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

Infrastructure - the future for pension fund managers...

Olamuyiwa Akinyosoye
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Olamuyiwa Akinyosoye\textsuperscript{1}, MSc, PMP, P.Eng
Executive Director, Greenhill Consult Ltd

**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; attracting acceptable returns on investment, while aiding the country unlock the economic gridlock of lack of infrastructure. In addition, it serves as an advisory document on current regulations guiding investments of pension funds (i.e. 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 at government and private sector levels.

This paper does not propose that special subsidies, guarantees or tax benefits be granted to infrastructure works to make them attractive to private pension fund managers. Nor does it propose that public pension fund resources be directed or forced into infrastructure investments on account of their positive externalities or social benefits. Private infrastructure must be structured such that they fit into investment strategies of private pension funds. Appropriate changes in pension fund regulatory framework are equally encouraged.

The overall intent is to promote a voluntary private relationship with the participation of the public sector as grantor and regulator. It is important to highlight the public sector’s role as facilitator; it controls most of the rules of the game and its actions can make or break the relationship.

\textsuperscript{1} Olamuyiwa Akinyosoye holds an MSc degree in International Construction Management from University of Bath, UK. A management partner at an Infrastructure consultancy firm (Greenhill Consult Ltd) – providers of consultancy services in infrastructure development and Policy formulation (email: muyiwa@greenhillts.com)
Introduction
The fallout from the world financial crisis of 2007/8 continues to deliver shockwaves to investors everywhere. As 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 while searching for opportunities amongst various investment options. One of such opportunities lie in the relatively untapped infrastructure market; with an in-depth look at various procurement options available.

Nigeria’s National Pension Commission (PENCOM) and particularly trustees fiduciarily responsible for managing pension funds need reminding of the huge potentials of this asset class (infrastructure investments) in meeting long term goals while contributing to the country’s 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 an allocation to infrastructure 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 a huge financial challenge on the nation’s public coffers; a problem likely to persist without private sector participation. With the Federal Government recognizing this hindrance to development, the 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.

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 no difference.

Nonetheless, recent sentiments amongst institutional investors have improved showing a more positive outlook which fits with a slightly improvement to an otherwise downward trend in global infrastructure activity over the last four years. 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’s (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 inputs that drive investments decision-making. When summed up they bring a whole new flavour to risk perception of opportunities (Akinyosoye, 2010). 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.

**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 at the time, 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 was the awareness of the impact of short term investments to economic recovery while riding derived momentum of such a plan to long term benefits. Failure to continue with such plans could amount to significant economic problems as these countries pulled out of recession.

Future infrastructure needs are clearly amongst key drivers for today’s economic investments. To name a few:
- Increasing demand for air transport. Global air transport is expected to reach 7 billion by 2020 with current global capacity only 6 billion, leaving a capacity shortfall of 1 billion.

- 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. Investment needed to build new capacity have been put as high as 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.

These are – to mention a few – some areas where current demand outstrips existing infrastructure handling capacity. An indication 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 (e.g. water, sewage systems, power); transport (e.g. toll roads, airports); communication (e.g. telephone, TV); renewable energy.

- Social Infrastructure: education facilities; health (e.g. hospitals); security (e.g. prisons); Recreation (e.g. tourism; parks).

Financial industry analyst take 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 different from its physical characteristics that many tend to view them. The pertinent question on the lips of many is the degree to which they differ from one another and their likely returns 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’; those tackling replacement of traditional energy sources etc.

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; largely driven by the economic down turn of 2007/08 and not necessarily due to demand constraints.

The transport sector – illustrated in 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 with demand providing 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 was a view of one expert. 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 general trend of governments gradually reducing financial participation in infrastructure, a role change is imminent; from one of a project funder to one of a project initiator with a much greater reliance placed on the private sector for funding.

Figure 1

![Investment by type of infrastructure (2007-2010)](image)

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

Source: Infrastructure Journal, Global Infrastructure Finance Review, 2010

The expectation that governments will play a smaller part in funding infrastructure is not reflected by some quarters. Although the value of infrastructure deals closed has fallen H2 2007, the proportion of this funded by government has actually increased – from less than 2% in 2007, to nearly 18% in H1 2010, with some volatility in the intervening period [see Fig 3] (BLP, 2010).

