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Research article

An Assessment of Socio-Cost Benefits of Electricity Reform and Privatisation in United Kingdom: Issues and the Way Forward for Nigerian Power Sector Reforms and Privatisation

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ABSTRACT

Electricity reform/privatisation that started in Nigeria in 2000 has been unable to deliver the benefits of privatisation to the stake holders especially consumers. This work assessed the socio-cost benefit accruing to United Kingdom from electricity privatisation with a view to using the UK experience in providing a constructive guide that will drive to success the stagnated Nigerian electricity privatisation. Our analysis revealed that though electricity privatisation delivers net socio-cost benefits; tough regulations may need to be applied for some period after privatisation to control prices and prevent market manipulation until full competition for market forces takes control. We conclude that adequate regulation is needed to bring down electricity price for consumers, prevent market manipulation and control excessive profit made by producers so as to balance the socio-cost benefits among stake holders until competition is able to achieve this. Some inherent set-backs responsible for stagnating Nigerian electricity privatisation were identified and it was concluded that these set-backs must be tackled in addition to applying some of the useful lessons learnt from the experience of UK electricity privatisation.

Keywords: *Socio-Cost Benefits; Electricity Reform; Privitisation; Nigerian Power Sector Reforms*

Introduction

There are diverse views about the ability of electricity privatisation to deliver benefits to the society in terms of cost savings, price reduction, profit and quality of power supply. While some believe that privatisation opens up the market for competition to bring price reduction and better-quality supply; others think that privatisation is a mere theoretical proposition that will not benefit the society in practice. This school of thought believes that a purely regulated power sector is what we need at the moment to make power available and affordable to consumers.

The failure of the Nigerian electricity public utility company, the National Electric Power Authority (NEPA) (now PHCN), to meet the electric power need of its consumers over 35 years of its establishment has thrown the country into serious electric power crisis. As expected, the ugly scenario has continued to have adverse effects on the socio-economic life of consumers both domestic and industrial.

In an effort to salvage the situation, Nigerian Government under the leadership of the former President, Chief Obasanjo, embarked on power sector reforms targeted at improving efficiency and reliability of Electric power supply. The regime strived to achieve this by attempting to reduce NEPA/PHCN's monopoly through unbundling and deregulation, a process that was targeted at introducing healthy competition in the sector. Obasanjo's government tried to encourage the participation of Independent Power Producers (IPP) in the electricity industry and embarked on some rural electrification projects.

Regrettably, despite these efforts and the acclaimed injection of over $10 million into the power sector to implement the much talked about reforms, no meaningful progress appeared to have been made. The right people, policies, strategies and logistics seem not to have been put in place and as a result, the efforts made at unbundling NEPA/PHCN appears to be inconclusive and a successful privatisation of electricity generation and distribution still very far from reality.

This research work reviews the privatisation of Electric power in England and Wales, and Nigeria with a view to assessing the socio-cost benefits obtained by England and Wales; and then using the result of the analysis and the experiences of UK privatization to proffer a suitable guide that will re-invigorate our slow electricity privatization so as to reposition the reform for effectively deliver socio-cost benefits to all stake holders in terms of price reduction, profit, cost reduction and good quality of supply.

In doing this, chapter one of introduces the research work and presents an overview of the electric power sector in Nigeria. In chapter two, the literature review studied the electricity privatisation in England and Wales, Peru and South Africa. Chapter three was devoted to a detailed review of the electricity privatisation in Nigeria and the current state and stage of the process.

Chapter four presented the methodology, data and its analysis. We proffered a way forward in Chapter five and ended the work with a conclusion.

Electricity Privatisation in UK

The United Kingdom electricity power sector in made of four sub-sectors: distribution, supply generation and transmission. Three separate geographical regions were in place: England and Wales, Northern Ireland and Scotland. Before privatization, the publicly owned Central Electricity Generating board and the National Grid were in charge of Generation and transmission in England and Wales. Though still connected, the transmission networks of the three regions (England, Scotland and Northern Island) operate independently. In order to develop a single transmission network with a single electricity pool across Britain in 2005, the connection between England and Scotland was upgraded (Pond, 2006)

The Electricity privatisation in UK started with the sale of England and Wales' generating and regional distribution companies and the vertically integrated companies between 1990 and 1991. The Northern Island Supply industry was privatised in 1993. Until 1995 when it was privatised, the National Grid Company was jointly owned by the regional electricity companies. Government was faced with the challenge of structuring the market in a way that would create real competition. The effort to achieve this was limited by the monopolistic nature of transmission and distribution sub-sector. It is usually difficult for these two sectors to succumb to market forces. However, in

generation and supply, a successful attempt has been made to introduce real markets and competition, yet price regulation was employed to regulate prices until 2002 when the market became fully competitive. CEGB's assets were shared amongst Nuclear Electric, National Power and Powergen (Pond, 2006).

