCOM, 2010).

These investment regulations sometimes discourage investments managers from investing in infrastructure assets, as most countries (including Nigeria) make the rules of liquidity, valuation and ratings applicable to all investments. This in effect, limits direct investment in projects and only in some cases allows indirect investments through the purchase of stocks of well established infrastructure corporations or mutual funds. Furthermore, investments in non-recourse of limited recourse greenfield projects are even more restricted. These projects do not have any established track records; considered rather

risky; illiquid and in most cases lack any rating – let alone an investment grade rating. Understandable, the reason for regulation is no doubt required to safe guard investments of affiliates in risk protected and carefully selected portfolios and instruments, but the need to exercise some degree of restraint is essential to enjoy the full potentials of infrastructure investments.

Overall, Nigeria's regulatory body is not much different from many other countries operating in less mature markets as illustrated in the *Portfolio composition by Country and Sector* (Table 2).

Table 2

Country	Government Securities	Equities	Investment Funds	All Others
Argentina	50%	18%	7%	25%
Brazil	7%	19%	33%	41%
Chile	40%	15%	3%	42%
Mexico	82.5%	11.24%	0%	6.3%
UK	30%	56%	0%	14%
USA	22.91%	37.11%	17%	23%
NIGERIA	**34.34%**	**30.04%**	**0.55%**	**35.1%**

Table 2: Pension Fund Portfolio Allocation (%)

Source: BGI / Nigerian Pension Commission, OECD

Nevertheless, restrictions (regulation) have their demerits. According to industry analysts, pension fund managers should be allowed some flexibility on asset allocation so that they can create optimum portfolio mix and get rewarded for intelligent risk-taking (BGI, 2010). However, it has been recognized that Nigeria may lack the maturity in instruments in the alternative asset class aimed to infrastructure; nonetheless, there are huge potentials with development of such instruments that appeal to investors.

In summary, current regulations need optimizing. Simply relaxing rules is a step in the right direction but not enough a measure; investment options need to be attractive to court pension fund managers towards infrastructure.

Investment Requirements of Private Pension Funds

With a more relaxed regulation comes the need to identify instruments that offer risk / return mix that are commensurate with rates of return. All indications suggest most institutional investors are likely to be interested in instruments that:

- Provide higher returns
- Offer diversification to reduce risk
- Provide inflation protection

- Liquid
- Provide short to mid term cash flows
- Do not enhance volatility
- Minimize external risks.

Unfortunately, most financial markets in developing countries do not have instruments that offer such opportunities even if regulations are relaxed. In light of this, the need to create instruments capable of satisfying above criteria in the infrastructure sector is evident to attract flow of private capital to the sector. If properly structured, infrastructure financial instruments can meet most of the above needs, therefore making them attractive.

It is however worthy to note, infrastructure investment is inherently risky but one well-meaning to take. This is partly due to its strategic importance and its inflexibility in that it cannot be used for other purpose. Political risk of government reneging on concessions that have pension funds invested is slim given the vested interest of policy and law makers in its success.

Pension Fund Investment in Infrastructure.

Experts have identified the pressing need to leverage current unused cash within the country's pension system. With that said, it us recognized there are limits in investible assets (e.g. Infrastructure bonds etc). About 37% of the total pension assets are believed to be held in money market instruments as at September 2009 (BGL, 2010).

Based on expected rates of growth in pension fund assets[7] and assuming that 3%[8] of those assets are invested in infrastructure. Table 3 gives an illustration of available and projected pension funds in Nigeria. The third column gives the stock of potential assets in the portfolio if the full 3% were invested. This however makes up only 1% of total estimated capital injection required to handle Nigeria's infrastructure needs[9]. Nonetheless, it's a place to start.

Table 3

[7] Referencing growth rates extrapolated by BGI Research of Nigeria's pension funds advertised by PENCOM

[8] Average based on current rule of thumb that private pension should invest between 1%-5% in infrastructure project finance assets using the Chile model.

[9] Nigeria's infrastructure needs are estimated at $100 billion.

	Pension Assets	Stock of Portfolio
Nigeria (2008)	$8.7b (₦1.07t)	$0.26b
Nigeria[10] (2015)	$47.32b (₦7.1t)	$1.42b

Table 3: Indicators of Capital Depth

Investment of local pension funds in infrastructure offer many mutual benefits to a country's long term development goals as well as offering stable returns on investment to PFMs. Some of such benefits include:

- **Political risk**: Insurance against Political risk. This is reduced as participation of resources (pension funds) of local workers will induce closer adherence to fairness in the application of infrastructure regulatory principles. Pension funds can be honest brokers as affiliates – including regulators - are affected both by the returns of the projects and the rates charges by the services provided.
- **Foreign exchange risk**: Foreign exchange risk exposure is reduced, as most infrastructure projects generate local currency revenues.
- **Financing risk:** Financing and refinancing risk of bankable projects is reduced because pension funds are able to provide longer tenors than those currently available in the local financial market.
- **Cost of capital:** The cost of capital is relatively less expensive compared with external sourced finance.
- **Less interference in decision making:** There would be less interference in decision making because pension funds tend to be less involved in day-to-day management compared with alternative sources

Such benefits should appeal to government toward foster enabling environments in attempt to attract investments and participation of PFMs in infrastructure as an investment class.