Figure 2

![PPP by sector type (2005-2010)](image)

Fig 2: PPP by sector type (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 the availability of regular onward payments from governments rather than user demand were generally seen as better prospect for stable returns. However indications suggest that 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 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) The long-term revenue stream especially amongst some institutional investors like pension funds, where a harmonic chord is struck with investment outlook strategies; naturally matching long-term liabilities of most pension plans.

With ever growing need by various governments to meet their infrastructure development and 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 recently amongst many South East Asian countries adopting the PFI/PPP procurement options, the future only looks brighter. Pension funds in Canada – Ontario Municipal Employees Retirement System (OMERS) has several billions of Canadian dollars invested in infrastructure through its subsidiary Borealis Infrastructure set up in 1988; the Ontario Teachers’ Pension Plan (OTPP) is another example (Inderst, 2009). The US Pension fund, CalPERS, 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 of private infrastructure finance produced by the financial industry, Ernst & Young estimate the global infrastructure could exceed 1 trillion dollars annually. This would be comparable to the global real estate investment (Inderst, 2009).

RREEF\(^2\) - investment managers - estimate the current value of the global market including public and private sector investment in the tune of $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 that infrastructure investments bring relative to other asset classes.

From past positive performance of private investors, underpinned by many state governments; moving away from being providers of infrastructure to purchasers, and the huge market availability, the future looks bright for institutional investors.

At the early stages of global infrastructure boom, returns expectations were often given as 15% plus per annum by some providers. The Australian market was a good example according to Mercer, 2005.

JP Morgan Asset Management went further; they expect, for example, that the

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\(^2\) [http://www.rreef.com/home/index.jsp](http://www.rreef.com/home/index.jsp)
expected internal rate of returns were seen as follows:

Table 1

<table>
<thead>
<tr>
<th>Infrastructure</th>
<th>Internal Rate of Return (IRR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Toll Roads</td>
<td>2 – 8%</td>
</tr>
<tr>
<td>2 PFI/PPP</td>
<td>9 – 14%</td>
</tr>
<tr>
<td>3 Airports:</td>
<td>15 – 18%</td>
</tr>
<tr>
<td>4 Broadcast network</td>
<td>15 – 20%</td>
</tr>
</tbody>
</table>

Table 1: IRR of Infrastructure sectors:

These were all against infrastructure averages of 10 – 15% (Quadrant, 2008).

A risk profile review of infrastructure puts expectations on volatility typically between 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 decline in investment. This is 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 have also been seen in project returns. Nonetheless, in comparison with other asset classes, infrastructure - over a ten year period - returned annualized figures of 9.5% putting it second place behind private equity (11.3%). Other similar comparison returned the following results: stocks (9.0%); bonds (5.1%) and cash (3.7%) (Colonial First State, 2007).

While there are no established benchmark for infrastructure investments and decision-making, in theory there are a number of empirical benchmarks currently in use amongst investors, including:

- 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 with infrastructure investments. Many are and continue take advantage of recent data and risk assessments informing investors of medium to long term opportunities. Given the many private sector investment incentives by state governments aimed at attracting more private sector participation, opportunities continue to look even more promising.

**Nigeria’s Infrastructure Outlook**

**State of Nigeria’s Infrastructure**

Assessing the country’s infrastructure could be described meaningless in the absence of benchmarking. 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 relatively developed infrastructure backbone. Few areas remain unconnected to national backbones, and those few areas 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; while social infrastructure into: schools, hospitals and recreational facilities.

Though given a relatively decent pass mark by the World Bank on the state of the country’s infrastructure backbone compared with other African countries, the discussion point will be limited to infrastructure that attract economic returns. For this reason, Nigeria’s infrastructure outlook worth considering as investment opportunities for Pension Fund Managers (PFM) will focus on areas that yield decent returns on investment e.g. roads, sea ports and power.