In 1996, Nuclear Electric was restructured. Its latest power stations were privatised to become British Energy while the old magnox station continued to exist as a public owned company (Saal, 2002).

The twelve regional distribution companies after being fully privatised became the Regional Electricity Companies (RECs) and were give a licence to distribute as well as supply electricity. They were however required to account separately for distribution and supply businesses (Thomas, 2006).

The privatisation of the Electricity sector came under heavy criticism for not being able to propel the expected competition after privatisation. The factor responsible for this situation was because market power shifted to National Power and PowerGen, the commonly known generating companies (Saal, 2002).

A major problem developed in the way the Pool operated. This has to do with the generating companies pushing up the wholesale price of electricity by restricting supply. Since Powergen and National power were dominating the market, the situation created serious concerns. In an effort to stop these two dominant companies from manipulating the market, the regulator in 1994 directed them to reduce their market share by selling off some of their generating capacities. This was certainly a main worry in the opening years when National Power and Powergen were by far the dominant players in the market. As a second measure, they were also mandated to maintain the average Pool price at or below a certain level for the following two years (Pond, 2006)

Due to the manipulation of market power within the generation sector, government and the regulators had to stop the electricity Pool and in March 2001 and replaced it with Electricity Trading Arrangements (NETA). NETA was introduced to reduce the overbearing power of big generating companies on the pool (Saal, 2002).

Current market structure in UK

The electricity price charged to consumer is composed of four parts: the wholesale prices charged by the generators, the prices charged by the owners of the regional distribution networks, the prices charged by the National Grid Company for use of the national transmission network and finally the prices charged by the supply companies to final consumers. As observed earlier, Price regulation was applied in transmission and distribution networks to control prices as they were natural monopolies. On the other hand, competition and market forces were supposed to drive wholesale prices. It proved practically very difficult to set up a fully operational electricity wholesale market. Consumer gained for many years in the retail market from fall prices and since 1999, millions of domestic consumers have seized the opportunity to swap companies (Pond, 2006).

Tough regulation that compelled big generating companies to reduce their share of capacity and the establishment of NETA may have helped in bringing prices down. Initially, just after privatisation in 1990, only customers consuming more than IMW (mainly industrial consumers) was allowed to switch suppliers. Later in 1994 this privilege was extended to about 50,000 consumers with an annual demand of 100kW. In 1999, all consumers (close to 26 million users) where allowed to switch suppliers. Price continued to fall significantly until in 2005 when electricity producers experienced severe high cost of gas. Yet despite the increase due to high cost of gas, prices still remained lower than its value before privatisation. Commercial consumers were found to have gained more than domestic consumers from the price falls. Between 1998 to 2005 domestic consumers benefited from a price reduction of between 8% and 17% while industrial and commercial consumers saw a 30% decrease in prices (Pond, 2006). There are now more than 52 generating companies in UK. Some of them however, had a relatively low capacity. About 80% of the total UK's total capacity of 77,500MW is owned by 10 generating companies. In England and Wales, EON group now own Powergen while National Power was divided into two and its assets shared between Npower and International Power. The two Scottish integrated companies have taken over regional Electricity companies serving in England and Wales and have stayed independent. National Grid remained in charge of transmission in England and Wales.

Table 1: Summary of the Status of UK's Electricity Sector before and after Privatisation.

	Before the process of privatisation and liberalisation	Immediately after privatisation	Latest situation following further liberalization/ restructuring
Generation	Central Electricity Generating Board (CEGB) South of Scotland Electricity Board (SSEB) North of Scotland Hydro-Electric Board (NSHEB) Northern Ireland	National Power PowerGen Nuclear Electric (publicly owned until 1996 when privatised as British Energy) Scottish Hydro-Electric Scottish Power Northern Ireland	10 companies have 80% of generating capacity with rest share among 40 other companies British Energy (partly privatised in 1996), Powergen, ScottishPower, EDF Energy, Scottish & Southern, British Nuclear Fuels (publicly owned), Centrica, Drax, International Power, Npower
Transmission	CEGB SSEB NSHEB NIEB	National Grid Company Scottish Hydro-Electric Scottish Power Northern Ireland Electricity	National Grid Transco ScottishPower Scottish & Southern Northern Ireland Electricity (Viridian)
Distribution	12 Area Boards in England and Wales SSEB NSHEB NIEB	12 Regional Electricity Companies in England and Wales1 Scottish Hydro-Electric Scottish Power Northern Ireland Electricity	Seven companies now run the 14 distribution networks in England, Scotland and Wales EDF Energy, ScottishPower, Scottish & Southern, Central Networks, Western Power Distribution, CE Electric, United Utilities
Supply	12 Area Boards in England and Wales SSEB NSHEB NIEB	12 Regional Electricity Companies in England and Wales Scottish Hydro-Electric Scottish Power Northern Ireland Electricity	Over 70 licensed suppliers but market dominated by six companies EDF Energy, Npower, ScottishPower Scottish & Southern Powergen, Centrica

Source: Richard Pond, 2006

Seven companies now operate the 12 distribution networks in England and Wales. The two vertically integrated Scottish firms, Scottish Power and Scottish and Southern continued to operate the regional networks in Scotland. Subsidiaries of Scottish and Southern (Scottish Hydro-Electric Transmission) and Scottish Power (SP Transmission) are responsible for transmission in Scotland. Many companies have now joined the supply market. The number of companies authorised to supply domestic and commercial consumers rose from 14 (2 in Scotland and 12 in England and Wales) in 190-1991 to more than 70 in 2005 (Pond, 2006).

