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TELECOMMUNICATIONS REFORM IN CHINA AND NIGERIA: SAME RESULT, DIFFERENT STRATEGIES*

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Abstract

China at present is the number one telecommunications market of both Asia and the world, while Nigeria is Africa's leading market. In both cases, it was market liberalisation that engendered competition. China's telecom reform started in the late 1970s and by the mid 1990's, it had made sufficient impact to change the country's economic history. Nigeria on the other hand commenced gradual reform of the industry in the early 1990s with its dramatic transformation peaking by2010. Evidently, the sector in both economies was drastically transformed in a space of two decades with sufficient telecommunication facilities, which engendered the people to further strive towards attaining their economic potentials. Nonetheless, although the results were similar, the strategy adopted by each country was different.Yet both represent the transformational effect of market forces in economic development.

Keywords: Development, Reform, Telecommunications, Strategy, China, Nigeria.

Introduction

It is evident that advancement in telecommunications technology is presently among the driving forces of globalisation and the rapid growth of the global economy. Developments in satellite, optical fibre, mobile technology, the Internet and the World Wide Web have greatly improved global communications and facilitated the exchange of information between different peoples of the world (Pun-Lee and Shiu, 2010: 185 - 199). Studies have shown for example, that a 1% rise in the number of telephone users per 100 inhabitantscould contribute to as much as a 3% increase in the Gross Domestic Product (GDP) of any economy. This is given the strategic role of the telephone in improving the organization of economic activity (Harwit, 1998: 175 – 193).However, the quality and price of telecommunication services also, not only affects business costs but the capacity of firms to network and compete in foreign and domestic markets. It was perhaps, in the realisation of these that several developing countries especially in the past fifty years have adopted policies aimed at promoting the optimal use of their telecommunications infrastructure. This was what ignited the on-going wide ranging reform of the industry.

Nevertheless, scholars have given different interpretations for the upsurge in the demand for telecommunications services especially among the developing countries. They have advanced several reasons for reform, the modus operandi of reform as well as the results of such telecommunications reforms in thesecountries. Garbacz and Thompsonhave for instance

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argued that living standards and economic growth in the developing countries are invariably linked to the availability and use of telecommunication services. According to them increased competition, income growth and enhanced education may be the ultimate universal service providers.Cowhey and Klimenko on the other handemphasise the role of the WTO Agreement on Basic Telecommunications Services as being the catalyst of reform in the telecom industry. They insist that it was this Agreement that changed market and policy expectations about the supply, pricing and demand growth of communications services, thereby lowering the risks for domestic and foreign investors (Cowhey and Klimenko, 2000: 265 – 281).

On the implementation of reform, several countries haverather focused on maximizing the revenues from the sale of state-owned enterprises instead of the long-run economic benefits to consumers and society at large, and paying little attention to creating an institutional environment, as well as establishing a legal and regulatory framework, that supports a private and where possible, competitive industry (Noll, 1999). It is along this line, that Wallsten examines the issue of exclusivity periods usually granted to some operators after liberalisation. Using an original dataset to explore the costs and benefits of the granting of exclusivity periods to privatization, he argues that exclusivity periods are usually associated with significant increases in the firm's sale price. They are also correlated with a significant decrease in the incumbent's investments in the telecommunications network, payphones, mobile telephone penetration and international calling.

But the success or otherwise of telecommunication reform largely depends on the strategic role of the independent regulator. The works of Flink et al, Makhaya and Roberts, and Howard and Mazaheri clearly justifies this fact. Howard and Mazaheri specifically argue that the best policy environment for the telecommunications sector is one maintained by an independent regulator that is not above representing the public interest or entering into public-private-partnerships to develop national information infrastructure. Liberalizing the market for consumer communications services and separating the telecommunications regulator from direct control of the executive branch of government is for the most part, a constructive policy for encouraging technology adoption. In fact, whereas regulatory independence reduces digital divide, regulatory withdrawal exacerbates it (Howard and Mazaheri, 2009: 1159 – 1169).

At the same time, Estache et al, have shown that privatisation of public utilities (including the telecommunication industry) have not had the desired results in the developing economies essentially due to the scourge of corruption. They insist that corruption often leads to adjustments in the quantity, quality and price of services consistent with the profit-maximizing behaviour that one would expect from monopolies in the sector (Estache et al, 2006). Yet another dimension to the study is what seems to be the trend among some Asian countries, which Fink et al, have identified in their work. According to them, despite the move away from traditional public monopolies, most Asian governments are still unwilling to allow unrestricted entry, eliminate limits on private and foreign ownership, and establish strong independent regulators. Where comprehensive reform – including privatization, competition and regulation – has been implemented, there are significantly higher levels of mainline availability, service quality and labour productivity (Flink et al, 2001).

These works have touched on several issues relating to the telecommunications industry. They have also highlighted recent developments in the industry and its market potentials. Indeed what is left is for us to demonstrate the impact of reform on the telecommunications industry using the examples of China and Nigeria.

Background to Reform

In 1980, China with a population of 996.1million people had only 2million telephone lines, but by 2000, when the population had risen to 1, 267.4million, the number of telephones also rose to 230million.Indeed by 2005, the number of telephones had more than tripled peaking at 744million for a population of 1, 307.6million people. How did this happen? How was such a feat achieved? In fact, itsimply resulted from the change in policy, whichsaw the government abandoning the hitherto command economy structure and embracing the socialist brand of market economy. Subsequently, telephones boomed in China, just like they did in most

countries around the world (Wu, 2009: 1). In fact, the liberalisation of China's telecommunication market is a prime example of the planned economy discarded and the piecemeal construction of an uneasy foundation for a rules-based market economy (Wu, 2009).

China's first experience with telecommunication infrastructure was in 1871, when the Danish Great Northern Telegraph Company (GNTC) constructed a 2, 200-knot cable from Vladivostok in Russia via Nagasaki in Japan to Shanghai. According to an agreement between Denmark, Britain and Russia, the GNTC and the British Eastern Extension Australia and China Telegraph Company (EEACT), whose shareholders mainly consisted of small groups of capitalists and royal family members of the above three countries, shared the rights of telecommunications provision in China from 1873 to 1899. By this Agreement, the coastal area north to Shanghai belonged to the GNTC, while the coastal area south to Hong Kong was to be under the control of the EEACT. The two companies also agreed to jointly control the coastal area between Shanghai and Hong Kong. Thus armed, the GNTC and EEACT somewhat impertinently attempted to restrict the rights of the Chinese government to establish its own submarine telegraph networks (Yuan and Pitt, 2002).The GNTC launched its telephone service in Shanghai on February 22, 1882, which was followed by a British Company (Shanghai Mutual Telephone Association) two months later. In 1900, a Danish businessman, H. O. Poulson, built China's first long distance telephone line between Tianjin and Beijing. However, in 1904, the Beijing Directorate General of Telegraphs contacted Poulson with a view to handing over this telephone service to the Chinese government. After the payment of 50, 000 silver Yuan, the transaction was made. On the basis of this service, the Beijing Telephone Directorate General was established as was the Tianjin Telephone Directorate General. Public long distance telephone service between Beijing and Tianjin subsequently began in 1905 (Yuan and Pitt, 2002).