**Roads**

Nigeria, by comparison (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.

**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 is less than optimal. With many of their staff, systems and processes being entrenched in current public sector norms. Whereas, a different approach where they provide regulatory oversight while actual work is farmed out, may prove more effective.

A holistic view of the sector show that in Nigeria only 67 percent of paved roads are in good or fair condition in contrast to 33 per cent for unpaved roads. Summed up, they support the notion that roads are 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 however be achieve through innovative means offered by the private investors.

It’s been estimated that Nigeria spends over $700 million on road construction annually, but very little in road maintenance. Interesting to note that Network simulations assessments done by the World Bank show that an additional $580 million is required on an annual basis to complete pending rehabilitation and maintenance work (Foster V and Pushak N, 2011).

The foregoing suggests there are opportunities for private sector participation in this sector.

**Opportunities**

While earlier discussions focused on the challenges of urban road and their maintenance needs, little was discussed on the opportunities of the 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 role as the highest 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 with existing road networks.

**Sea Ports:**

Nigeria’s port system has traditionally put a break on 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.

With comprehensive reforms which began in 2000, Nigeria saw major improvements to cargo handling at the ports. Reforms taken were well planned with concessions awarded the private sector for frontline cargo-handling. Despite the progress, challenges subsist. However in these challenges exist tremendous opportunities.

**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. More tangible areas include increase in port handling capacity infrastructure, over congestion of cargo and poor and inefficient system of cargo evacuation etc.

**Opportunities**

With private sector participation coupled with the decentralization of the main ports in the country, there are opportunities to leverage current gains recorded amongst private investors. PFM can either participate as direct or indirect investors in current and new organizations targeting to improve some of the current port inefficiencies being part of their business module. It is worthy to note, direct

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investment is however more complicated than indirect investment. For listed companies, equity can be bought directly in the stock exchange. For unlisted companies (regulation permitting), direct investments however attracts a higher risk-return. 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 is indirect investments e.g through a specialist private-equity type of fund.

**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 that found in other African countries (Foster and Pushak, 2011). Formal private sector revenues lost, 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 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* (Presidency 2010), to galvanize the reform process while recommending removal of road blocks that inhibits private sector participation.

**Opportunities**
With the ongoing overhaul of the power sector which involves vertical and horizontal unbundling and selling off all state generation and distribution assets (six generation companies and eleven distribution companies), to the private sector, tremendous opportunities lie in this sector for investments. Local private power holding companies have and continue to show interest in this sector. The efficiency the private sector brings to managing utilities within approved government liberalization for investors to recoup investments, provides huge opportunities in this sector. Secondary market investments is one option for Pension Fund Managers in this sector; another, is investing in the primary market through financing start-ups.
(higher risks) or buying (investing) shares of the project special purpose vehicle.

A point to note on the above investment strategies: secondary market investments would suit income-style investors more; while primary would normally suit growth-style investors.

In conclusion, Nigeria’s infrastructure, despite the positive steps over the years towards a stable foundation for economic growth, is in tremendous need of enhancement to its base structure. While emphasis has been over time for government to improve the infrastructure base of the country, it is evident that the public sector is stretched beyond limits to maintain and develop new ones. With many countries – Nigeria inclusive - adopting reform programs similar to those of Chile and other Latin American countries (in the nineties) by embarking on private participation in pension fund management; little progress has been recorded in Nigeria amongst fiduciaries of pension funds in the area of infrastructure investments. Understandable so, pension fund managers are risk averse towards investment opportunities (e.g. Infrastructure) considered: volatile; offer low degree of liquidity; and perhaps offer performance characteristics ‘less favourable’ than debt securities (prescribed under the Nigerian Pension Reform Act of 2004). More could however be leveraged through reforms to inhibiting forces (regulation) precluding private sector investments.