A summary of the status of UK's power sector before and after privatisation is shown in Table 1.

Across the world, UK has set the pace in the privatisation of the electricity. Its electricity industry is now totally privately owned and all consumers allowed to swap supply companies at will. This finally brought the long-expected competition and price fall in supply and generation market. Apart from remaining clearly separated, the transmission and distribution sub-sector due to their monopolistic nature remained in the public sector. Recall that we pointed out earlier that the transmission and distribution networks were natural monopolies and so the prices for their services would have to be controlled through regulation. Initially, competition, which was intended to be the main mechanism for setting wholesale and retail prices proved very difficult to be fully established such that a post-privatisation restructuring was needed to establish a competitive market (Pond, 2006).

We also understand that even with arrival of an effective competitive market, some level of regulation will still be required. Thus, as observed earlier, the need for a frequent monitoring of merger activities among companies in the liberalized industries cannot be over stressed. This is true since some profit-oriented companies would want to dominate the market and ultimately resist competition and price fall (Pond, 2006).

Robert Hawley in a speech on the privatisation of UK's electrical industry concluded that in the end, electricity privatisation has delivered reduced prices, better quality services for consumers, profit for private operators and reduced expenses for government.

Methodology

Our approach in performance assessment of the socio-cost benefit of electricity Privatisation in United Kingdom is to see, using existing data from relevant studies whether privatisation of the electric sector has brought any benefit to the society involved in terms of in cost, price, profit and supply quality. To achieve this, the method used by Domah and Pollitt (2001) and Anaya (2010) in a similar study was adopted. Domah and Pollitt expressed the social benefit from electricity privatisation in terms of welfare improvements to consumers, Government and Producers. He came up with this relationship:

$\delta M = \delta Govmt + \delta Prd + \delta Consm$

Where:

δM = Net Welfare improvement

$\delta Govmt$ = Government's welfare improvement

δPrd = Private Producers' welfare improvement

$\delta Consm$ = Consumers' welfare improvement

Domah and Pollitt (2003) noted that privatisation will be socially beneficial only if $\delta M > 0$

The Data that will be presented here was adopted from Domah and Pollitt (2001) and Anaya (2010) for United Kingdom. In arriving at the data for United Kingdom, Pollitt took into account some factors. The most relevant ones are: a 2% counterfactual fall in cost that may have occurred in the public sector (obtained from REC's experience and other public companies' experience), a 2.3% increase in total cost sold for the RECs at 1985-86 prices over 1980 to 1986, over the same period, added cost (per KWh) and distribution costs reduced by 3.4% and 1.5% p.a respectively. The values used in Domah and Anaya's data were put together applying the prevailing values at the time of their research. Domah and Pollitt experimented with different discount rates (ranging from 5% to 12%). Anaya also applied the same technique. The Data presented in Table (2) is based on a 5% discount rate and a counterfactual fall of 2%, 1995 prices, for UK and 7.3% discount.

Table 2: England and Wales Area Boards and REC's Account (*£ million)*

	1985 - 86	1986-87	1987 – 88	1988 – 89	1989 – 90	1990– 91	1991 - 92	1992-93	1993-94	1994-95	1995-96	1996-1997	1997-98
Turnover	2004	2142	2152	2463	2754	3752	4230	4436	4666	4882	4531	4400	4419
Less NGC Exit charges	-	-	-	-	-	205	228	252	270	288	278	271	221
Net Turnover	**2004**	**2142**	**2152**	**2463**	**2754**	**3547**	**4001**	**4184**	**4396**	**4594**	**4253**	**4129**	**4198**
Total cost	1699	1794	1903	2071	2326	2960	3135	3167	3229	3265	3049	2945	2947
Total Operating Profit	**305**	**349**	**249**	**392**	**427**	**792**	**1,094**	**1268**	**1437**	**1617**	**1482**	**1456**	**1471**

