Deloitte.

Public Private Partnership (PPP) as an anchor for diversifying the Nigeria economy

Lagos Container Terminals Concession as a Case Study

March 2017

Contents

Introduction: The PPP Model

Across Africa, the Public-Private Partnership (PPP) model has become increasingly critical as both a funding and operational mechanism for social (e.g. hospitals and schools) and economic infrastructure such as ports, railways, roads and airports. The public partner is typically represented by the government at a national, state, or local agency level. The private partner can be a privately-owned business or consortium of businesses with a specific area of expertise.

PPP is applicable to medium to long term management contracts with investment requirements which may include funding, planning, building, operation, maintenance and divestiture. PPP arrangements are particularly useful for large complex infrastructure projects that require highly-skilled workers and a significant capital outlay to execute. The PPP model is also useful in countries that require the state to legally hold an interest in any public infrastructure but permits a level of private sector participation.

There are different models of PPP depending on the level of public sector control and also the depth of private sector's participation – e.g. funding, rehabilitation, building, operations and maintenance of the assets. Examples of PPP projects and models deployed in Nigeria include:

"The PPP model is also useful in countries that require the state to legally hold an interest in any public infrastructure but permits a level of private sector participation."

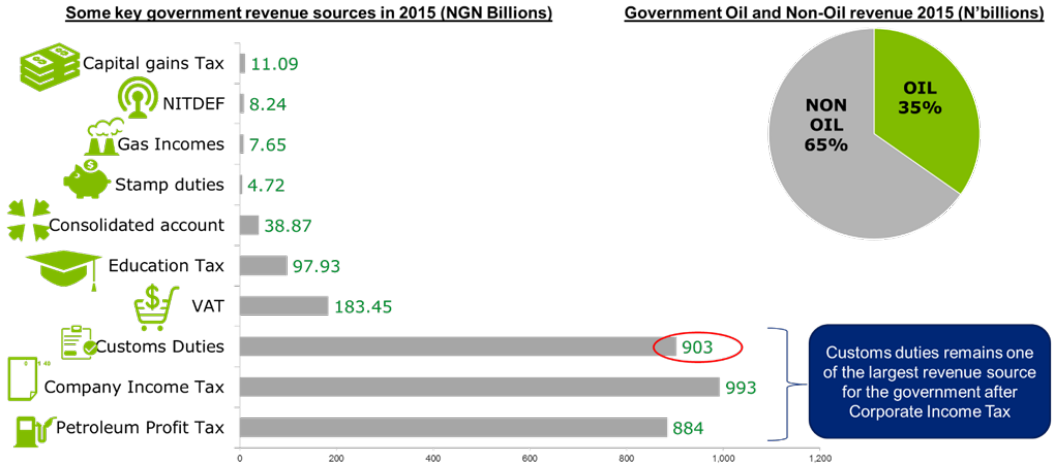
Project	Sector/critical area	PPP model type
Muritala Muhammed Airport 2 - MMA2	Transport/Aviation	Build-Operate-Transfer (BOT)
Rehabilitation and Upgrade of Murtala Muhammed Airport Road	Infrastruture/Road Development	Build-Operate-TRansfer (BOT)
25 Silos Complexes	Agriculture	Rehabilitate/ Build-Operate-Transfer (RBOT) model
Small and Medium Hydro Power Projects	Power	Rehabilitate/ Build-Operate-Transfer (RBOT) model
Development of Katampe District	Urban Development	Build-Operate-Transfer (BOT)
Rehabilitation and Upgrade of Kiri-Kiri Lighter Terminals I & II	Transport	Landlord Port Model for the Nigerian ports in line with the Ports Refrom Programme
Rehabilitation and Upgrade of Onitsha Inland Waterway Port	Transport	Rehabilitate/ Build-Operate-Transfer (RBOT) model
Concessioning of the Port Terminals	Transport	Landlord Port Model for the Nigerian ports in line with the Ports Reform Programme

Source: Infrastructure Concession Regulatory Commission (ICRC), World Bank

Nigeria's Economy and the need for diversification

The Nigerian Economy has been negatively impacted by fluctuating oil prices. The recent economic downturn has also impacted the Federal Government's ability to fund both capital and recurrent expenditure – including servicing of long term financing.

Figure 1: Breakdown of Government Revenue



Source: Nigerian Customs Service, FIRS

Trade is one of the highest contributors to Nigeria's GDP and the majority of Nigeria's import/ export goods are transported via the ports. The table below shows the 2016 trade statistics:

Table 1

Type	Value (NTrillion)		Country (% share to 4th Quarter - 2016)
Import	8.818	**Largest Import Partner**	China (17.51%)
Export	8.527	**Largest Export Destination**	India (15.97%)

Source: National Bureau of Statistics

Value of imported goods was estimated at N8.818 trillion with more than 50% of the imports being manufactured goods. Other oil products, raw materials, agricultural, solid mineral and energy goods make up 28.6%, 10.7%, 7.4%, 0.6% and 0.0001% of imported goods respectively. China remains the nation's largest import partner.

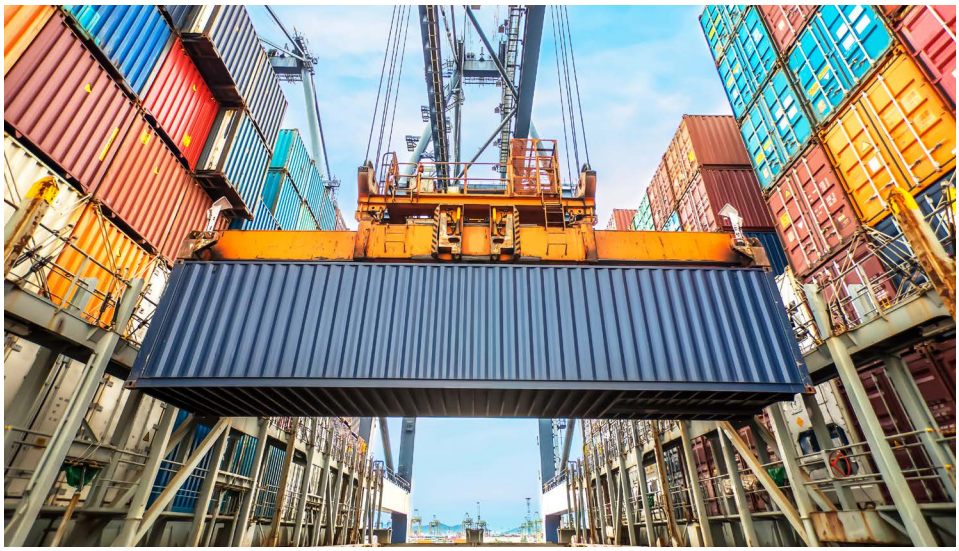
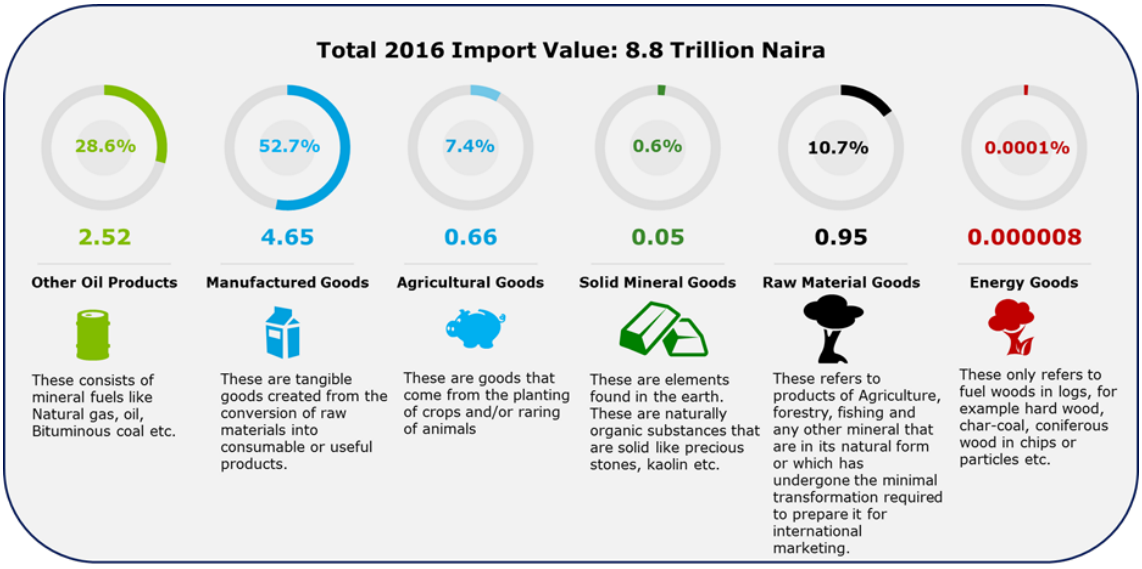