Nevertheless, the period 1937 - 1945, when Japan invaded and occupied China was indeed a destructive period for the development of telecommunications in China, especially given its negative impact on the sector. For instance, the total number of local telephone subscribers dropped from 55, 683 in 1936 to 7, 918 in 1944, even as the total length of long distance circuits dropped from 52, 245 to 4, 085kilometres within the same period. Neither did the four-year Civil War between the Communists and Nationalist Parties immediately after the Second World War allow the country's telecommunications sector any time to recover (Yuan and Pitt, 2002).

It was therefore not surprising in 1949 when the People's Republic of China (PRC) was established, that there were only 300, 000 telephones for about 550million people or one telephone for every 1, 800 residents. In the rural areas, there were just 30, 000 telephone lines or one for every 18, 000 Chinese. To worsen matters, most of the telephone lines in the countryside strictly belonged to military commanders leaving virtually none for residential use (Harwit, 1998). In fact, China's telephone infrastructure at this time was fragmented under the management of different interest groups. Systems lacked interoperability and compatibility, even as equipment was made and supplied by different companies. To say the least, China lacked a nationwide backbone telecommunication network (Yuan and Pitt, 2002).

However, following the inauguration of the Communist Party government in 1949, in November of that same yearthe country established the Ministry of Posts and Telecommunication (MPT). As a section of the MPT, the Directorate General of Telecommunication (DGT) was also established on January 1, 1950 and placed in charge of almost all aspects of telecommunications, including administration, regulation, operations, human resources management and equipment supply (Yuan and Pitt, 2002).

It has been suggested that perhaps, China did not consider its telecommunication sector a high priority industry in its first 30 years of existence as a nation, resulting in poor investment in the network, and the overall slow pace of development of the sector up till the late 1970s. May be, it was also for this reason that beginning from 1976; ministries other than the MPT were allowed to build telecommunication networks in order to meet their own internal needs, as had occurred in the Republican period of the early 20th century (Wu, 2009).

Furthermore, similar to the experience of a number of other developing countries, China followed the pattern of first connecting urban areas to its telephone network. The imperatives of developing other industries in the cities, as well as the difficulties and high costs in extending lines to the countryside, perhaps made it to follow the same route that other developing countries had taken. It has equally been argued that perhaps part of the reason for the relatively slow pace of development of China's telecommunication industryup till the late 1970smay be found in the country's system of enclosed work units, or *danwei*. For urban residents in particular, restrictions on place of work and movement meant relatively little need for communication outside of the set workplace. Manufacturing was often done on a self-reliance basis, with supply companies close to the assembly site. In the countryside, close-knit family ties in villages also lessened the need for voice communication. Moreover, the country's international isolation under Mao may have also meant that phone calls especially outside of China were both less common and less necessary than for other developing nations (Harwit, 1998).

The story is similar with Nigeria. In fact, the development of telecommunication facilities began in 1886, when a cable connection was established between Lagos and London by the Colonial administration. Subsequently, from 1893, government offices in Lagos were provided with telephone services, which were later extended to Ilorin and Jebba in the hinterland (Bakare et al, 2011: 37 - 45). The first commercial trunk was established to link Itu and Calabar in 1923 and between 1946 and 1952, a three channel line carrier system was commissioned between Lagos and Ibadan, which was later extended to Oshogbo, Kaduna, Kano, Benin and Enugu; thus connecting the Colonial Office in London with the commercial centres in Nigeria (Bakare et al, 2011).In fact, it is obvious that the establishment of telephone services in Nigeria was essentially to facilitate colonial administration. No doubt the introduction of public telegraph services linking Lagos by submarine cable along the west coast of Africa to Ghana, Sierra Leone and Gambia and then on to England was essentially a greater priority than the establishment of a robust telecommunication network (Ijewere and Gbandi, 2012: 193 – 198).

Nevertheless, services were initially primitive given the uncoordinated pegboard switching system that was in use. This later progressed to manual switch boards of different sizes, shapes and capacities until stronger exchanges were installed into the national network at Lagos Island, Ikeja, Ebutte Meta, Apapa and Port Harcourt between 1955 and 1960 (Ijewere and Gbandi, 2012). Thus, at independence in 1960, Nigeria with a population of 45million people had about 18, 724 telephone lines in use. This translated to a teledensity of about 0.5 telephone lines per 1, 000 people. The telephone network at the time consisted of 121 exchanges of which 116 were of the manual (magneto) type and only 5 were automatic (Ijewere and Gbandi, 2012).

Between independence in 1960 and 1985, telecommunication services also became commercialized. The old Department of Post and Telegraph (P&T) under the Ministry of Communication became separated and the Nigerian External Telecommunication (NET) was created to take care of external telecommunication services, even as the old P&T handled internal network. Furthermore, by January 1985, the erstwhile P&T divisions merged with NET to form the Nigeria Telecommunications Limited (NITEL) a government owned Limited Liability Company. The objective for establishing NITEL was to harmonize the planning and coordination of the internal and external communication services, rationalize investments in telecommunications development and provide accessible, efficient and affordable services (Ijewere and Gbandi, 2012). As at 1987, Nigeria's installed telephone capacity was 400, 000lines; connected lines stood at between 205, 000 and 250, 000 lines; while the range of services included fixed telephone, telegraph, telex (and gentex) and payphone (Ndukwe, 2003a).

Furthermore, in 1992, Government through Decree 75 of that year established the Nigerian Communication Commission (NCC) as the regulatory authority for telecommunications in Nigeria.The decree also liberalised Nigeria's telecommunication industry, opening it to private participation. The NCC was now charged among other things with creating a regulatory environment for the supply of telecommunication equipment and

facilities; facilitate entry into the market by private entrepreneurs; and, promote fair competition as well as efficient market conduct among all players in the industry (Nnama, 1999).