Source: Domah and Pollitt, 2001

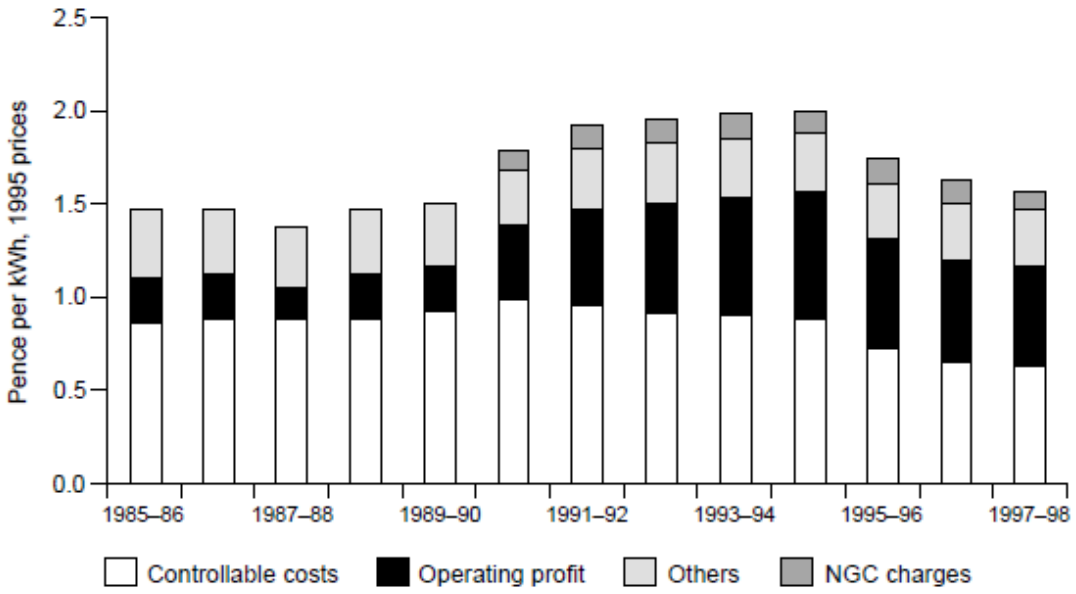

Figure 1: Distribution of Turnover in REC's and Area Boards

Source: Domah and Pollitt (2001)

Analysis and Assessment

An analysis and assessment of the performance of electricity privatisation/deregulation in United Kingdom will help us determine the viability of its Power sector restructuring process and through that proffer a way forward for Nigerian Power sector that is undergoing an uncoordinated electricity reform which appears to have worsened the electric power crisis bedeviling the country for quite a long time now.

From table 2 and figure 1 we see that United Kingdom recorded a significant increase in total cost (Controllable cost and other costs) and operating profit from the year of privatisation (1990). Total cost started falling significantly from about 3 years after privatisation. Increased cost implied high prices for consumers. It is also desirable to keep operational profit accruing to producers in check for even spread of benefit across all stake holders (consumers, producers and Government). The increase was sustained until 1994-95 when tough regulation brought a decline on both total cost and operating profits.

Table 3: UK net benefits from Privatisation and their various distributions among stake holders at a counterfactual cost fall of 2%

	(at 5% discount) £ billion
δPrd	7.2
δGovmt	-6.0
δConsm	4.0
δM	**8.3**

Source: Domah and Pollitt, 2001

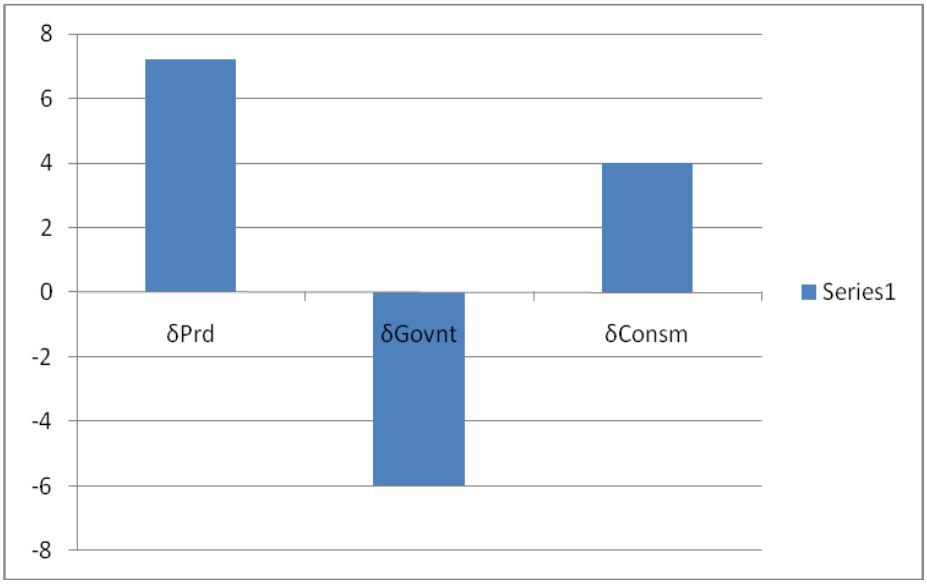

Figure 2: Distribution of Benefits (in billion pounds) from Privatisation and restructuring in UK

We observe from Table 3 that greater portion of the electricity privatisation benefits went to the private producers. The private producers made 7.2 billion pounds in UK. Government lost a total of 6 billion in (terms of dividends and tax) in the privatisation of UK. Domah and Pollitt (2001), however, observed that this loss by UK Government was more than made up for from revenue (22.5 billion) accruing from sale of the sale of the companies. Consumers benefited from the privatisation in UK as seen in Table 3 and figure 2. This gain obtained from price fall was facilitated by price regulation applied in UK's privatisation.