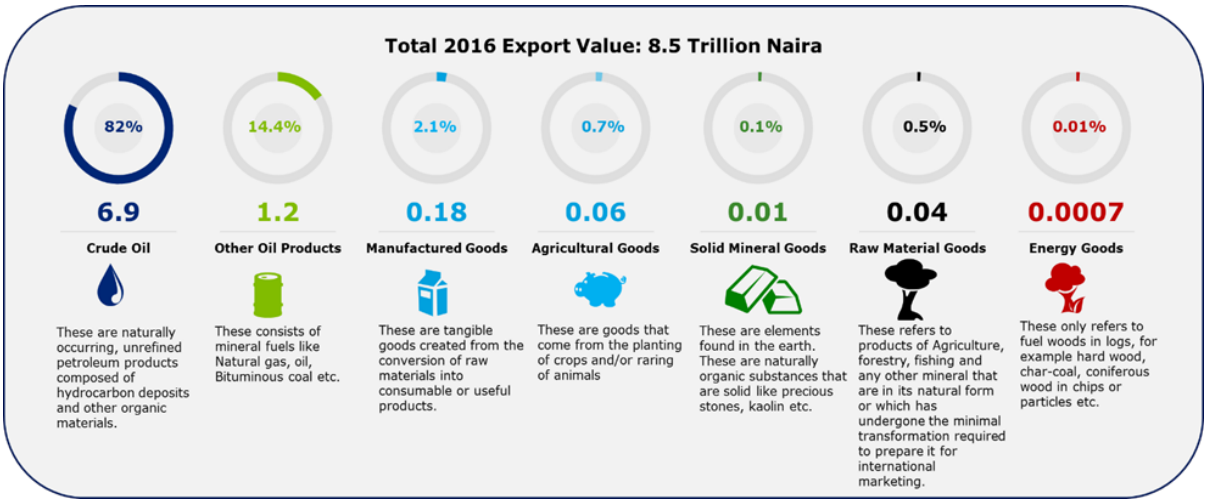
Figure 2: Breakdown of Nigeria's Import by Value



Source: National Bureau of Statistics (NBS)

Nigeria's exports were valued at N8.527 trillion with India as its main export destination. The breakdown of export shows mineral products (mostly crude oil) accounts for 82% of exports, other oil products, 14.4%, manufactured goods, 2.1%, agricultural goods, 0.7%, raw material goods, 0.5%, solid mineral goods, 0.1% and energy goods, 0.01%.

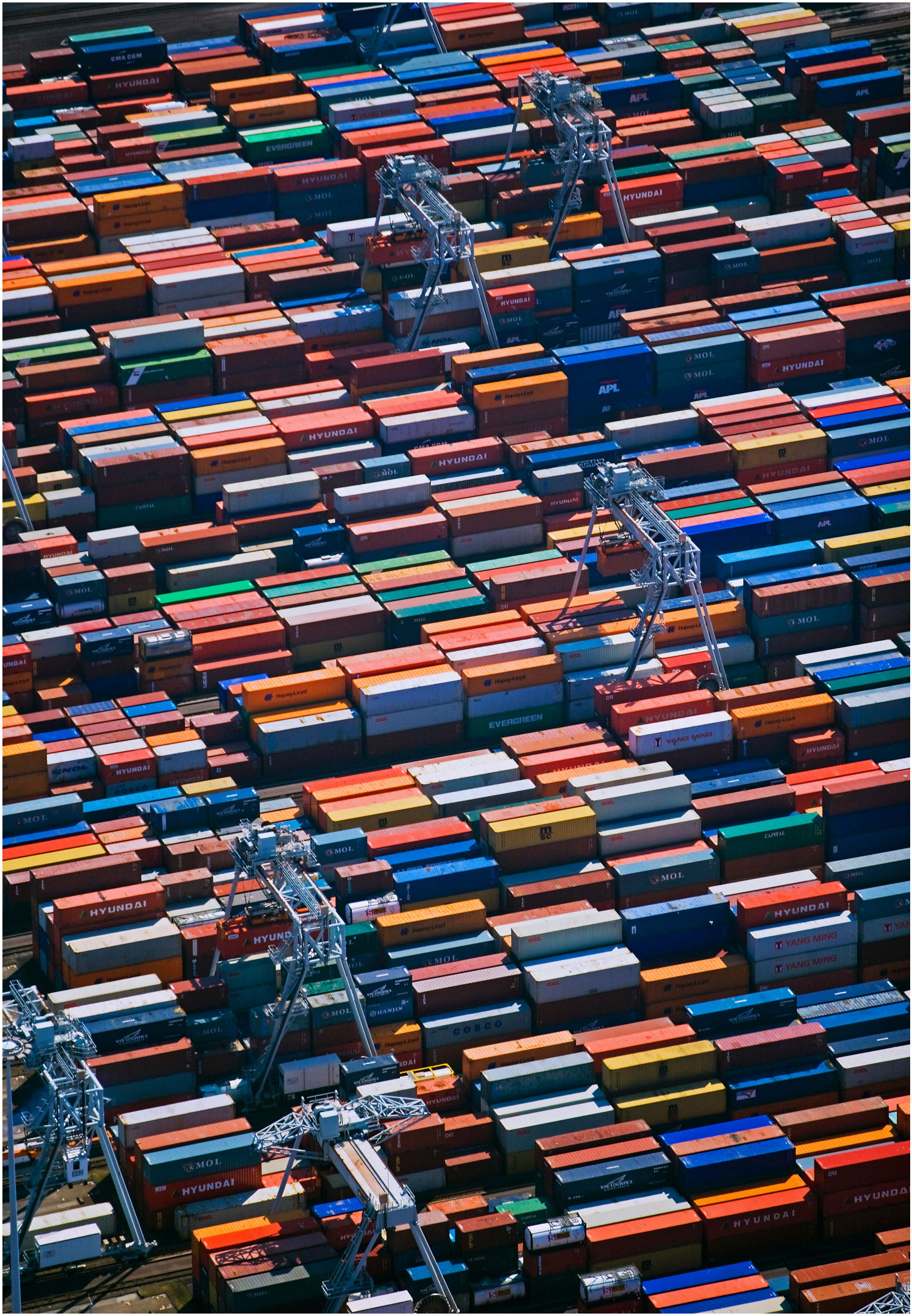
Figure 3: Breakdown of Nigeria's Export by Value