**Outlook for Pension Fund Managers**

With 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 facing 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 resource. It is important to acknowledge at this point the strategic place of pension funds at unlocking the infrastructure gridlock of the country.
It is important to recognize investments in infrastructure tend to differ between developed and developing countries largely due to the disparity between their financial markets. Deliberate efforts to deliver information suiting the maturity level of Nigeria’s financial market were attempted in this paper. To begin, areas affecting performance of pension fund managers were assessed towards attaining a positive sum game.

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 (pension funds) in financial instruments targeted at infrastructure:

(a) Regulations – Regulations guidelines that cover range of allowable investments, their liquidity, valuation, risk characteristics and other regulations on the portfolios themselves (e.g. 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. For less mature (capital) markets, introduction of infrastructure instruments is a good place to start.

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

To begin, a review of Nigeria’s Pension Fund regulations inhibiting private sector participation are discussed. This is aimed at identifying bottlenecks that legally inhibit pension fund managers from creative investments in infrastructure. Also a review is carried out on current infrastructure investment instruments; their model and factors that equally 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 imagine, tend to favour stability and uniformity
of investments portfolio performance, which tends to exclude worthwhile and economically and socially desirable investments (e.g. new infrastructure). Regulations that exacerbate this difficulty must be overcome if infrastructure investments 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 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 embarked upon reforms to the existing pension act by revising regulations for pension fund investments; introducing new guidelines aimed at infrastructure funds / projects. This introduced a new asset class for pension fund investments.

Nonetheless, it is important to highlight some regulation bottlenecks with the aim of optimizing recently revised regulations towards better results 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 tend to require that non-government paper be rated by an independent agency; the *Pension Reform Act 2004* explicitly requires this. Rating scores expected of organizations (A) are much higher than the country’s long term credit rating hovering around B+. It’s a challenge and oxymoron understanding this policy especially in the context of sovereign (rating) ceiling. 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).

**Liquidity:**

To minimize problems with the valuation of security assets, most regulations prohibit or in the best cases, limit the 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

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

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
those assets often tend to be traded infrequently.

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

**Regulations that Discourage Investments**

**Performance Regulations:**

In order to protect the value of the affiliate’s 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 at a given point in time, pension fund managers tend to avoid volatility (inherent in infrastructure), hence they shy away; leaning towards investment that offer diversified portfolios, thereby precluding opportunities for larger returns.

Though PFM s often seek relaxation in regulations, the truth remains that many rather go after safe investments in an attempt to avoid reporting 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 include: 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.

In the case of Infrastructure, investments ceiling of pension funds asset (under management) is 35% while 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; are rather risky; illiquid and in most cases lack a rating – let alone an investment grade rating. Understandable, the reason for regulation is no doubt required to safeguard 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 sector (Table 2).

Table 2: Pension Fund Portfolio Allocation (%)

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

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 pandering to infrastructure, nonetheless there are huge potentials with development of such instruments that appeal to investors.

In summary, current regulations may need optimizing. Simply relaxing on rules is not
enough; investment options need to be attractive to court pension fund managers.

**Investment Requirements of Private Pension Funds**

While it’s been mentioned that a more relaxed regulation could see pension fund managers gravitating towards investment options that are less restricting. From indications, 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. But then this calls for creation of (infrastructure) instruments capable of meeting demands stated above. If properly structured, infrastructure financial instruments can meet most of these needs therefore considered attractive. It is worthy to note, infrastructure investment is inherently risk, both because of its strategic inflexibility (it cannot be used for other purpose) and the fact that it provides basic public services subject to political interference, which could be reduced as a consequence of private pension fund participation. In this regard, it is important to distinguish between investments in well-established firms that provide infrastructure services and investments in new projects. Projects which require special consideration in terms of the regulatory environment and financial instrument design.

Going by a normal rule of thumb, it is proposed that private pension funds invest between 1% and 5% in infrastructure project finance assets (Vives 2000). Needless to say, this recommendation in not based on a comprehensive analysis of the risk-return characteristics of infrastructure investments or the efficiency frontier of the allowable assets of pension funds portfolios, but on preceding analysis in particular by looking at the success and evolitional story of Chile.

**Potential Private 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 and assuming that 3% 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. Nonetheless, it's a place to start.