In the UK experience, a price control imposed in 1995 controlled the price of electricity to the benefit of UK electricity consumers. This sort of price regulation was absent in Peru's experience. As a result, consumers experienced a net loss as competition and market forces takes time to mature before delivering price reduction to consumers in a privatised market. For both UK, we observe that the Private producers are the chief beneficiaries of the privatisation process. At the end of the day, the privatisation process in UK showed a net benefit to society as a whole. One may argue that the process has fattened the pockets of the private producers more. Yet, any gain whether for Government, private producers or consumers if well invested will have a positive impact on the economy of the society involved and eventually benefit all stake holders.

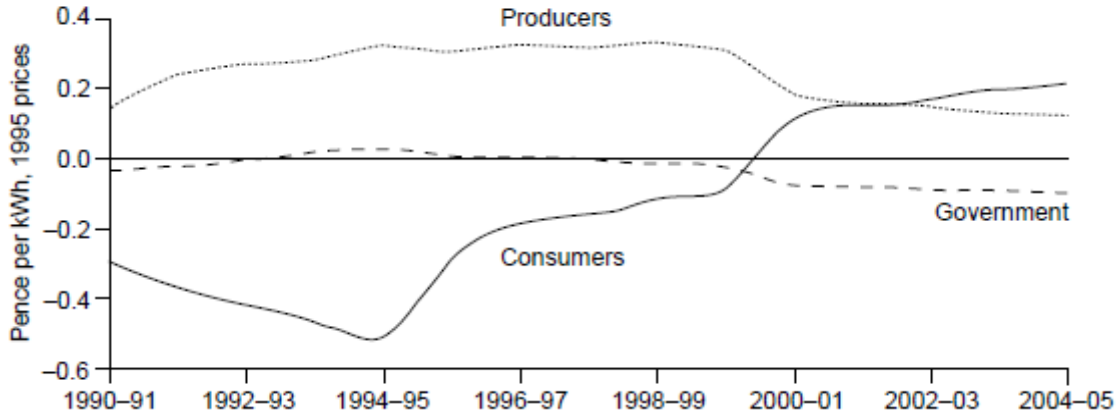

Figure 3: Annual distribution of gains from Restructuring and privatisation in the UK (Source: Domah and Pollitt, 2001)

Table 4: Distribution of Net Gain (p/kWh 1995 PRICES)

YEAR	*CONSUMERS*	*GOVERNMENT*	*PRODUCERS*
1990/1991	-0.2420	0.0115	0.0000
1991/1992	-0.3807	0.0057	0.1270
1992/1993	-0.3520	0.0115	0.1500
1993/1994	-0.4038	0.0173	0.1730
1994/1995	0.3231	0.0462	0.1846
1995/1996	-0.2423	-0.0115	0.1442
1996/1997	-0.1385	-0.0057	0.1154
1997/1998	-0.1385	-0.0115	0.1615
1998/1999	-0.0923	-0.0231	0.1962
1999/2000	-0.0750	-0.0231	0.1788
2000/2001	0.1212	-0.0801	0.0577
2001/2002	0.1500	-0.0923	0.0461
2002/2003	0.1615	-0.0981	0.0346
2003/2004	0.1846	-0.1038	0.0231
2004/2005	0.2077	-0.1038	0.0173

Source: Deduced from Figure 3 above

The graph of figure 3 and table 4 showed the behaviour of the curves that depicts the benefits accruing to the three stake holders in UK's electricity sector starting from the year of Privatisation commencement, 1990 through 2005. We observe from Figure 3 that private producers' gain rose to a little above 0.3 pence per KWh, 1995 prices, between 1994 and 1999 before dropping to about 0.1 around the year 2000. Producers' gain remained approximately at 0.1 till 1995. The fall in producers' gain was probably due to an additional price regulation in 2000. From figure 3, we see that Government did not make any appreciable gain throughout the process but rather experienced a loss between 1999 and 2005. As we noted earlier, Government's loss was compensated by the revenue accruing from the sales of the companies. We observed that consumers experienced a loss from the beginning of the privatisation process until in 1994-1995 when a tough price regulation was put in place. The loss in benefit suffered by consumers immediately after privatisation was expected since private producers will definitely charge more than what the public sector was charging for electricity consumed in order to make up for the observed post privatisation increase in operating cost. It takes a while for the market to mature and allow competition to control the price in favour of consumers. The tough regulation imposed by in 1995 reduced distribution prices significantly and this was responsible for the observed rise in consumer benefit from 1995 to 2005 as shown in figure 3. The regulation was also able to bring a progressive decline in operational profits and total cost.