However, prior to the commercialization of the sector, the government owned NITEL still operated as an inefficient monopoly grappling with lack of clear policy direction, counter-productive bureaucratic red tape and a myriad of other problems. These problems led to suboptimal performance in all spheres of its operations, ranging from inadequate infrastructure to very low quality of service. In fact, up till 1991, access to telephone services was limited to only 20% of the population and area of coverage. As at December 1991, there were about 450, 000 direct exchange lines, giving an average penetration level of about one line to 250 inhabitants as against the International Telecommunication Union (ITU) recommendation of one line per 100 persons for developing countries. Moreover, there were over 500, 000 waiting applicants nationwide, even as telex subscriber figures stood at 7, 985. Of course, these figures reflect poor capacity utilization, given that installed telephone and telex capacities were over 500, 000 and 15, 000 respectively. To worsen matters, the quality of service was also poor, while constant congestion of switching equipment often led to long dial tone delays and very low call completion rates. On the average, the call completion rates for local, distant and incoming international calls were as low as 40%, 40% and 45% respectively, as against the expected 60% and 50% for local and international calls (Afeikhena, 2002). Furthermore, NITEL and its network lacked an efficient billing system. In fact, it was suspected that about 20% of subscribers did not receive bills, while only 7% of amounts generated were being collected. These factors culminated in consistent operating losses and low returns on investments as shown in its audited accounts, which recorded persistent losses (Afeikhena, 2002).

Although licensing of network operators/service providers began in 1996, NITEL continued to retain monopoly over voice telephony in: national long distance; international long distance; and, mobile telephony. Up to 1999, private investment was mere USD$50million with huge unmet demand translating to an average of just 1 telephone line to 250 inhabitants, about half of functional connected lines held by government organizations and corporate bodiesand an estimated 4million lines in suppressed demand. Moreover, lines were still concentrated in select urban centres even as Nigeria's teledensityat this time ranked better than only those of Afghanistan and Mongolia. More so, the sector was characterised by weak infrastructure base manifesting in poor quality of service,low call completion rates and billing inaccuracy (Ndukwe, 2003a). By this time (1999), Nigeria had only 400, 000 connected telephone lines and 25, 000 analogue mobile lines. Connection costs were also prohibitively high, in fact, as much as NGNN60, 000 ($375) for analogue mobile lines, while waiting times could run into years (Ndukwe, 2003b).

Reform of China's Telecommunication

China's telecommunication industry began to witness changes following the country'seconomic reform of the late 1970s, which enabled it to establish business relations with the global community. Yet at that time, most of the exchanges were manual, semi-manual and crossbar switching equipment with analogue technology. However, once the government made economic reforms a priority, the economy grew, and the demand for telecommunication services began to outstrip supply. Moreover, during the reform period, worker mobility now increased, and the *danwei* (enclosed work structures) system began to weaken. Rural migration to the cities also increased as foreign investors came to attract low-wage labour to new factories in different parts of the country. Such developments also required a more developed system for both business and personal communication (Harwit, 1998).

Beginning from 1979, the MPT centralized its authority over the network. In fact, in 1980, in an effort to increase the funds available for telecommunication investment, the MPT, Ministry of Finance and the State Price Administration established a nationwide schedule of installation fees for telecommunication services, ranging between 1000 and 2000 Yuan (US$120 - $240). As reforms deepened, telecommunication development became a more important priority of government (Wu, 2009). Indeed, until the actual implementation of reform, revenue

from telecommunications operations was turned over to the central government even as the industry received a set percentage of the budget (no matter what the receipts) for development. In 1980, government listed Post and Telecommunications as a preferential construction item and thus allowed the industry to use funds derived from its operations at national as well as local and collective levels to supplement its development. In fact, by 1986, some 50% of the industry's revenue came from this self-raised capital (Harwit, 1998).

The first successful attempt at making China visible on the global digital map was made in 1987, when an electronic mail (e-mail) entitled "Cross the Great Wall, More towards the World" was sent from Beijing. E mail communication technology was subsequently developed in Qinghua University (Shanghai) and the CAS Institute of High Energy Physics (Beijing). The completion of the China Research Network (CRN) in May 1989, formally allowed not only e-mail but internet communication. However, access to the CRN was limited to the electronics research institutes of CAS and the Universities in Beijing, Chengdu (Sichuan), Shijiazhuang (Hubei), Shanghai and Nanjing – Jiangsu (Loo, 2004: 697 – 714).Slightly before then, precisely in 1988, mobile phone service was introduced to China.At that time, the people called mobile phones 'Dageda', which means 'big man' because it was only successful businessmen or entrepreneurs (those elites are usually called 'Big Brothers' in China), who could initially afford them. However, though the mobile sector had a late start in China, it picked up at an amazing speed (Zhiling, 2002).

It is important to note that government control and ownership of telecommunications operations was key to the sectors growth in the critical 1980s and 1990s. Revenue from corporate and citizen use of the network funded expansion of the basic telecommunications infrastructure. Top decision makers in the governments State Council and in the telecommunications bureaucracy skilfully employed industrial policies to guide the networks growth. Foreign corporations were also prohibited from managing telephone and Internet networks so that the government could reap the lucrative revenue rewards, but foreign company's also played a major role in providing equipment to link the network hardware. City governments played a supporting yet vital role by channelling funds to local corporations and overseeing construction of the industry (Harwit, 2008).

Throughout the early 1990s, the telecoms industry remained highly centralised and closed to foreign investment. The nationwide information infrastructure was placed under the control of the Ministry of Posts and Telecommunication (MPT), which enjoyed the monopoly of providing telecommunications services to the public. In fact, the Director-General of Telecommunications (DGT) was responsible for constructing and maintaining the telecommunication infrastructure. Under the DGT, there were administrative units at the provincial, called Posts and Telecommunications Administrations (PTAs) and at the Municipal levels also called Posts and Telecommunications Bureaux (PTBs). Administratively the activities of the MPT were monitored by the State Council and the State Planning Commission (SPC). All telecommunications regulations had to be approved by the later. As a large state-owned enterprise, the DGT was also overseen by the State Economic and Trade Commission (SETC). At the Ministry level, the MPT had to cooperate closely with the Ministry of Electronic Industry (MEI), because the MEI was responsible for all electronics manufacturing and information system applications (Loo, 2004).

In March 1993, the central government announced the Golden Bridge Project, which aimed at developing a high-speed advanced telecommunications infrastructure for the country. In fact, a whooping sum of USD$3million was allocated to kick start the project (Loo, 2004). This was considered as a major step towards developing the country's telecommunications infrastructure. In July 1994, the operations arm of MPT was renamed the China Telecommunication Corporation (China Telecom).