Source: National Bureau of Statistics (NBS)

In recent years, the government has introduced several reforms to facilitate international trade and successes have been recorded in the effectiveness of these initiatives. In 2006, the Nigerian Government concessioned the 26 ports in Nigeria to private companies. This action led to infrastructure development and improvement of the ports through private participation and investment.

However, Nigeria has not fully explored the potentials of the ports sector, as there are policy initiatives which could be introduced to further deepen the sector's impact on the economy, government and key industry stakeholders. These initiatives will further facilitate international trade (both import and export) and enhance the nation's non-oil contribution to GDP.


CMA CGM
HYUNDAI
EVERGREEN
APL
MOL
Hapag-Lloyd
YANG MING
COSCO
HANJIN
CAPITAL

Lagos Container Terminal as a Case Study

Lagos is the commercial hub of the nation with 90% of the containerised cargo going through the Lagos ports. The Lagos container terminals are vital for the following reasons:

- **Lagos is a state with the highest GDP per capita and highest population density in Nigeria**
- **The state is a highly urbanised commercial hub and nerve center of the nation**
- **70% of global seaborne trade is Containerised Cargo**
- **Strong historical growth in containerised cargo and positive prospects for the future**
- **Containerised shipping is an efficient means of sea transport.**

Before the concession in 2006

As at 2005, the Nigerian ports faced major challenges which made it one of the most inefficient ports globally. The average Ship waiting time before berthing was 21 days, vessel turnaround time was 5 days while dwell time for cargo was as high as over 30 days. The ports had poor infrastructure (roads, rail, quay, buildings, equipment, and yard) and were heavily congested leading to insecurity and pilferage, delays in cargo clearance and inefficiencies in cargo handling largely due to manual processes. As a result of the challenges, the Federal Government of Nigeria in 2006, concessioned the ports to 25 Terminals Operators over a 25-year license period.

Figure 4: Challenges Faced by the Ports[1]

Congestion

Poor Security

Traffic Gridlock

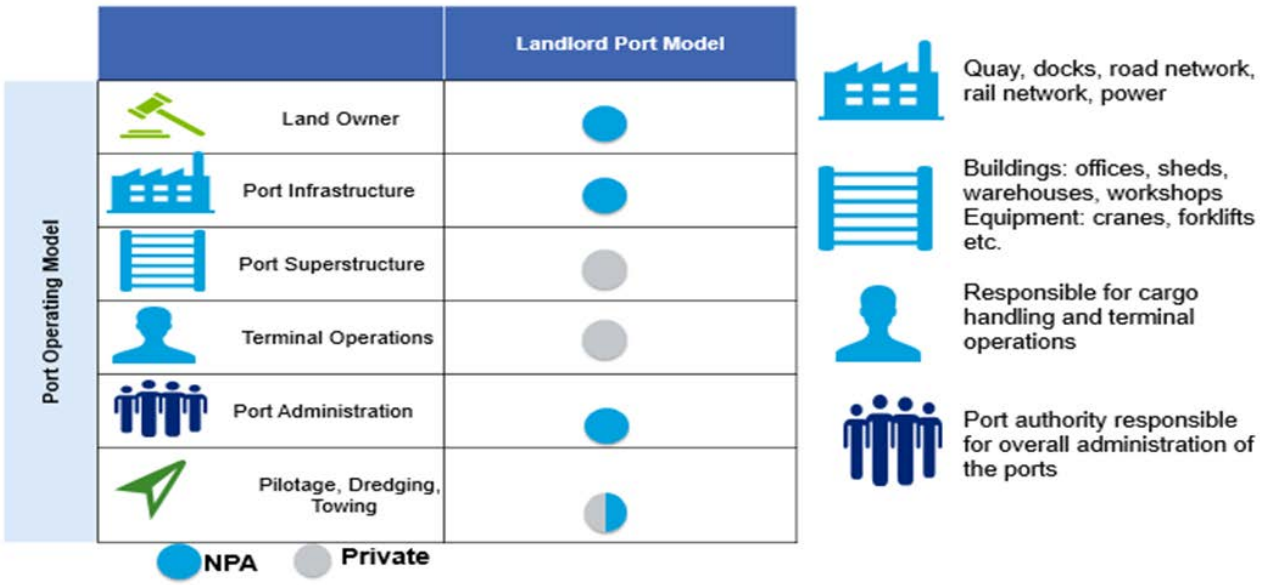
Poor Infrastructure

[1]Deloitte Analysis

Concession of the Ports

The primary aim of the port concession agreement was to eradicate the poor state of the ports, increase capacity and promote economic growth and development via the Nigerian ports. The Federal Government adopted the Land Lord model for port operations which gave exclusive rights to the Terminal Operators ("the Concessionaires") to operate, maintain and carry out investments on port facilities, within designated terminals while the NPA retains ownership of the terminals.

Figure 5: Improvements at the Ports Performance Metrics



Source: NPA Website, World Bank Framework

The "Land Lord" model reduces the financial burden on the Federal Government as the Terminal Operators are responsible for both infrastructure development and annual concession fees in the form of lease fees and throughput fees.

The tenure of the Nigerian concession agreements ranged from 15 to 25 years and the estimated revenue to government from the concession agreement is estimated at $6.54 billion[2] over the period.

The parties involved in the concession agreement include:

- Lessee - Terminal operators
- Lessor - Nigerian Ports Authority (NPA)
- Confirming party - Bureau of Public Enterprises (BPE)

$6.54 Billion

...estimated revenue to government from the concession agreement

[2]NPA presentation at 2009 World Bank Washingston DC meeting

Evaluation of the Nigeria port concession agreement

An evaluation or benchmark of the Nigeria port concession agreement with the standards contained in a report by World Conference on Transport Research Society (WCTRS) revealed that the Nigerian port concession agreement conforms to over 80% of the identified elements and risks. The Nigerian concession agreement is in alignment with the standard concession elements but partially aligned when considering the risks aspects of the agreement.