Power Sector Reforms (Privatisation) in Nigeria

The Privatisation of the power sector has now become a popular reform style that depends more on competition driven market forces and relying less on government's financial sponsorship. The current state of the Nigerian electricity power sector is quite frustrating to consumers. The inability of PHCN to deliver quality supply of electricity has impacted negatively on the nation's economy and the quality of lives of Nigerians. The problem is compounded by the fact that the alternative power sources are just out of reach of an average consumer whether domestic or industrial.

The electricity industries all over the world are going through major reforms. The trend which began in United Kingdom and Chile in 1980's, has now been rapidly adopted by many countries in Asia, Europe and Africa. The incentive for these restructuring ranges from relieving government of the huge burden of subsidies, attraction of foreign capital investment to increasing competition in the power sector market. The crisis of public sector driven electricity supply impacted negatively on the economy of many countries and they have applied different forms of reform but with varying success rates (Amoda, 2007).

According to Amoda (2007) "The privatization of the power sector is a recent, but internationally widespread trend, which has placed greater reliance on market forces and less dependence on government in the allocation of resources. The privatization of the power sector has been made possible after recognising that the sector could be separated into generation, transmission and distribution sectors. More so, these sectors could be broken into several companies, without compromising the economic advantages of a vertically integrated government monopoly, which earlier existed in most countries. Here, Government's role has been changed from entrepreneurial role to regulatory one. Competitions among private actors are established as the mechanism to assign resources in generation and supply, with the state regulating dispatch, transmission and distribution"

According to Okoro and Chikuni (2007), as at 2007, out of the total installed capacity of Nigeria's generating stations, only about 78% was available for transmission. The remaining 22% installed capacity is therefore not available. This situation may have resulted from operational inadequacies and inability of units to operate at full capacities of their generating stations. They maintained that the clamor for power sector reforms in Nigeria is basically because of the poor electricity supply, frequent power outages, low generating plant availability, and high losses due to technical and non-technical issues.

He added that in 2000, the federal government was set to reform and privatises the power sector. The strategy was to unbundle NEPA into seven generating companies (Gencos), one transmission company (Transco) and eleven distribution companies (Disco). The goal here is to encourage private sector investment especially in generation and distribution. It is also targeted at breaking NEPA's monopoly to usher in an era of active participation of independent power producers (IPPs). The restructuring has since progressed with the January, 2004 transformation of NEPA into power Holding company of Nigeria, (PHCN). This set-up is to be experimented for two years with a reduced management team at the headquarters while some level of autonomy will be granted to the individual managers of the unbundled section. In the new structure, Government will retain the ownership of the transmission section but System operators, (SO) and transmission operators (T.O) will be in charge of the section's management. (Okoro and Chikuni, 2007).

The Companies resulting from the unbundling as listed by Amoda (2007) are presented below:

The GENCO

i. Egbin Electric Power Business Unit (EEPBU) - located in Egbin, Lagos.
ii. Niger Hydro Power Business Unit (NHPBU)- This comprises of Kainji Hydro Power Station and Jebba Hydro Power Station.
iii. Shiroro Hydro Power Business Unit (SHPBU) - Located in Shiroro
iv. Delta Electric Power Business Unit (DEPBU) - Located at Ughelli.
v. Sapele Electric Power Business Unit (SEPBU) - Located at Sapele
vi. AFAM Electric Power Business Unit (AEPBU) - Located at Afam, Rivers State.

The DISCO

i. Abuja Distribution Business Unit (ADBU)
ii. Benin Distribution Business Unit (BDBU)
iii. Eko Distribution Business Unit (EkDBU)
iv. Enugu Distribution Business Unit (EnDBU)
v. Ibadan Distribution Business Unit (IbDBU)
vi. Ikeja Distribution Business Unit (IkDBU)
vii. Jos Distribution Business Unit (JDBU)
viii. Kaduna Distribution Business Unit (KdDBU)
ix. Kano Distribution Business Unit (KnDBU)
x. Portharcourt Distribution Business Unit (PDBU)
xi. Yola Distribution Business Unit (YDBU)

The single **TRANSYSCO**, Transysco New Business Unit, TNBU will be responsible for the erstwhile Transmission.

The objectives of the reform bill approved by the federal executive council (FEC) as articulated by Okoro and Chikuni (2007) are presented below:

i. Unbundled NEPA
ii. Privatize the unbundled entities.
iii. Establish a regulatory Agency.
iv. Establish a rural electrification Agency and fund.
v. Establish a power consumer assistance fund.