The need to especially reform China's telecommunication industry became apparent in 1994, perhaps more than ever before. By this time, long distance lines in South and Central China were so congested that only about 15% of calls were connected. The intra city success rate was not much better, hovering around 60%. To worsen matters prospective consumers were

expected to wait up to two years for the installation of a telephone line. Networks were poorly connected and increased capacity was sorely needed (Abramson, 2002: 1 - 44).

However, early noises for reform of the industry came from the Ministry of Electronics Industry (MEI), which had hitherto manufactured equipment for the industry but now wanted a piece of the operations pie. Its new Minister Hu Qili, resurrected from a post-1989 purge of the Communist Party politburo, led the battle to create a rival to the MPT operations and control. Eventually, the Ministries of Electric Power Industry and Railways plus thirteen other partners joined the MEI to officially open China United Telecom Corporation (Unicom) in July 1994. MEI, lacking its own telecommunication lines or wireless systems, favoured the alliance with the Power and Electric Ministries both of which had substantial private networks. The Chinese Military, however, which also had its own wireless communication system, was absent from the list of shareholders. The Unicom members together represented a potentially powerful array of stakeholders meant to challenge the MPT monopoly (Harwit, 1998). In fact, China Unicom was principally set up to foster domestic competition. The company's ability to induce competition served as an indicator of potential competitive market for the country's telecommunications services. In wireless services, China Unicom opened competing cellular phone service in the country's four largest cities, and forced the MPT to slash cellular phone prices by 20% and waive start-up fees. In domestic wire-line, the government permitted China Unicom to charge a lower connection fee, which brought down the cost of phone installation from a national average of $480 to $240 in 1997 and $120 in 1998 (Abramson, 2002).

Nonetheless, these were half-hearted reforms as there was yet no real competition given that China Telecom still controlled the only public Fixed Telephone Network (FTN) in the country. Moreover, the telecommunication infrastructure of individual provinces still remained under the administration of PTAs. Similarly, despite the reorganization, the MPTretained its dual function as industry regulator and operator. Above all, funding and personnel of China Telecom came directly from the MPT. As a matter of fact, China Mobile, the mobile subsidiary of China Telecom controlled 73% of the market, even as China Telecom held a virtual monopoly on wire-line with a greater than 99% market share (Abramson, 2002). This obviously put Unicom at a serious competitive disadvantage and as a result, its services became restricted to the mobile sector. It was not surprising therefore that the markets share of Unicom in the mobile phone service by the end of 1997 was less than 2% (Loo, 2004). Moreover, Unicom's effort to sign over forty agreements with foreign companies in its first year of existence, arranging indirect joint ventures in the telecommunications equipment markets and using the funding to gain a foothold in the growing mobile phone market, was frustrated by the government. In fact, the Central government banned these investments in 1998 declaring the underlying contracts illegal, and required Unicom to refund foreigners investments to companies such as Motorola, Inc. and Sprint Corp (Abramson, 2002).

Yet another major development in this period was that Jitong Network Communications Company (Jitong) originally established in 1994 to oversee the Golden Bridge Project, was now recognized as the third telecommunication operator in China. But this move was essentially to meet the increasing needs of the academic community. Also in 1994, government announced the separation of the Office of Directorate General of Telecommunication (DGT) from the MPT. Whereas the DGT (China Telecom) was to become the national system operator, the MPT would now be left with strictly regulatory powers (Harwit, 1998). In any case, the pace of competition in the industry up till this period was limited. In fact, by mid-1996, Unicom's four operational mobile phone networks were collectively servicing a mere 35, 000 subscribers even as the company had expanded to serve nine cities including the Sichuan Province (Harwit, 1998).

Table 1: Growth of China's Telecommunication Industry, 1949 – 1994

	1949 (M)	**1978 (M)**	**1994 (M)**	**Av. Tele-density growth 1949 – 1978**	**Av. Tele-density growth 1978 – 1994 (%)**
Telephone switching lines	310, 000	1.7	48.8	6	23.1

Number of long distance calls	9	186	7, 771	11	26.2
Revenue (RMB)	97	6, 039	53, 900	6.6	14.6
Investment (RMB)	39	266	61, 500	6.8	40.5
Number of Phone Subscribers	300, 000	1.9	28.8	6.6	18.4
Mobile Phone Subscribers	-	-	4 (1995)	-	189 (1991 – 1995)
Pager Subscribers	-	-	17 (1995)	-	109 (1991 – 1995)

Source: E. Harwit (1998), "China's Telecommunication Industry: Development Pattern's and Policies", Pacific Affairs, 71, 2, 175 - 193

It is evident based on Table 1 above that China's telecommunication industry started to witness positive growth once the country's economic reform process commenced in 1978. Though, management and regulation remained largely the same, the introduction of fresh investment however brought some level of competition resulting in the expansion of the market. In a bid to meet the regulatory demand from market liberalization, the State Council set up a Joint Conference on National Economic Information in 1994 to coordinate the regulatory functions hit her to distributed among different institutions. However, in 1996, this was later substituted by the National Information Infrastructure Steering Committee (NIISC), which was responsible for the formulation and implementation of plans, policies and regulations in the information industry. But the NIISC was only an interim organization without any legislative status, financial means or administrative power to efficiently execute regulation. It still had to negotiate and cooperate with other powerful governmental agencies that were in charge of China's telecommunications industry (Gao, 2003).

It was perhaps in a bid to streamline the responsibility of management and regulation that the Ministry of Information Industry (MII) was established in Beijing in March 1998.In actual fact, the Ministry of Electronics Industry (MEI) merged with the MPT, and the NIISC to form the Ministry of Information Industry (MII). Henceforth, the MII would be responsible for matters relating to telecommunications, multimedia, broadcasting, satellites and the Internet in China. Specifically, it was expected to encourage the manufacture of information products, and for telecommunications and software industries; formulate sectional programmes, policies and codes; mapping out an overall plan for telecom trunk networks (including local and long distance telecoms networks); manage broadcast and television networks (including radio and cable television networks), as well as special-use telecom networks for the military and other government departments. The new Ministry was also charged with sectional management and allocation of resources, while avoiding duplication of efforts in projects and ensuring information security (Chang et al, 2005: 105 – 121).