ELEMENTS	CONFORMITY
Package size	
Term	
Ownership	
Service specifications	
Tariff authority	
Payment terms	
Award criteria	
Renegotiation terms	
Performance assurance	
Investment planning	
Network planning	
Exclusiveness	
RISKS	**CONFORMITY**
Commercial	
Exchange rate	
Government policy	
Tariffs	

Legend: Conformity Nonconformity

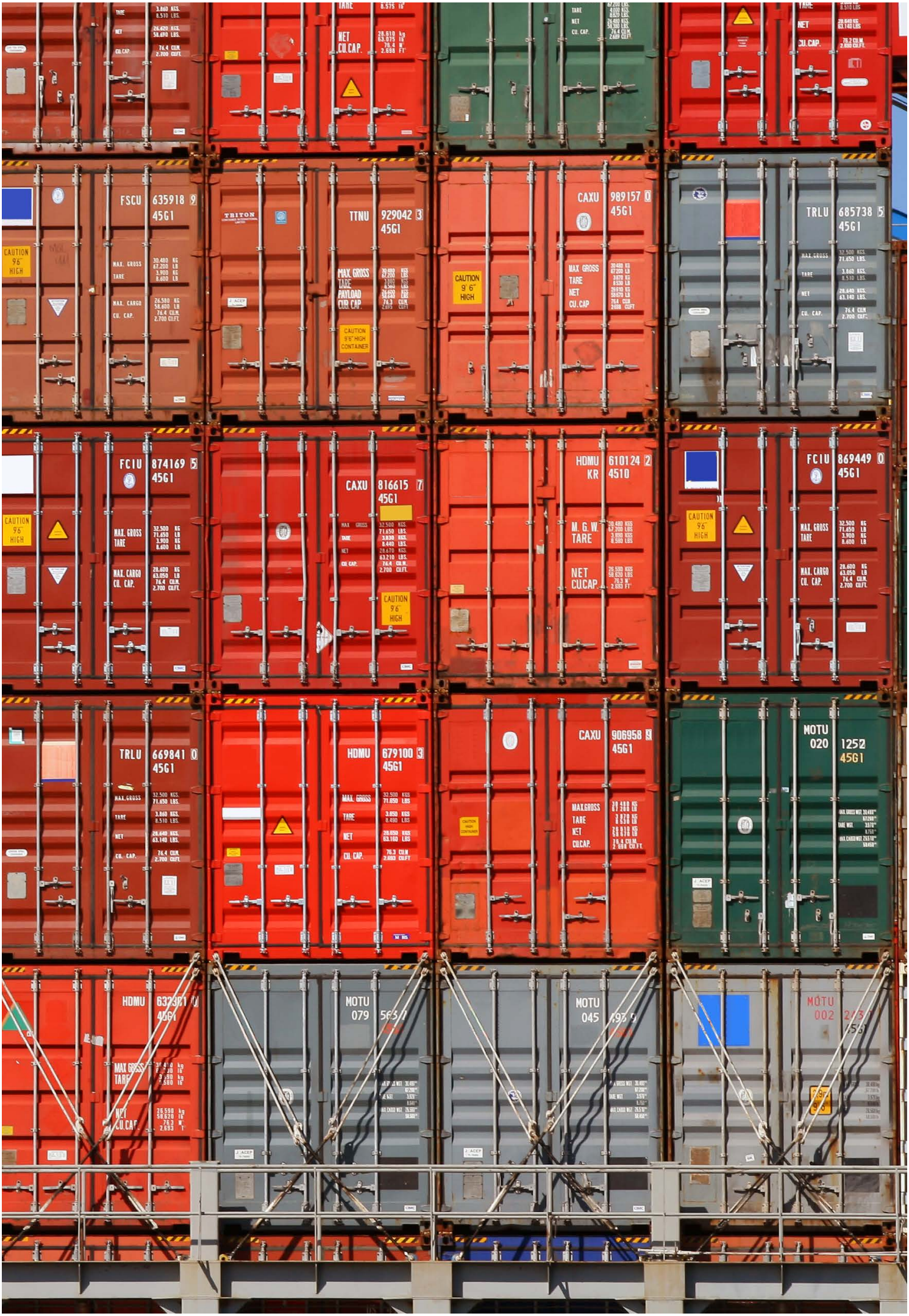
Commercial risk: may arise from throughput (number of cargoes handled) projections. It is challenging to accurately forecast throughput levels due to the ever changing business environment. The risk was duly accounted for in the concession agreement.

Exchange rate risk: This risk affects the cost of operations, prices of replacement machineries, salaries, and agreed government fees in foreign currency (despite making earnings in local currency). This risk also have direct impact on the repatriation of profits by international investors. This risk was not duly captured in the concession agreement as advised by WCTRS. Considering the recent turbulence in exchange rates, it is critical that exchange rate risks are fully considered in such agreements

Policy risk: new policies can positively or negatively impact throughput volumes. It is therefore important to consider this risk in the concession agreement. Policy risk is also a major factor as port investors have based their long-term investment decisions on policies of the government which are subject to change in the short term. Such policy shifts can discourage further Foreign Direct Investments, if not adequately considered and mitigated in agreements.

Tariffs: Risk arising from impact of inflation on the revenue figures (Terminal Handling Charges, THC). This risk was mitigated by setting an adjustment mechanism for dollar based tariffs benchmarked against the Consumer Price Index (CPI) of the USA.

However, a closer examination shows that an equivalent adjustment mechanism was not implemented for Naira based tariffs (i.e. the adjustment mechanism for Naira based tariffs should have been benchmarked against the CPI of Nigeria and not the United States CPI) when considering that majority of the operators revenue is Naira based.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TTNU 929042 3
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CAXU 989157 0
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TRLU 685738 5
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CAXU 816615 7
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HDMU 610124 2
KR 4510
FCIU 869449 0
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TRLU 669841 0
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HDMU 679100 3
45G1
CAXU 906958 9
45G1
MOTU 020 1252
45G1
HDMU
MOTU 079
MOTU 045
MOTU 002