According to Okoro and Chikuni (2007), other key components of the electric sector reform bill include:

i. Powers of the Nigerian electricity regulatory commission (NERC) to regulate tariffs and quality service, and powers to oversee the industry effectively.
ii. Power of NERC in relation to anti-competition behavior including mergers and acquisitions of licensed electricity companies.
iii. Requirement for licensing by the NERC of the generation companies that will be created from the restructured and unbundled NEPA.
iv. Legislation authority to include special condition in licenses.
v. Provision relating to policy interest in relation to fuel supply environmental laws, energy conversation, management of scarce natural recourses, promotion of efficient energy, promotion of renewable energy and publication of reports and statistics.
vi. Providing legal basis with necessary enabling provisions for establishing, changing, enforcing, and regulating technical rules, market rules and standards. The Nigerian electricity regulatory commission (NERC) was inaugurated in November 2005.

Assessment of the Level of Electricity Reforms in Nigeria

Onagoruwa (2010) noted the following as the steps taken so far in the privatisation process of the Nigerian Electricity sector:

i. Commissioning of the Electric Power Reform Committee (EPIC) in 2000 and the approval of the National Electric Power policy document in 2001.

ii. The 2004 vertical unbundling of NEPA into separate generation (GenCo), transmission (TranSysCo) and distribution (DisCo) companies.

iii. The transformation of NEPA into PHCN (Power holding company of Nigeria) and the subsequent incorporation of PHCN in 2005.

iv. The 2005 commissioning of Nigerian Electricity Regulation commission.

v. The incorporation of 18 new successor companies consisting of 6 generating companies, 11 distribution

companies and one transmission company and the 2008 approval of market rule that will guide the electricity market.

Onagoruwa (2010) observed that despite these steps, severe inadequate power supply has continued to prevail in Nigeria. The unbundled PHCN plants are all in bad shapes while the distribution and transmission companies are characterised by poor technical and managerial capabilities. He noted that with a capacity of less than 4000MW an estimate of about US$ 40 billion is needed to put the sector in order so as to deliver adequate Electricity supply to Nigerians before 2020.

Issues with Electricity Reforms in Nigeria

From the Onagoruwa's assessment of the progress made in electricity privatisation in Nigeria, it is clear that even though the steps taken are in line with what obtains in other privatising countries, the privatisation process have been half hazard and epileptic in progress. This is because of some peculiar issues associated with the Nigerian society. Some of these issues which must be urgently addressed for any meaningful benefit to accrue from the privatisation process are highlighted below.

Political Instability

The activities of the Niger-Deltan militants have continued to be a set back to the effort being made to put the Nigerian power sector back on track. Because more than 70% of Nigerian generating capacity come from gas fired thermal plants; the persistent blowing up of gas pipe lines and other attacks on oil companies based in Nigerian has continued to cause severe shortage of gas supply to these thermal plants. Also, the insecurity caused by the activities of these militants and the rampant kidnapping activities targeted sometimes at foreign workers has discouraged foreign investors from the privatisation process. The frequent policy change on the Power sector by different regimes has also slowed down the privatisation process.

Accountability and Trust

The success of a process like privatisation will also largely depend on how sincere and accountable the key players managing the financial aspects of the restructuring. Privatisation driven by selfishness, nepotism and favoritism will not stand the test of time.

Poor State of Generating Plants/stations

As observed earlier, most of our generating plants are in poor state. Some generating stations are not functional while the functional ones are not generating to full capacity. To make these power plants attractive for privatisation they need to be put in working shape.

Vandalization

One of the major causes of power instability in Nigeria is the high vulnerability of the electricity transmission and distribution facilities to vandalisation. No investor would like to invest in a business that will be frequently exposed to reckless vandalism. There is therefore need to ensure security of lives and property in the country.

Technical and Managerial Capacity

A project like electricity privatisation is such a sensitive project that can easily be mismanaged by people who are technically lacking in what it takes to plan and implement the project. What has been obtainable in Nigeria is a situation where professionalism is sacrificed at the altar of federal character or political power balance. It is therefore common to see a lawyer being appointed to be the Minister of power in Nigeria. This and other related issues need to be urgently addressed to set the ball rolling again in the electricity privatisation of Nigeria.

Labour Crises

It is common for labour unions to rise against privatisation if they believe the process will threaten the security of the jobs of the people working in the Government owned Electric companies. PHCN labour union has in many occasions shown their resolve to resist the process.

Nigerian Electricity Privatisation: The Way Forward

The studies made on different countries' electricity deregulation and more precisely the data presented and analysed on UK and Peru have revealed that Privatisation can deliver significant benefit to the society both in terms of cost, price and power quality. As we try to make more progress in our power privatisation process, it will be worthwhile to look at the challenges that faced countries that privatised with a view to learning from their experiences to make the Nigerian Electricity Privatisation even more beneficial to the society especially consumers.