This institutional reorganisation was a landmark in China's ongoing telecommunication reform given that regulation and operations were now separated for the first time, since the establishment of the People's Republic of China (Loo, 2004). Remarkably, up till 1999, China Telecom, the state owned enterprise, monopolized the national wire-line phone services (local, domestic and international services) and dominated the wireless service and value-added services (data and Internet service etc). But in 1999, China Telecom was broken into four parts along the service line: wire-line (China Telecom Group Corp.), wireless (China Mobile Telecom Group Corp.), paging (China Paging Telecom Group Corp.), and, satellite services (China Satellite Telecom Group Corp.). However, each sub-sector provider either still monopolized or dominated its market (Harwit, 1998).The impact of the splitting of China Telecom into four divisions was that it separated the government part from the business part. Many suggest that it was indeed this action that effectively introduced market competition into China's telecom industry. It was also in this period that Unicom was granted an exclusive operating license to build a nationwide Code Division Multiple Access (CDMA) network, then, regarded as an advanced wireless system (Chang, 2005).

In spite of the slow pace of reform within the industry, it was also not in doubt that China's telecommunication system had recorded some progress over the past decade. For instance, the number of telephone subscribers in the PRC had soared from 7million in 1990 to more than 50million in 1998; pager use had spread to more than 20million people; while Internet access had expanded to include over 150, 000 users by 1997. The rate of growth and

investment in the sector during this period was said to be one of the fastest by any nation in the world thereby providing China the sophisticated tools to fuel its economic growth (Harwit, 1998).

Furthermore, government offices with responsibility for communications services were now reduced from three Ministries to one, plus one administration with reduced status. The Ministry that won this battle had also been separated from the telecommunications operator, thus reducing its staff of hundreds of thousands to only a couple of hundreds. These transformations of the regulatory structure represented victory for the Telecommunication Ministry over the Electronics manufacturing industry and to a certain extent, over the Television and Radio Ministry (Wu, 2009: 4).Similarly, it was in this period that cell phones using wireless telephone technology were introduced into China as a major commercial service. In areas with dense customers, wireless networks were often cheaper and quicker to install than wire-line networks. In fact by 2001, nearly half of all telephone service subscriptions in China were of wireless service (Wu, 2009).

Many indeed believe that developments in China's telecommunication sector were what actually necessitated its quest to join the World Trade Organization (WTO), a mission it accomplished in 2001. Such people argue that these were the motivating factors behind the far reaching changes that took place in the sector in 1999.Among these were, China: agreeing to cut its average tariff level from 22.1% to 17%; allowing a 49% investment stake by foreign telecommunication providers as of the date of WTO admission with that figure increasing to 50% after two years; companies from the United States and other countries were now allowed to invest in the country's Internet market as content providers, etc. Other strategic actions taken during the period include accelerating the establishment of state-of-the-art information-communication networks, upgrading its products manufacturing and software industries, further developing the information service industry and transforming the government's role in China's traditional telecommunication industry.On the whole, the reforms of 1999 increased competition in the market; increased openness and gave more opportunities to foreign investors (Chang, 2005).

In order to be able to face imminent foreign competition (the second force), China Netcom was established in October 1999 to construct a broadband Internet Protocol (IP) network, CNCNet. It later became the fourth telecommunications operator in the country. In 2000, government released the 'Telecommunication Regulation' Decree Number 291, which stipulated that foreign investment up to a maximum of 49% would henceforth be allowed in basic telecommunication services. The Central Government further stipulated that the leading telecommunications service provider, China Telecom, could not refuse other operators request for interconnection to its network (Loo, 2004).

In May 2000, China Mobile, the spin-off of China Telecoms Mobile operations, entered the market as the country's fifth telecommunications operator. Similarly, China Railway Communications Corporation (China Railcom) was set up in this period and became the country's sixth telecommunications carrier (Loo, 2004).In fact, in July 2001, the Ministry of Information Industries (MII) announced that the number of its mobile phone users had reached 120.6million, which by then made China the largest mobile communications market in the world. Compared with other developed countries, this was indeed a significant milestone for the country's telecommunication industry after 14years of government-led development without privatization. The number of mobile subscribers in the country had remarkably doubled each year between 1994 and 2001. Furthermore, in fact, on November 7th 2001, the Ministry of Information Industries announced that China Satellite would become the seventh telecommunication operator in the country and with this, the country now formed a 'national fleet' comprising seven 'carriers': China Telecom; Unicom; China Mobile; China Satellite; China Net; Jitong; and, China Railcom. By the end of 2002, China now had 206.3million mobile telecommunication subscribers, having gradually become the hottest spot for the international and domestic telecommunication operators, equipment and phone manufacturers (Yu and Tan, 2005: 114 – 126).

However, fresh reforms were imperative given that fair competition had not come as expected. Comparatively, Unicom was still too weak to compete with China Telecom. Consequently, in 2002, China Telecom was again split into two parts, this timealong regional lines. China Netcom and Jitong merged to form the China Netcom Communications Group Corporation to provide operations covering the ten Northern provinces. Operations in the twenty Southern provinces retained the China Telecom name and operated as a separate entity. These two fixed-line providers can enter each other's provinces to compete for fixed services. Railcom, which had been part of the Ministry of Railways, also began to provide fixed services in all provinces but obtained only a small market share. Also, China Unicom offered some fixed phone service, but only in Tianjin, Chongqing and Sichuan and was able to garner only a small market share in these three provinces (Zheng and Ward, 2011: 210 – 220).

Table 2: Number of Mobile Phone Subscribers in China, 1988 - 2002

Year	Number of Subscribers (M)	% Change
1988	0.003	-
1989	0.010	206.25
1990	0.018	86.73
1991	0.048	159.56
1992	0.177	272.63
1993	0.639	261.01
1994	1.568	145.38
1995	3.629	131.44
1996	6.853	88.84
1997	13.233	93.10
1998	23.863	80.33
1999	43.238	81.20
2000	84.533	95.51
2001	145.222	71.80
2002	206.616	42.27

Source: D. Lu and C. Wong (2003), China's Telecommunications Market: Entering a New Competitive Age, (United Kingdom: Edward Elgar)

In spite of its inadequacies, China's telecommunication reform since 1978 has brought results as Table 2 above shows. Such developments makes it imperative for us to suggest that China at the moment could conveniently boast of having the highest number of telephone subscribers in the world, while its telecommunications market remains without doubt the most vibrant.