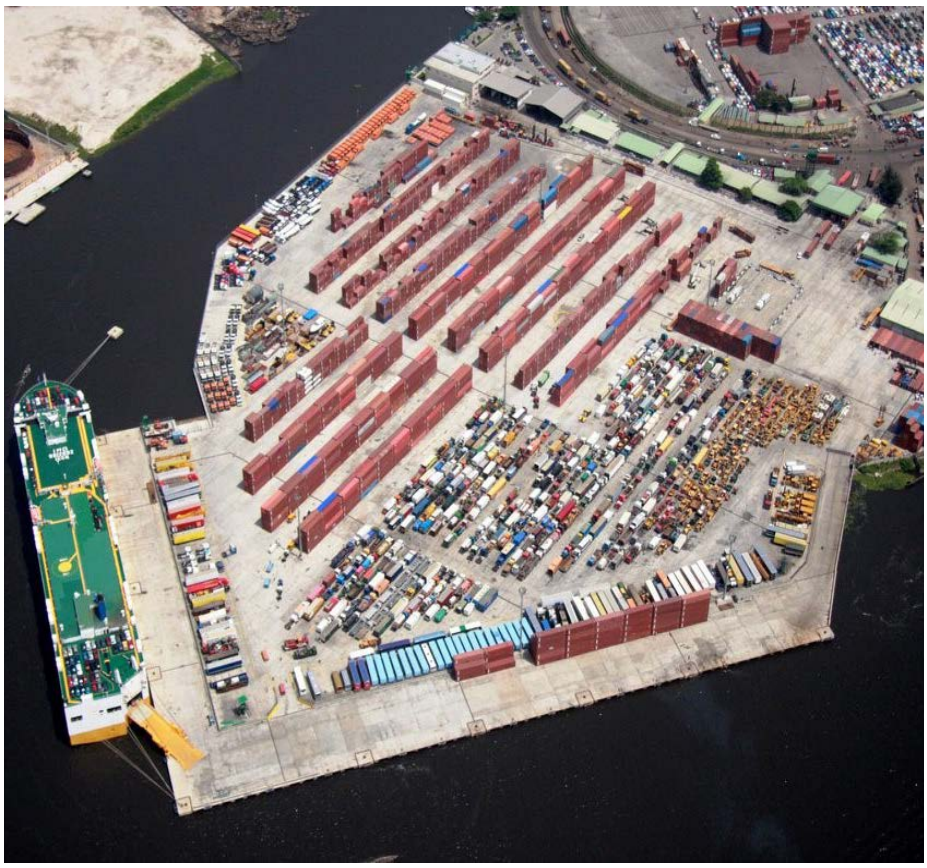
Post Concession

The Terminal Operators assumed ownership of the ports in 2006 and have made significant investments estimated at N200billion within a period of 10years. The estimated investment, derived from interviews with the major Terminal Operators, has exceeded the N50billion planned in the concession agreement for the entire period of the concession i.e. 25 years license. This represents a multiple of about 400% of the planned investments. The operators are still expected to make additional investments over the remaining years of the concession agreement.

The investments made by the Terminal Operators have been spent majorly on:

- Equipment (such as Rubber Tyred Gantry, Mobile Harbor Cranes, Trucks)
- Infrastructure (such as Buildings, Quay, Yard and Inland Container Depot)
- Lighting of the terminals
- Automated tracking system
- RTG training simulation system
- Generators, plants and machinery

PTML Terminal built as an extension of the Apapa Port



Investments in RTG

As a direct impact of these investments, the ports have witnessed increased ship traffic and throughput which has led to a 400% rise in container throughput from 400,000 TEUs in 2006 to 1.6 million TEUs in 2014. The investments have also led to the eradication of ship waiting time at the container terminals, as ships now berth on arrival. Vessel turnaround time has been reduced to from 5 days to 41 hours while average dwell time for cargo clearance went from over 30 days to just 14 days. In addition, due to improved security and lighting of the terminals, the ports now run a 24 hours and 7 days a week operations. This has been made possible by the investments and transformations made at the ports, by the Terminal Operators.

Figure 6: Improvements at the Ports Performance Metrics

Terminal Operators Metrics	Pre-concession (before 2006)	Post-concession (After 2006)
Ship Waiting Time	21 days	No waiting Time
Vessel Turn Around Time	5 days	41 hours
Container Dwell Time	Over 30 days	14 days
Operational Time	9am to 4pm (Mon. to Sat.)	24 hours (7 days a week)

The NPA has also made significant Investments

There has also been some major investments made by the NPA on behalf of the Government to increase traffic at the ports. Most laudable is the dredging of the channel from 9m to 13.5m water depth.

NPA Metrics	Pre-concession (before 2006)	Post-concession (After 2006)
Max draught	11m	13.5m

The NPA also invested in the provision of larger tug boats to service shipping companies. This has led to larger ships calling particularly at the Lagos ports and Apapa Tincan ports thereby increasing the throughput.

The NPA has been a positive partner in the concession process but there still exists opportunities to further optimise the existing Lagos port infrastructure to meet medium term needs of the sector.

Impact on the Economy

The foresight of the Federal Government to concession the container terminals has had a very positive impact on the economy as a whole particularly in the area of job creation, skills transfer and development, contribution to Gross Domestic Product, increased business opportunities in and around the ports, amongst others.

Increased use of the terminals creates a multiplier effect across the value chain with impact on other services such as freight forwarding, insurance and banking, haulage and logistics services etc. In addition the increased activity post concession positions Nigeria as a trans shipment hub for the West African Coast especially for land locked countries such as Chad and Niger. One of the key objectives for Nigeria's industrialisation plan is the export of locally manufactured goods. The efficiency and capacity that has been built into the ports can sustain this export drive towards economic growth.

The efficiency at the ports have saved the Nigerian economy an estimated $800million annually in congestion fees alone. On average over 3,000[3] containers are transferred everyday which support local businesses and manufacturers. Both large and Small/Medium scale businesses are better to be able to meet demand and plan for business growth due to timely delivery and clearance at the ports.

An estimated 1 million jobs have been created directly and indirectly in communities across Nigeria both for skilled and unskilled workers including local businesses, manufacturing firms, trucks drivers, etc. This has made the ports a vibrant sector that stimulates the economy and acts as a diversified source of revenue for the government and an alternative to oil.

Impact on Government

Revitalizing and transforming the Ports sector into a fast, modern and efficient port has direct benefits to the Government. Larger vessels with reduced transit delays at the ports will lead to increased throughput and higher trade volumes for both import and export of goods and services thereby increasing revenues earned by NPA on throughput fees, shipping charges, custom duties and taxes.

A continuous 24 hours Port system with adequate Government support in terms navigation and tug services, dredging of channels, customs clearance, electric and power supply, good access roads and adequate security in and around the ports will increase productivity at the ports, increase employment, generate more revenue to government and increase the sectors contribution to GDP. Extension of adequate support to the terminal operators will further attract international investors, as this will signify that the Federal Government of Nigeria is open to mutually beneficial PPP arrangements between the private and the public sector.

Impact on Terminal Operators

Increased terminal and port efficiency directly reduces costs which would have been lost to inefficiencies in the system. This will also make Nigerian ports more attractive for use, to the other West African countries.
Increased efficiency and consequently increased speed of service delivery will attract more vessels and in turn more cargo which will positively increase the throughput volumes and therefore revenue for the investors.

The efficiency at the ports has impacted on the Nigerian Economy in numerous ways:

~$800m

Saved annually in congestion fees alone

Fees which are generally paid as compensation fees to ships waiting due to congestion at the ports.