Firstly, we observe that the Government of a country plays a key role in any privatisation process since it is the Governments responsibility to determine whether privatisation will be adopted or not. It is the Government that will formulate the policies, sponsor the necessary legislations and put in place the needed regulatory and organisational bodies that will see the process through technical and managerial issues. If this big driver (Government) is not stable, it becomes very difficult for it to effectively and efficiently drive the privatisation process. Privatisation is about allowing private companies to take over major stakes in the business of power generation and distribution and allowing the resulting competition in the market to reduce price and improve power quality. Most times companies that have the financial and technical muscle to invest in capital-intensive business-like power come from outside the country. Unfortunately, these companies will not want to invest in a society that is characterised by socio-ethnic and religious conflicts, kidnappings of foreign workers and poor security of lives and property in General. Even though democracy is in place in Nigeria, elections are still characterised by serious violence and malpractices that often question the mandate of the elected people both from Nigerians and the international communities. An important step towards ensuring a successful privatisation project is to bring political stability to the Nigerian society. If this is done and socio-ethnic and religious bigotry is tackled and security of lives and property ensured; private companies will be confident enough to come and invest knowing the big potentials of Nigerian market in terms of business.

One thing that can compromise the success of a sensitive project like the privatisation of electricity is to leave the coordination and implementation in the hands of people who lack the technical depth and managerial skills to push the process through. We must ensure that the team that are supervising the privatisation process and the team of regulators are people of proven integrity, trust and impeccable character. This will give the investors the confidence that the privatisation process will be transparent, fare and free of corruption. A situation where the key Government officials manipulate the process to favour either their companies of that of their friend and relatives will put the process in jeopardy. The team overseeing the privatisation process must have the technical ability to assess and give an honest judgment on the technical capacity of the bidding companies before making decisions. Government must allow the teams or bodies set up to drive the process to work as independent as possible. Where necessary, adequate legislation should be put in place to avoid unwarranted Government interference in the process.

In the short term, effort should be made to revitalise the generating stations not just to boost the present generating capacity but also to make them more attractive to private operator.

Government must demonstrate enough will to address the issue of securing electrical installations and gas pipelines against vandalism. This will ensure that even after privatisation, shortage of gas supply or vandalised power facilities do not cause unplanned interruption of power supply to consumers.

Aggressive public sensitisation on the benefits of electricity privatisation is needed to win the support of the public (consumers) and other stake holders. Adequate strategy needs to be in place to address the issues being raised by labour unions as their reason for resisting the privatisation project.

The experience of UK and Peru has shown that the private producers enjoy a greater share of the privatisation benefits while consumers benefit much less. The Nigerian process must devise a strategy to make the electricity privatisation more consumers focused than observed in the UK and Peru experience. It is evident from this study that it takes a long while before Privitisation and liberalisation of the electricity market can deliver price reduction for consumers. Like we saw in our studies, UK experienced a better consumer benefit in terms of cost reduction than Peru. This is because UK imposed tough price regulations after privatisation and which helped to reduced electricity price for consumers. In Peru's case, consumers lost in benefits as they experienced rather price increase after

privatisation since competition was unable to deliver price reduction and price regulation was absent. It is pertinent that even though privatisation seeks to liberalise and deregulate the market, electricity reform that is implementing privatisation need to incorporate some sort of regulation in some areas if the benefits of privatisation is to be fully realised.

From our study, electricity privatisation in UK and Peru produced and maintained an overall improvement in quality of supply but the difference between the quality of supply before and after privatisation was not very pronounced. It could be that even before privatisation these countries have always had good quality of supply and as such privatisation only helped to stabilise it. In Nigerian case, in most places the quality of supply is characterised by high interruption rates per customer and high down time. Proper regulations that keep the operators on their toes to maintain good quality of supply must be put in place. The regulation must also support interoperability between electricity companies.

Conclusion

In this project, we have taken time to study the process of privatisation in some countries including United Kingdom, Peru, South Africa and Nigeria, with the aim of assessing the socio-cost benefits of electricity privatisation in two chosen countries (UK and Peru). From their experiences we propose some guides that will help to put Nigeria's electricity privatisation back on track and enable all stakeholders benefit from the gains of the process. The analysis of data adopted from similar studies showed that Electricity privatisation delivered net socio-cost benefit to both UK and Peru. We also saw that private producers were the major beneficiaries of the process and that some form of price regulation was needed to effect price reduction for consumers. We conclude that electricity privatisation delivers socio-cost benefit if well planned and implemented. We also conclude that some level of regulation needs to accompany the privatisation process for it to deliver price reduction to consumers until competition is able to bring price down. It is also my opinion that Nigeria's electricity privatisation process is half hazard and inconclusive. For electricity privatisation to successfully deliver socio-cost benefit in Nigeria; we recommend an urgent stabilisation of Nigerian government and the socio-political system; an improved security of lives and property in the country; amicable resolution of labour related differences; getting professionals that have integrity to manage, regulate and oversee the process; aggressive public sensitisation and learning from the experiences of privatisation in other countries.

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