Getting Nigeria's Electricity Sector Liberalization Right – Four Important Issues

By Adekola Oyenuga*

Successful liberalization relies on getting a number of key issues right, and it would be immensely beneficial to examine what this would entail, moreso within the Nigerian context. This article provides a short historical backdrop for electricity sector liberalization implemented in different countries, and then presents four important issues, which are – Ensuring reliable power supplies through timely capacity expansions; The alternative development and implementation of demand management schemes; Diligently protecting consumers' interests, and finally, Preserving competitive structural conditions. It concludes by asserting that an in-depth consideration of these issues is essential to give the long-awaited liberalization a decent chance of success.

The Historical Backdrop

Liberalization connotes the introduction of fundamental change to the manner in which an industry or supply chain is organized. It also connotes the devolution of decision making from a centralized entity having full information about an entire system, to individual and incompletely informed actors, who would have to depend on price signals when making business decisions.

In the context of traditional natural monopoly and network industries such as electricity, liberalization is reminiscent of the unbundling of vertically integrated utilities into smaller, independent entities operating at different levels of the supply chain. In most cases, such unbundling would be accompanied by the introduction of market mechanisms and competition at the wholesale and retail stages, while the network dependent stages (i.e., transmission and distribution) would retain their status quo as regulated natural monopolies.

The global trend towards electricity market liberalization, that took hold in the late 1980s and early 1990s, was significantly motivated by visible and disturbing levels of inefficiency in the organization of the electricity sector, excess capacity conditions, and the near absence of competition. These problems also resulted in unduly high prices and plunging levels of service innovation.

Chile set the pace by being the first country to liberalize its electricity sector in 1982. It was then followed by England and Wales in 1990. Although a system for the wholesale trading of electricity had existed on the Norwegian market as far back as the 1970s, actual liberalization did not come until 1991 when the Norwegian Energy Act was introduced.

Norway's lead was followed by the other Nordic states: Sweden, Finland and Denmark in the late 1990s, and the combined arrangements came to be known as the Nordic electricity market or Nord-Pool. In far away Australia, liberalization came to the Victoria and New South Wales market in 1994, while the National Electricity Market (NEM) followed suit in 1998, although New Zealand had liberalized its electricity market a little earlier in 1996.

In the United States, liberalization was introduced to the Pennsylvania, New Jersey and Maryland (PJM) market in the 1990s, and in the same year, to the New England and the New York markets. In 2001, electricity market liberalization was also introduced to Texas in the U.S. and Alberta in Canada.

What Liberalization Entails

In Nigeria, as in the other examples, successful liberalization is primarily about splitting up the power supply chain into two parts - firstly, those parts to which market mechanisms and the use of price signals, which may be the outcome of a competitive process, may be introduced to direct the allocation of resources, and secondly, those parts that are not readily adaptable to the introduction of market mechanisms and so must be maintained as regulated natural monopolies.

The generation and wholesale market segments of the supply chain are a natural choice for the introduction of markets and competition. This is because operations at both stages would easily permit the use of price signals to coordinate the simultaneous (and independent) production and trading decisions of multiple players on the supply and demand sides. Conversely, the bulk transmission and distribution sections of the supply chain would not readily support market liberalization and competition; hence both stages would most appropriately continue to be organized as regulated natural monopolies.

Getting Liberalization Right

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Ensuring Reliable Power Supplies Through Timely Capacity Expansions

First of all, successful liberalization does not only call for structural re-organization and in-phasing of competition into the supply chain, but it also requires that the security of supplies within the power system be consistently maintained. The uniqueness of electricity as commodity is significantly adducible to its non-storability, an implication of which is that maintaining an undisturbed flow of power requires that supply be always balanced with demand. In the absence of such balancing, the system runs the risk of experiencing an operational failure.

With an expanding demand, maintaining reliable power supplies over the medium to the longer term would require a commensurate expansion of the existing supply capacity. This is a particularly important problem in the Nigerian context, where perennial under-investment in expanding the existent supply capacity means that the power system in the post-liberalization era would, if such a problem goes unchecked, be prone to experiencing grave operational instabilities that may cost the society millions of precious dollars.

The Alternative Development and Implementation of Demand Management Schemes

But a commensurate effect to expanding the existing supply capacity, would also be attainable by managing the system's demand effectively. To be successful, therefore, liberalization should allow for increased participation on the demand side, with consumers being exposed to a consumption rate that is as close to the actual system rate as possible (adjusted, of course, to ensure that the service provider is profitable). Liberalization should also afford consumers the means to vary their demand in response to changes in the system rate. This would lead to a reduction in the pressure on the system's supply capacity, and a reduction in the need to expand such capacity over the medium to longer-term.

In the Nigerian context, exposing consumers to the actual system rates would require an upgrade of the current metering and billing systems to reflect real-time variations in the consumption rates. Where the infrastructure for real-time pricing of services delivered to final consumers is unavailable (as is likely to be the case), then a variable tariff billing system that would closely reflect each consumer's time-of-use, would be a considerable improvement over the use of fixed consumption tariffs.

Protecting Consumers' Interests

Thirdly, liberalization raises questions related to how well the retail consumers, particularly those in the domestic and lower income classes, will fare under the new dispensation. Seeing to it that such consumer welfare prevails, would often be the responsibility of a market regulator or ombudsman, and would entail monitoring the existing service arrangements or contracts between the service provider (particularly when the provider is a monopolist) and consumers, to ensure that the service provided achieves some acceptable value benchmark.

The approach adopted by the electricity sector regulator post-liberalization, may entail setting constraints on a service provider's freedom to raise retail prices, or in giving clear instructions concerning how the service price and other relevant contract parameters should be set. An innovative and moderately sophisticated approach to regulation could be to introduce a default service contract that would be implemented, if and only if, it is preferred by consumers to the service provider's contracts. Structured in this manner, the default service contract would serve to define a minimal or benchmark payoff value for consumers, and would consequently have to be improved upon by the service provider's contracts, in order to ensure that consumers participate.

Preserving Competitive Structural Conditions

Fourthly, liberalization and the introduction of markets raises questions about the electricity sector's structural conditions, and how changes in such conditions may impact the overall level of competitiveness and welfare. Within a vertically structured supply chain, these concerns would be reflected in the effects of changing vertical relationships (for instance when vertical integration replaces vertical separation) on prices, competition and welfare, or when the number of horizontal subdivisions or segments within a market, e.g., at the retail level of the industry, is altered. As a result, corporate consolidations that may significantly affect the structure of the vertical chain must first be subjected to diligent scrutiny by the market regulator, prior to any approvals being given.

Conclusion

Conclusively, the liberalization of Nigeria's electricity sector, as with any other real sector, raises a

number of important issues concerning the efficient management of the power system over the short, medium and longer-terms. These include: maintaining reliable power supplies through capacity expansions, coupled with the alternative development and implementation of demand management schemes. Other challenges following from liberalization require that competitiveness be promoted through proper supervision of the evolution of the sector's structural conditions (this may influence which corporate consolidations should be approved or revoked), and the monitoring of any retail service agreements or contracts between a service utility (often a monopolist) and retail consumers, in order to ensure that consumers' interests are well protected. It is essential that the relevant authorities take these four issues into proper consideration, in order to give the long-awaited liberalization a decent chance of success.

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