Jobs have been created directly and indirectly by the employment of skilled and unskilled workers at the ports, truck drivers, spring up of local businesses and manufacturing companies.

Over 3,000

Containers are landed and transferred everyday

translating to a good number of local businesses and manufacturers depending on the services delivered by the terminals.

About 1,000,000

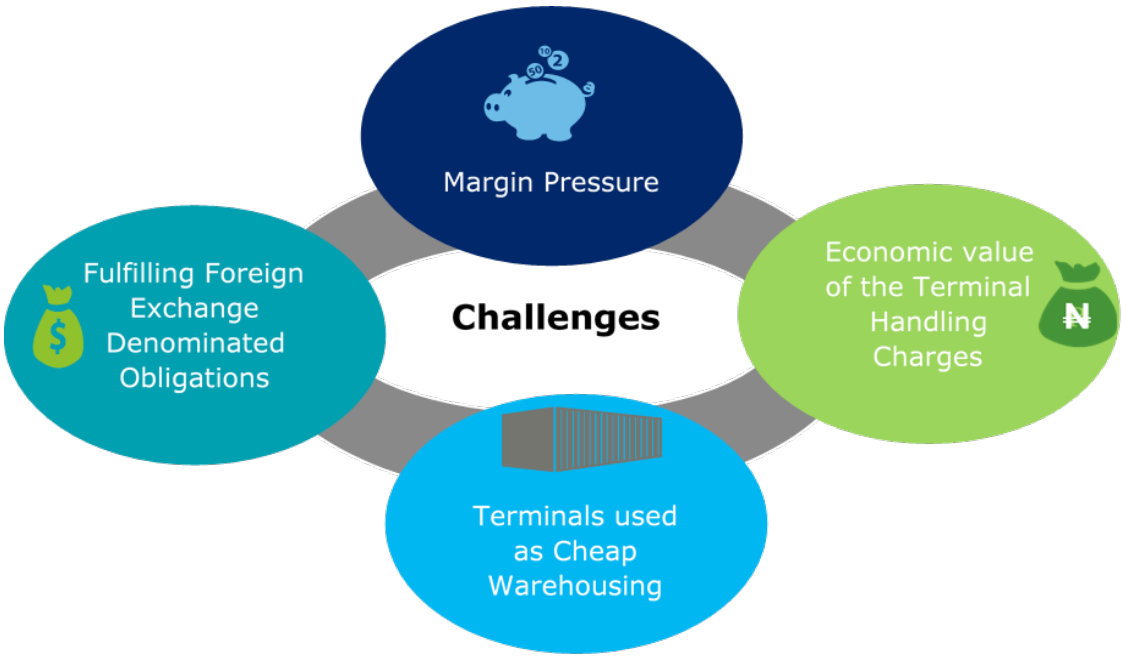
Jobs in the local community and across Nigeria,

This has made the ports a vibrant sector that stimulates the economy and acts as a source of diversified source of revenue for the government as an alternative to oil as they have made substantial contribution to the growth and prosperity of the Nigerian economy.

[3]APM Terminals Documentary, Deloitte Analysis

Container Terminal Challenges

Despite the gains and improvements in the sector, the Terminal Operators are still faced with numerous challenges that impacts their daily concession operations.



Fulfilling Foreign Exchange Denominated Obligations

The foreign exchange challenges that Nigeria faces (as a result of the fall in global oil prices) is further pronounced for Terminal Operators as a large part of their capex and operational cost are in US Dollars. These costs include equipment and maintenance costs, lease fees to the Nigerian Ports Authority etc. 83% of Terminal Operators revenues are received in Naira from clearing agents (THC – Terminal Handling Charges, Storage charges, customs examination fees, others) while the remainder of the revenue, 17%, is received in US dollars (stevedoring charges from shipping companies). Terminal Operators have to constantly source for the US Dollars through the parallel market at very high rates in order to meet its statutory and operational cost obligations.

Terminals used as cheap warehousing

Terminal Operators face huge challenges in the area of storage as the terminals are used as "cheap storage warehouse alternatives" by cargo owners. The current policy provides for a free 3 days storage after which a charge of N900 is applied per day and regulated by the NPA. Importers take advantage of the low storage charges offered by the Terminal Operators to store their imported goods at the terminal as opposed to offsite warehousing facilities that charge as much as N60,000 per day. This leads to congestion at the terminal and hinders the productivity and storage capacity of the terminal.

The Economic Value of the Terminal Handling Charges

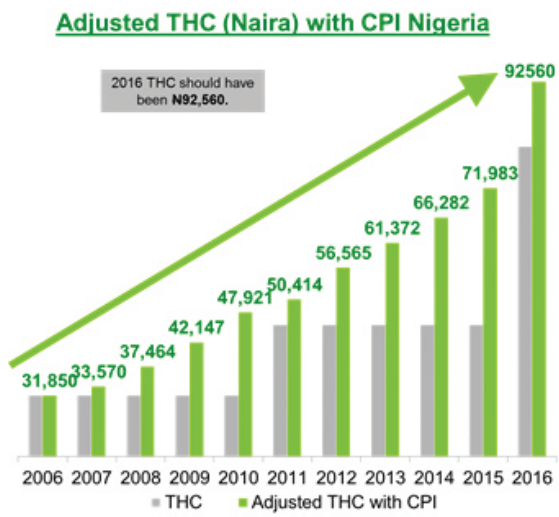
The Terminal Handling Charges is the main source of revenue for the Terminal Operators. This is the payment received from transferring cargo from ship/ quay side to the yard for release to clearing agents/customers. The charges are regulated by the NPA on behalf of the Federal Government.

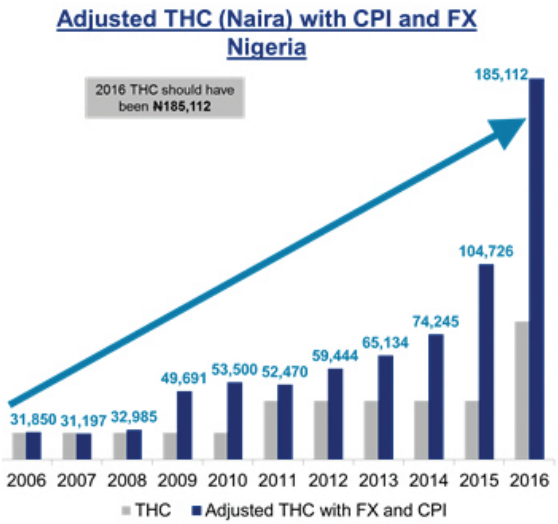
Between 2006 and 2010, the charges were N31,850 per THC, increased in 2011 to N45,500 and increased to N80,000 in 2016. This showed a 43% increase in the first four years, 76% increase in the later years 2011 to 2016 and an overall increase of 151% from inception of the concession.

During the same period between 2006 and 2016, the Terminal Operators business was adversely impacted by the rise in Consumer Price Index/Inflation with the CPI Nigeria rising to over 177% since 2006. Foreign exchange fluctuation also impacted the value of the THC with over 224% FX depreciation between 2006 and 2016.