Nigeria's Telecommunication Reform

In terms of growth, Nigeria is presently ranked the largest and fastest growing telecommunications market in Africa and among the ten fastest telecommunications growth markets in the world, an indication of its robustness to return to investments. From a private sector investment of a paltry US$50million in 1999, when the country commenced reform of its telecommunications sector, the industry, had by the end of 2009 attracted more than $18billion in private sector investments, including Foreign Direct Investments (FDI). It had also contributed more than NGN300billion to the coffers of the federal government through frequency spectrum sales, thereby enabling government to plough back revenues earned from the sector especially for the provision of development infrastructure at various levels of government (Okonji, 2012).

But that is not all. The sector has also become the largest generator of foreign direct investment (fdi) after Nigeria's rich Oil and Gas industry. A few international agencies and institutions obviously as a demonstration of the high level of confidence, which they have for the sector, have invested in companies operating in the industry. They include the International Finance Corporation (IFC), which has loaned NGN61, 078million ($395m) to one of the mobile operators, MTN Nigeria. It is said that this has remained IFC's second largest investment in any African country till date. Other institutions that have invested in the sector include the Export-Import Bank of the United States, the African Development Bank (ADB) and the Development

Bank of Southern Africa (DBSA). But what ignited the sudden upsurge of interest in Nigeria's telecommunication industry?

In 1999, under President Olusegun Obasanjo, a Committee was inaugurated to draw up a Telecommunication Policy Document for Nigeria. This document was later to be reviewed by yet another Committee, the Telecommunication Sector Reform Implementation Committee (TSRIC), which produced a National Telecommunication Policy (NTP), which was approved by the Federal Executive Council and released to the public in September 2000. The hallmark of this policy was the blueprint for full liberalization of the country's telecommunication industry. It is noteworthy, that the NTP specifically empowered the Nigerian Communication Commission (NCC) as the independent regulator of the sector to issue licenses, assign frequencies, issue numbers and perform other regulatory functions as may be consistent with its mandate to promote the development of the country's communications industry including the protection of its consumers (Ndukwe, 2011).

In fact, to demonstrate the importance government attached to the sector, a Board was immediately set up for the NCC (one of the first by the new administration) with Alhaji Ahmed Joda as Chairman and Engr. Ernest Ndukwe as Executive Vice Chairman (EVC)/Chief Executive Officer. Of course, the new Board immediately set out to work with the challenge of ensuring that Nigerians were able to communicate with each other within the shortest possible time.

Perhaps, in cognizance of Nigeria's recent political history at the time and the scepticism of the international business community about issues relating to transparency and corruption, the NCC in March 2000 decided to adopt an auction process for issuing new mobile licenses. The NCC resorted to auctioning, which it then saw as the most efficient mechanism for assigning these licenses on the assumption that only the best bidders with the highest business plans would value it most highly. As a follow up, the organization in June 2000 appointed Messrs Spectrum International (UK) as principal consultants for the proposed auction (Familusi, 2005).

The NCC in January 2001 successfully conducted the Spectrum Auction for three Digital Mobile Licenses (DML). Three Operators, ECONET, a Consortium of Zimbabwean and some Nigerian businessmen; MTN, a South African Mobile Company; and, Communications Investment Limited (CIL), a Nigerian Company, emerged successful bidders with the bid price of US$285million each for a 15 year operating license and with a five year exclusivity period. The fourth license was reserved for the incumbent operator NITEL and its mobile subsidiary M-TEL, which also paid the $285million license fee. Each licensee was also required to achieve a subscriber base of at least 1.5million lines by the end of the five year exclusivity period. CIL eventually forfeited its license after failing to pay the fee within the mandatory deadline. The license was re-auctioned as part of the Second National Operator license in 2002, which GLOBACOM limited, a wholly Nigerian Company now won, at a bid price of $200million (Ndukwe, 2011).The GSM Auction process was globally hailed as being a great success and the Nigerian government was able to raise $855million from it. In fact, this amount was clearly unprecedented in the history of Africa's Telecommunication licensing. It is also suggested that it was this that finally opened the door for full private sector participation in the Nigerian telecommunication industry.

Next in 2002, the NCC licensed a number of Private Telecommunication Operators (PTOs) to operate fixed telephony services in different parts of the country. The idea was to broaden access and encourage competition in the industryand especially to ensure the simultaneous growth of both mobile and fixed line segments of the industry.A major turning point in the reform process of Nigeria's telecommunication industry however came on July 8th 2003, President Obasanjo, signed into law the Nigerian Communications Act, which further strengthened the capacity of the NCC to properly carry out its activities as the independent regulator of the industry. In fact, it was argued that the enabling Decree 75 of 1992, which set up the Nigerian Communication Commission (NCC), had several inadequacies, which hindered its effective operation as an independent regulator. These include: denying the NCC the legal right

to control the existing player, which at the time even had no valid operating license for its network; spelling out its role without stating how the NCC was to facilitate private sector participation in the industry; and, denying the NCC the power to resolve problems of interconnectivity between various operators. These inadequacies became even more pronounced after the deregulation policy came into effect. It was indeed because of such issues that the Telecommunications Act of 2003 was enacted, as it now gave full regulatory powers to the NCC and thus addressed the observed inadequacies (Familusi, 2005: 34).

The Act among other things provided for the repeal of the NCC Decree of 1992; reform of the NCC as an independent regulatory body for the country's telecommunication industry; and, establishment of a National Frequency Management Council (NFMC) within the Federal Ministry of Communications with the responsibility for the planning, coordination and bulk allocation of radio spectrum in the interest of efficiency, transparency and accountability (Familusi, 2005: 34). All these activities increased and promoted competition in the industry, resulting in exponential growth in the number of telephone lines. It is important to note that while connected lines grew at an average of 10, 000 new lines per annum in the four decades between independence in 1960 and the end of 2000, between 2001 and 2002, an average growth rate of 1million lines per annum was attained. In fact as at September 2003, Nigeria had attained over 3million lines (2.3million of which were digital mobile lines). Total teledensity, which was just 0.4 lines per 100 inhabitants in 1999,had surprisingly moved up to2.6per 100 inhabitants by September 2003 (Ndukwe, 2003a). Along with this growth in lines also came a boom in private investment in the sector. In fact, by June 2003, investors had pumped in a whooping US$2.55billion into the sector, representing a phenomenal 500% increase in investment from just US$50million at the end of 1999. Increased competition in the market also had the immediate benefit of forcing down both connection charges and telephone rates. For instance, the price of fixed lines, which was over NGN100, 000 in 1999 had by 2003 been dramatically reduced to between NGN7, 000 and NGN30, 000 (Ndukwe, 2003a).