<table>
<thead>
<tr>
<th>Country</th>
<th>Pension Assets</th>
<th>Stock of Portfolio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nigeria (2008)</td>
<td>$8.7b ($1.07t)</td>
<td>$0.26b</td>
</tr>
<tr>
<td>Nigeria (2015)</td>
<td>$47.32b ($7.1t)</td>
<td>$1.42b</td>
</tr>
</tbody>
</table>

Table 3: Indicators of Capital Depth

Investment of pension fund assets in infrastructure provides important benefits to projects by reducing:

- **Political risk**: Political risk is reduced because the participation of resources representing the pension of local workers should induce closer adherence and fairness in the application of infrastructure regulatory principles. Pension funds can be honest brokers as affiliates 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

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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

9 Nigeria’s infrastructure needs are estimated at $100 billion.

10 Projection of Nigeria Pension Assets by BGL Research
local currency revenues. More so, with recent plans by the Nigerian Finance Ministry for pension funds to leverage long term financing (foreign and local) (Online News, 2010)\textsuperscript{11}.

- **Financing risk:** Financing (refinance) risk 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 potentially reduced because these resources tend to be less expensive on a risk-adjusted basis than most of the alternatives (imported capital or short-term local 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 than the alternative sources (this must be compensated with proper governance system to ensure that pension funds are not taken for a ride).

These benefits are important enough for infrastructure projects to be interested in pension fund resources and to make the necessary measures to capture them.

### Private Participation in Infrastructure.

The current decade has seen significant transformation in the modalities of 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 in countries that undertook pension reform and also liberalized their economies. Due to the strong desire of countries to bridge the gap between their infrastructure state and 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\% in GDP, investment in traditional infrastructure sectors (energy, transportation etc) would need to increase by 1\% of GDP (World Development Report, 1995). A reasonable goal for government would be to ensure investments in infrastructure support a long-term annual growth rate of \sim \% 5. While this is more of a

strategic design for government institutions 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 to Pension Funds.
Based on the discussion above, it should be clear that private infrastructure could and should tap into pension fund assets. The big question is what financial gains do they hold for fund managers and investors?

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 quickly.

Some experts recorded - from the last economic boom - returns on infrastructure investments as high as 15% plus per annum. More conservative numbers suggest diversified infrastructure funds have the potential to return between 9 - 12% (net of fees) per annum (Mercer, 2005)\(^\text{12}\). This exceeds suggested 7-8% annual rate of returns of (Nigeria’s) pension funds to be considered viable over the long-term (BGI, 2010)

**Design of Financial Instruments**
As discussed before, the need for these instruments need to be designed and developed. While this is true, such instruments need to be attractive to pension funds. 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 of special purpose vehicles. To comply with this, such securities will need to be designed such that there is means to have senior claims on revenues; be based on 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. Further enhancement include: combining various instruments into investment pools. This allows diversification of risk over several

projects, sectors (transportation, energy etc) and even countries.

Overall this will allow investments in such securities (instruments) meet the intent of 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 proposed is the most conservative that can be designed, short of one guaranteed by AAA-rated institutions or governments. It should have ample liquidity, very low risk (with low risk comes low returns) and would be properly valued. Even though it would capture funds for infrastructure, pension funds could do better in risk-return trade-off with more direct investments. As regulations are relaxed, the instruments will not have to be complex as implied by the recommendation and some funds may be able to acquire simpler 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 and allow investments in illiquid, non-rated and subjectively valued assets that favour direct investments in relatively riskier (diversifiable) but return-enhancing 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 the needs of pension funds, both parties would be able to reap significant tangible and intangible benefits. In summary private pension funds are:

- Able to enhance risk-return combinations offered to affiliates
- Private investors benefit from tapping long-term resources in local currency and reducing financial costs
- the opportunity to promote the development of the country in areas that have multiplying externality effects; invariably enhancing quality of life in the form of development and economic prosperity of the county at large which in essence has a cyclic effect with more and enhanced
contribution to the ‘cash cow’ feeding
such investments.
References


Bibliography