Adjusting THC yearly with changes in Nigerian CPI only would have increased the fees in 2016 to N92,560 while adjusting for both FX and Nigerian CPI would have increased the fees to N185,112. In real economic terms the operators are losing revenue by not adjusting their THC in line with market realities.

Figure 7: CPI and FX adjustments on THC (based on 20 TEU)





Central Bank of Nigeria and Deloitte Analysis

Margin Pressure

The net effect is that in actual value terms, the Terminal Operators received less per THC today than they did in 2006 despite the increase in operational challenges. Although the Naira value of THC increased from N31,850 (2006) to N80,000 (2016), the THC Dollar value equivalent decreased from $232 (2006) to $180 (2016).

A direct impact and threat to the Terminal Operators business is the inability to meet the revenue targets projected during concession negotiations whilst still meeting dolllar based obligations to local authorities.

Margin pressure on terminal operators is best illustrated using the value chain case study below/ overleaf:

COMPARISON OF TERMINAL HANDLING CHARGE (THC) IN NAIRA VERSUS DOLLAR VALUE

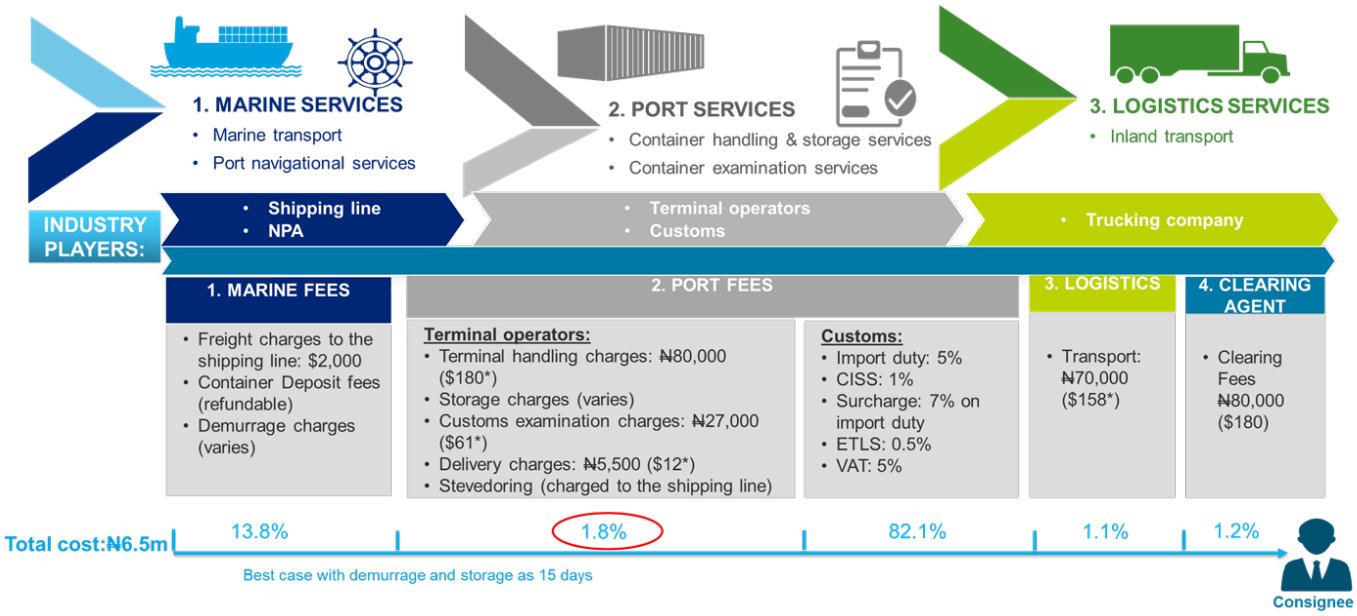
		Dollar equivalent* in relevant year
₦80,000	2016	$180
₦45,500	2015	$204
₦31,850	2006	$232

* Using CBN BDC rates

Case Study

Value chain analysis for the importation of a 20ft container showing cost to the **Consignee** and earnings relative to investment for **Terminal Operators**[4]

- **Marine Fees:** The value chain of a typical container terminal operations begins with the shipment of the goods through a shipping line to the host country. The Consignee pays the frieght charges for the shipping as well as the container deposit fees. Demurrage charges may apply where the Consignee fails to return the containers on time.
- **Port Fees:** Upon arrival of the container at the Nigeria port, the Consignees pays Terminal handling charges, storage charges, delivery charges and customs examination charges to the Terminal Operators. In addition, the Consignees also pay the relevant customs import duty.
- **Logistics:** Consignees pay for logistics services to get the goods out of the terminal.
- **Clearing Agents:** Consignees pay for the services of the clearing agents (where applicable). Large companies are directly responsible for clearing their goods.



Assuming a 20 feet container with goods worth N44.42m ($100,000), the analysis show that 82.1% of the cost to Consignees are made to the Customs as import duty, 13.8% to the Shipping companies as frieght charges, and only 1.8% paid to Terminal Operators.

The challenges faced at the ports are mostly borne by the Terminal Operators who invest heavily into the ports yet earn little relative to the size of the investments made

[4]Average CBN BDC (annual) exchange rate of N444 to $1 (December 2016)

Sustaining a Successful Concession Arrangement

Despite the challenges the Terminal Operators are facing, new rounds of investments are being planned in the ports. New investments such as automated cargo scanners, automated container tracking systems and partnership with the relevant authorities in improving the current rail infrastructure at the Apapa and Tincan ports in order to easily convey goods to other parts of the country.

In addition to this, new investments and expansion plans are being proposed at the Lagos, Lekki and Badagry ports, with some operators looking at commitments in excess of $100m.

Additional support to players in this sector should include:

1. A mechanism to ensure yearly review of tariffs based on CPI Nigeria and Foreign Exchange fluctuations
2. A new storage charge schedule to discourage importers and cargo owners from using the terminals as dumping grounds for their containers. Increasing the storage rates should deter agents from abandoning their cargoes.
3. Support with the revamp of the road infrastructure accessing the ports in line with the terms of the concession agreement

Conclusion

The Container Terminal Sector will continue to play a critical role in Nigeria's growth and socio-economic development. The terminals serves as the gateway for the nation's exports. The terminals are also critical to the importation of goods for which Nigeria can not establish a comparative advantage in producing locally. The terminals play a critical role in achieving the Government's plan to diversify Nigeria's revenue base.

Since the port concession in 2006, the Federal Government, NPA along with other relevant port agencies have made significant improvements to port operations in terms of ship navigation, towage services, channel dredging, automation of customs documentation and clearance amongst others.