By 2006, following the expiration of the 5 year exclusivity period granted to the initial GSM Operators, several companies were issued Unified Access Service Licenses (UASL). Apart from the wireless licenses for mobile and fixed services, new companies were also licensed for National and International Long Distance Transmission services. Early in 2007, some spectrum slots in the 900MHZ band were offered to the market, which was won by a Nigerian Company, VISAFONE. Also in 2007, a fifth license (with GSM Spectrum) was awarded to Emerging Market Telecommunication Services (EMTS), a United Arab Emirate (UAE) Company with some Nigerian partners, trading with the business name ETISALAT.

Another milestone achieved in the industry in 2007 was the launching of the first African Communication Satellite, NigComSat 1. The State Accelerated Broadband Initiative (SABI) and the National Rural Telephony Programme (NRTP) were also among the various government efforts to make information and communication technology available to Nigerians in this period. In fact, government planned to use NigComSat 1 to create jobs, save foreign exchange, provide Internet Access especially to the remote areas of the country and encourage tele-education, which was specifically designed to facilitate distance learning (Bubou, 2010: 35 – 49). This was followed in May 2009, by the auctioningof spectrum slots in the 2.3GHZ band, which were won by two Companies SPECTRANET and MOBITEL (Ndukwe, 2011).

Table 3: Annual Subscriber Data for 2001, 2003, 2006, 2010 and 2011

Connected Lines	**2001**	**2003**	**2006**	**2010**	**2011**
Mobile (GSM)	266, 461	3, 149, 472	32, 184, 861	96, 684, 272	109, 822, 964
Mobile (CDMA)	N/A	N/A	N/A	12, 132, 584	12, 687, 645
Fixed Wired/Wireless	600, 321	872, 473	1, 673, 161	2, 736, 373	2, 290, 409
TOTAL	866, 782	4, 021, 945	33, 858, 022	111, 517, 229	124, 801, 018

N/A – Not Available ***Source: Nigerian Communication Commission (NCC) Database***

It is important to note that prior to the launch of mobile services in August 2001, ownership of telephones in Nigeria was the exclusive preserve of the rich and well-to-do as well

as the well-connected individuals in the society. However, within the first ten years of its introduction, as Table 3 above shows, the environment haddrastically changed. In fact the country's telecommunication sector recorded phenomenal growth both in terms of subscriber base and infrastructural development. Similarly, telephone ownership had been completely democratized. By September 2011, the active subscriber base was 93.5million and 66.7% teledensity. This growth was made possible by the injection of about US$18billion of private investment in license fees, infrastructure development, building local capacity, empowering local companies that provide support services etc. In addition, most of the countries highways were covered by mobile signals; several rural communities now had access to one form of telecommunication service or the other; the country's law enforcement community had the necessary tools to keep in touch with their bases; even as small, medium and large businesses had been empowered by these vital ICT tools (Ndukwe, 2011).

Table 4: Nigeria's Telecommunication Industry Statistics, 2001 - 2011

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Fixed Telephone Subscriptions per 100 inhabitants	0.47	0.54	0.67	0.75	0.87	1.18	1.07	0.87	0.96	0.66	0.44
Mobile-Cellular Phones per 100 Inhabitants	0.21	1.21	2.37	6.71	13.29	22.55	27.49	41.81	48.24	55.10	58.58
% of Individuals Using the Internet	0.09	0.32	0.56	1.29	3.55	5.55	6.77	15.86	20.00	24.00	28.43

Source: International Telecommunication Union (ITU) Database

The reform in Nigeria is still ongoing. What Table 4 above shows is that although a lot of progress had been made, there was still a lot of work to be done, especially given Nigeria's size population.

Between China and Nigeria

The success story recorded by these two countries in the reform of their telecommunication industries obviously demonstrates the long term effect of market competition in economic development. Whereas, in the case of China, it became the market leader for telecommunications equipment in Asia and world, Nigeria on its part has been transformed into Africa's number one telecommunication market. However, these two countries used different strategies to attain a similar result. It is to these aspects that we shall now focus.

China's communications industry has two distinct institutional characteristics. The first is that all the telecommunication operators are state owned and are controlled by the central government. Although the privatization of the country's State Owned Enterprises (SOEs) started in the mid-1990s via share issue privatization, the majority stocks of all operators remain held by the central government either directly or indirectly. In fact, unlike most developing countries, privatisation in China did not lead to companies been completely privately run. Instead, China sought foreign investment for the telecommunication sector through the listing of equity shares in SOEs on public exchanges rather than through full privatization or by introducing foreign private firms (Zheng and Ward, 2011). For example, in September 1997, China Telecom listed two of its most profitable branches in Guangdong and Zhejiang on the Hong Kong Stock Exchange (HKSE) and New York Stock Exchange (NYSE). By 2004, 23.5% of the equity of these branches was privately owned while the remainder was still held by the state. On its part, China Mobile, which was formally established in 1999 also, had public listings for six of its provincial branches. Operations in other branches were also listed in the ensuing years. By 2004, all thirty-one provincial branches of China Mobile had been listed on Capital Markets in the Chinese Mainland. In all, ownership of the public grew to 24.2%. Another mobile

firm, China Unicom listed twelve of its provincial branches on the NYSE and HKSE in 2000. By 2005, thirty of its provincial branches had been listed even as public investors owned 47.4% of shares in the company. In November 2002, the shares of China Telecom in the four networks in Guangdong, Jiangsu, Shanghai and Zhejiang were listed on NYSE and HKSE, raising US$1.5billion. For China Netcom, shares of six of its provincial branches were in 2004 listed on both the NYSE and HKSE. In fact, by 2005 all provincial branches of both China Telecom and China Netcom had gone public with non-state-owned shares amounting to 22.2% and 25.6% respectively (Zheng and Ward, 2011).

The second characteristic is the lack of independence of the regulatory bodies and the deficiency of the regulatory rules, which arises from the SOEs task of providing social stability. Although the Ministry of Information Industries (MII) is the normal regulator in charge of regulatory policy making and implementation; in actual fact, regulatory activities involve several other state agencies: States Assets Supervision and Administration Commission (SASAC), which is responsible for preserving and increasing the value of state assets; the National Development and Reform Commission (NDRC), which undertakes macroeconomic adjustments; and the Ministry of Finance (MoF), which is responsible for taxation. Similarly, there is no law or government document providing a lucid definition of the regulators mission with sustainable and market-compatible regulatory incentives and governance, further hindering the regulatory process. Even as the absence of regulatory rules encourages unfair competition in the form of cross-subsidies, low pricing (dumping), cutting off relay lines and damaging the reputation of competitors through comments to customers (Kang et al, 2012).