[10] Projection of Nigeria Pension Assets by BGL Research

Private Participation in Infrastructure.

The current decade has seen significant transformation in the provision of infrastructure services concurrent with pension reforms. There has been a major increase in private sector participation in the provision of infrastructure services particularly the case of countries that undertook pension reform and also liberalized their economies. Due to the strong desire of countries to bridge the gap between the state of their infrastructure and current needs, there has been a move towards leveraging private sector finance through privatization or in the sense of a hybrid otherwise known as public-private partnership.

It has been estimated that for each 1% growth in GDP, investment in traditional infrastructure sectors (energy, transportation etc) would need to increase by 1% of GDP to sustain economic growth (World Development Report, 1995). A reasonable goal for government would be to support a commensurate investment in infrastructure that maintains long-term annual growth rates of ~ 5%. While this is more of recommendation for government to adjust policies that support such programs, Pension Fund Managers are more interested in seeing how current and proposed infrastructure instruments meet their long-term investment needs.

Infrastructure Investment – What they Offer Pension Funds.

Based on the discussion thus far, it would be safe to suggest the need for infrastructure developers to seek ways to tap into pension fund assets. The big question is what financial benefits await fund managers and investors in infrastructure?

Before financial gains can be realized, developments of financial (infrastructure) instruments are required. Insight on past performance (globally) of similar instruments may perhaps stimulate such development in Nigeria. Some countries have recorded - from the last economic boom - returns in infrastructure investments as high as 15% per annum. More conservative numbers suggest diversified infrastructure funds have the potential to return between 9 -12% (net of fees) per annum (Mercer, 2005)[11]. This exceeds suggested 7-8% annual rate of returns of (Nigeria's) pension funds to be considered viable over the long-term (BGI, 2010); a good indication of the potentials that lie therein.

[11] Mercer (2005), Infrastructure –going Global and Listed. Mercer Investment Consulting, Melbourn 2005.

Design of Financial Instruments

As discussed earlier, the need for these instruments need to be designed and floated. Such instruments need to be attractive to pension funds. Generally speaking, they need to be:

- Less risky
- More liquid
- Less volatile.

Such instruments can be in the form of securities (need to be marketable) – e.g. general infrastructure bonds; shares in special purpose vehicles (SPV) etc. To comply with regulations, such securities will need to be designed such that there are means to have senior claims on revenues; be issued against infrastructure (projects) with track records (i.e. in operation stage) or offer some form of enhancement through the participation of government, multilateral agencies and / or political or credit insurance firms. Further enhancement include: combining various instruments into investment pools. This allows diversification of risk over several sectors (transportation, energy etc) and even countries.

Overall, this will allow infrastructure instruments appear be more attractive by being: less risky; less volatile and more liquid.

Pension Fund Investments in Infrastructure

As noted above, changes in the pension fund regulations is not enough to ginger positive participation of Pension Fund Managers. Design of appropriate investment instruments is equally important to set the ball rolling. Ideal instruments are those considered: conservative, guaranteed by AAA rated institutions, considered liquid and offer low risk and at moderate rates of returns.

While investments in instruments is healthy and risk appropriate, pension funds could attract better risk-return trade-offs with more direct investments. As regulations are relaxed, instruments will not have to be as complex as implied; some funds may even be able to acquire simple instruments, including direct investments or the purchase if negotiable debt instruments of specific projects.

It's expected that administrators will probably insist on liquidity, ratings and valuation rules, but most likely they would be willing to exempt portions of the portfolio from these self-imposed rules which prohibit investments in illiquid, non-rated and subjectively valued

assets that favour direct investments in relatively riskier (diversifiable) but return-enriching infrastructure assets.

Concluding Remarks

If regulations of private pension funds were to be relaxed to allow investments in private infrastructure projects and in turn, these projects adapted their financial instruments to meet the needs of pension funds, both parties would be able to reap significant tangible and intangible benefits. In summary, private pension funds will:

- Be able to enhance risk-return combinations offered to affiliates
- Offer benefits to Private investors through tapping of long-term resources in local currency while reducing the burden of high financial costs associated with external finance.
- Offer the opportunity to promote the development of the country in areas that have multiplying externality effects thereby enhancing quality stemming from improved economic growth and development.

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