However, considering the current throughput of Lagos container terminals when compared with global benchmarks, there are still significant opportunities for further government investments towards optimizing the existing infrastructure to support larger vessels and therefore increase activity of the operators. Furthermore, the CAPEX investment required to upgrade existing infrastructure will be minimal when compared to the Capex requirements required for Greenfield port projects. Optimisation of current facilities is a prudent way for government and private investors to maximise the return on existing assets at the Lagos ports.

The sector has also witnessed increased participation of foreign and private investors in terminal operations,

The terminals are also critical to the importation of goods for which Nigeria can not establish a comparative advantage in producing locally. The terminals play a critical role in achieving the Government's plan to diversify Nigeria's revenue base.

investment in new port facilities and equipment, investments in automated computer tracking system and establishment of new ports. These private sector developments are responsible for the improvement in the overall key performance indicators (KPIs) at the ports including ship waiting time, ship turn around time, dwell time, container moves per hour, customs examination time and overall cargo clearance time. However, despite the major progress witnessed thus far, there are still significant improvements required to build a sustainable and viable sector.

However, in order to sustain the success of the concession, the Nigerian Government will need to ensure that the agreement terms are adhered to in order to continue to encourage private sector investment and commitment. It is important to note that there is a positive correlation between improvement in dwell time statistics and capacity improvement at the ports. In turn, capacity improvements will increase FGN income from fees and charges.

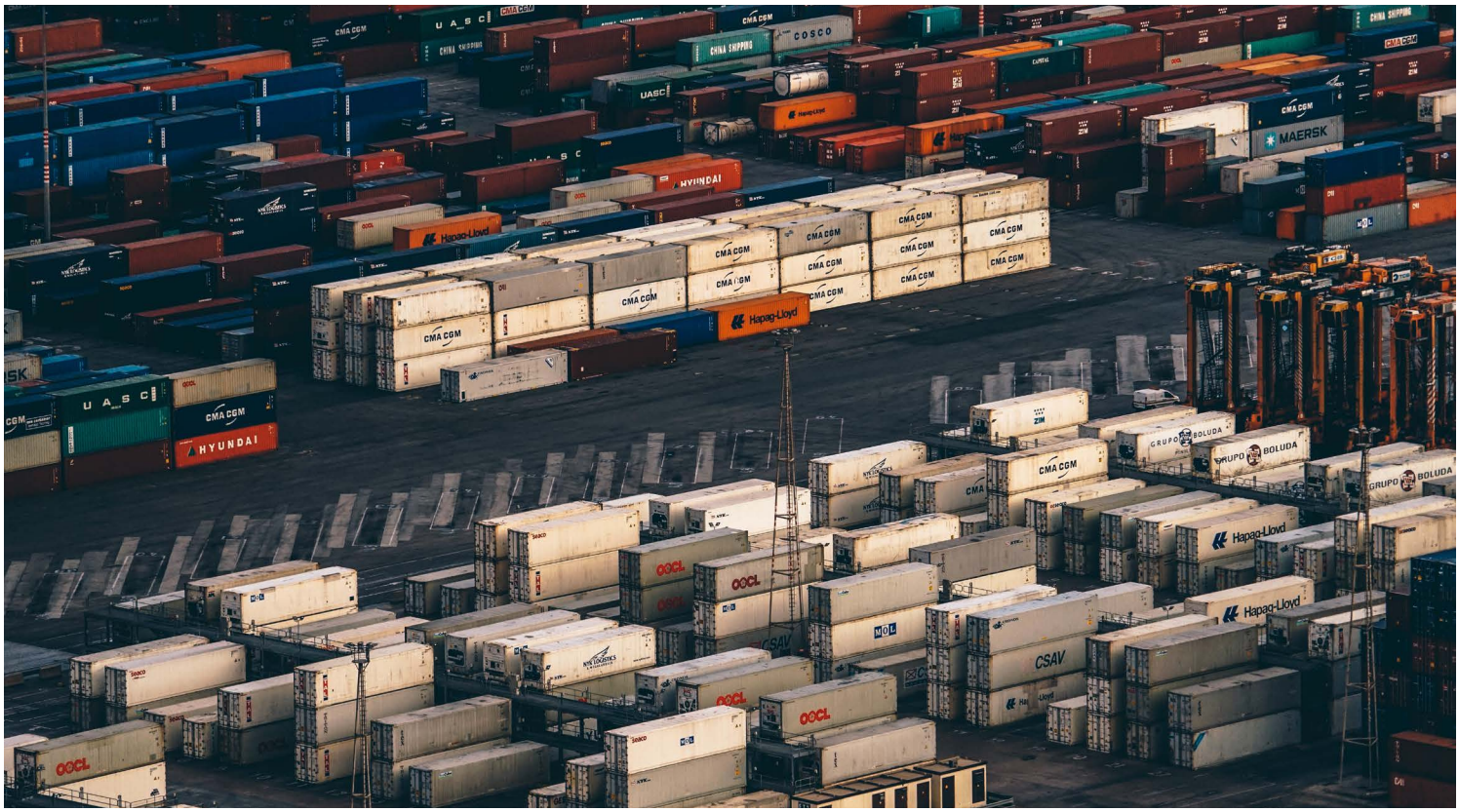
In addition, the government is positioned to fast-track the conclusion, passage and implementation of the requisite regulatory reforms and Bills required to support the sector and encourage further private sector investment. There is also a need to improve the synergies between the key agencies and MDAs that impact the efficiency of the ports directly and indirectly. Synergies between the Federal Ministry of Works (access road infrastructure), Nigeria Railway Corporation (rail), Ministry of Power (Power) NPA, Customs, Freight Forwarders and others are critical to this success.

In countries where there is risk of macro-economic volatility, it is important that the terms of the PPP agreements are equitable in protecting both the investor and the relevant public sector counterpart.

The success of the PPP model at Nigerian ports will send a strong signal that the Nigerian government is committed to revamping strategic sectors of the economy to drive efficiency and competition. This will in turn increase investment, reduce prices and expand the range of services available to the public.

PPP agreements should take into consideration the dynamics of the local operating environment. In particular, in countries where there is risk of macro-economic volatility, it is important that the terms of the PPP agreements are equitable in protecting both the investor and the relevant public sector counterpart.

Overall the Ports concession is a positive example of a PPP model that is supporting the diversification and growth of the Nigerian economy. However, going forward, there should be a greater focus on aligning terms of the concession agreement with current economic realities in order to provide greater economic activity, attract further investment and place the nation on a path of self-sufficiency and sustainable growth.



Contacts

Bola Asiru
Director
Strategy and Operations
Deloitte West Africa
Tel: +234 (1) 904 1898
Email: basiru@deloitte.com.ng

Oladotun Bamigbetan
Senior Manager
Deloitte West Africa
Tel: +234 (1) 904 2087
Email: obamigbetan@deloitte.com.ng

Temitope Ajaja
Manager
Deloitte West Africa
Tel: +234 (1) 904 1862
Email: tajaja@deloitte.com.ng

Damilola Bode-Harrison
Senior Consultant
Deloitte West Africa
Tel: +234 (1) 904 1764
Email: dbodeharrison@deloitte.com.ng