In China, the telecommunications reform has been carried out via governmental orders, which are enforced through administrative measures, completely different from other countries where transformation is enacted by laws. For example, although the reform of China's telecommunications industry has gone through four stages ushering in competition, a "Telecommunication Law" as we earlier noted is still missing. This is the result of China's "act after trial" method in macro reform on the entrenched planned economy, which excludes the effects of laws (Gao, 2012). Furthermore, whereas going by global case studies, telecommunications reform were mainly carried out through the introduction of new private competitors, in the case of China, Private Telephone Operators (PTOs) as the major reform targets were split, first by services and later by areas. This is based on the thinking that the existence of a dominant operator will jeopardize fair competition. Above all, China's ideological and political system favours that the state economy should control telecommunications. This is why the competition in the country's telecommunication industry has been among state owned operators, even as a limitation is set on foreign capitals to let the Chinese companies take dominant shares in future cooperation (Gao, 2012).

Also in the case of China, there seems to be a manifest policy of discouraging foreign control of the country's telecommunication industry, resulting in an overbearing control by the state. This has also been attributed to the country's experience in the hands of foreign interests at the initial stages of the development of its telecommunication industry. The most enduring ramification of this early period of foreign domination was that it encouraged extreme reluctance to allow subsequent market incursion especially on the part of foreign corporations, and in particular network operators. Early negative experiences with foreign companies thus taught the Chinese that such companies were exploitative and threatened the sovereignty of the Chinese telecommunications system (Yan and Douglas, 2002).

On the whole, it is important to note that in its restructuring and developmental initiatives, especially with its telecommunication sector reforms, China has always tried to evolve its own strategies and methods, which took cognizance of its ideological setting rather than just copying the examples of other countries. Somehow, this has also worked for the country given the remarkable success story recorded by its telecommunication industry.

Nigeria on its part, embarked on the full deregulation of its telecommunication sector in 1999. Earlier in 1992, the Nigerian Communication Commission (NCC) was established to regulate the country's telecommunication industry. But it also took the Telecommunications Act

of 2003, to fully empower the NCC towards the effective discharge of its functions as an independent regulator. It is important to note that unlike the Chinese system, Nigeria's telecommunication sector is completely private sector driven with the government established NCC acting strictly as the industry regulator.

In fact, the Powers of the Nigerian Communications Commissions (NCC), which derives from Section 3 of the Nigerian Communications Acts (NCA) of 2003, empowers it to among other things give written directions to licensees; consult with consumers, commercial and industrial organizations; delegate its functions to a committee constituted by it; summonpersons to appear before the commission; enter into contracts with any company, firm or persons; and, establish and maintain subsidiaries to enable the discharge of its functions.With regard to licensing, the NCC has also been granted full powers to:issue licences and impose terms and conditions on licences; variate or revoke a condition of licence; consult with affected licensees before bringing into force an obligation which may be onerous on the licensee; approve guidelines for keeping of accounts and cost allocation formula of licensees; inspect licensees' books of accounts; grant or revoke permits for connection of customer equipment; determine principles to guide interconnection arrangements between operators; and, determine services and new undertakings eligible for licensing from time to time (NCC, 2012).

The numerous successes so far recorded by the NCC in its few years of existence are obviously not in doubt. That it has awarded five GSM mobile licenses, 4 CDMA licenses and almost 16 licenses in the category of fixed wired/wireless is what has presently transformed Nigeria's telecommunication industry and ensured that the country became a leading market in global telecommunications. Investments are still coming into the sector (both foreign and domestic) given that the market is yet to reach its optimum.

Conclusion

This paper has examined the benefits of market liberalization using China and Nigeria's telecommunication sectors. It shows how both countries were able within a space of ten years following the commencement of telecommunication reform to record tremendous transformations of their telecommunications industries, thus, confirming the view that the benefits of market liberalization increase as more firms enter the market and competition intensifies. More importantly, market liberalization enables consumers to benefit from lower prices and new services, which are usually more efficient and consumer friendly than before.

In either case, wireless mobile technology was clearly the trailblazer. The paper also shows that although the outcomes of both experiments were similar, the strategy adopted by both countries was different. Whereas China adopted partial privatization, in which some of the government's stake in SOEs were sold to investors through public share offerings rather than full privatization, Nigeria on the other hand, adopted full liberalization, which ushered in enormous private investment.

The two case studies however confirm Machiavelli's famous dictum of 'the end justifies the means'. At least both strategies not only succeeded in empowering the population with phones over a short period, but also opened other sectors of their economies to foreign investments. This goes a long way to further demonstrate that there is no single way to attain economic development rather what is important is for every country to take into cognizance its peculiar circumstance bearing in mind the long term interest of its people especially in the choice of public policies and programmes.

However, the sustainability of the strategies adopted by these two countries especially in the long term does not look reassuring. For instance, it is not in doubt that the reform of China's Telecommunication system, would have received a greater boost, had the sector been properly regulated. Of course, market regulation, one of the three key levers of state power (together with fiscal and monetary policy), is of critical importance in shaping the welfare of economies and society. This is given that ineffective regulation can slow recovery, inhibit growth, undermine efforts to address complex issues such as climate change and reinforce citizens' scepticism of government. Above all, modern economies need effective regulation to

support growth, innovation, market openness and uphold the rule of law. In fact, a poor regulatory environment undermines business competitiveness and citizens trust in government, even as it encourages corruption in public governance (OECD, 2010). In fact, the ability of the state to provide strong regulatory institutions is an important determinant of how well markets would perform. An economy with a well-developed institutional capacity is certainly more likely to be able to design and implement effective regulation, which should contribute to improved economic growth, while weakness in institutional capacity to deliver good regulation may be predicted to adverse economic development (Jalilian et al, 2007: 87 - 103).

In the case of Nigeria, nobody is certain of the long run effect of the overwhelming foreign investments in the sector. This is given that the positive externalities usually generated by foreign investors, may vanish if the increased competition from foreign firms leads to a reduction in the production of the domestic firm, which may lead to an increase in the average costs of production. In this case, a negative competition effect may dominate a positive technological spill-over effect (Konings, 2001). Moreover, FDI could also be associated with higher corruption levels in economic environments where competition is restricted even as it is more likely to crowd out domestic investment (Pinto and Zhu).

In the final analysis, one may not be in a position to arrive at any firm conclusions in these issues since things are still evolving and the transformation of the sector is on-going in both countries. The result in the short term is evident and regarding the long term, perhaps we can only adopt a wait and see attitude.

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