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Impact of Health Sector Public-Private Partnership on Effective Health Care Delivery for Economic Growth in Nigeria: an Error Correction Model

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Abstract
This paper is an attempt to empirically examine the impact of health sector public-private partnership on effective health care delivery for economic growth in Nigeria. The study employed time series data, econometric tools and error correction model. Econometric tools were used to test for unit root and co-integration. While the error correction model was used in the data analysis. From the test, the data were found to be stationary at various levels. The paper used Ordinary Least Squares in the estimation of the economic variables by means of multiple regression model. The research findings show that health sector public-private partnership and effective health care delivery have positive impact on economic growth in Nigeria. The results clearly show that the public and private expenditures have strong impact on economic growth in Nigeria and statistically significant in explaining variation in real gross domestic product in Nigeria. In addition, the results show that the Public expenditure on health, private expenditure on health, life expectancy rate and interest rate in Nigeria are strong determinants of health sector public-private partnership in Nigeria. While per capita income was found to have less impact health sector public-private partnership in Nigeria thereby affecting the economic growth in Nigeria. The per capita income of citizens determine their well being and the interest rate determine the private investment in the health sector. If the interest rate is high the private investors can access funds for health sector investment and if the per capita income is low it will affect health sector investment. From the study also one of the major problems of health sector public-private partnership in Nigeria are inconsistent health policies and the poor implementation of health sector public-private partnership policies in Nigeria. Therefore, the paper recommends that government and its agencies should strengthen the health sector public-private partnership policies in Nigeria and design evaluation mechanism to evaluate the health sector public-private partnership policies implementation for effective health care delivery in Nigeria. Finally, government should create job opportunities for the citizens that will improve their income earns and thereby increasing the per capita income of the people, health sector public-private partnership and effective health service delivery for economic growth in Nigeria

Keyword: *Public-Private Partnership, Health Care, Delivery, Growth, Per Capita Income*

Background to the Study

Health care is one of the most important assets a human being has. It permits us to fully develop our capacities which if not developed completely can cause physical and emotional weakness, causing obstacle in the life of people. Therefore a relationship can be seen between income and health. Life cycle models have explained how one's health status can determine future income, wealth and consumption (Lilliard and Weiss, 1997). Health problems also could be reflected as reductions and obstacles for economic progress. Ainsworth and Over (1994), have studied the impact of AIDs on African economic development, stating the disease is prevalent among young workers, affecting productivity and domestic savings rates. Diseases and poor health delivery systems inflict a heavy individual and fiscal burden on the society at large. In other words, it is critical to both Private and Public sector survival that health systems should be effective in service delivery. The call for improved health delivery services and expanded programs is particularly delicate in developing nations like Nigeria where diseases are having a major impact on the health and quality of life of all people across all the sectors. Under serviced areas of developed countries also suffer from inadequate community health programs and have similar burdens and needs. Based on these, it has become imperative that there should be levels of Public-Private Partnerships (PPPs) towards sustainable healthcare delivery systems, as suggested in the maiden National Health Summit held in Abuja, 1995.

The earliest forms of private sector activity in the healthcare arena in Nigeria were mainly in the role of Private-non-profit organizations like save our soul villages for orphans and destitute run mainly by Christian and other religious philanthropy groups. Others may include the likes of interventional programs run by groups like Rotary international in collaboration with governments and their agencies in areas of polio immunization and sight-saving outreaches. Some companies like chevron, Texaco have operated projects in Nigeria's oil-producing delta region for its employees- and other citizens (Okoli, 2003).In the last two decades, there has been a growing concern over the performance of the healthcare delivery system in Nigerian. In the year 2006, a mere 0.9% of the GDP was allocated to public health. Peters and Victoria stated that Nigerian health system is being force to adapt to changing health conditions, new technologies, transformations in society and evolving roles for government and the private sectors (Peters and Victoria, 2003). In recent years, the Nigerian government has formulated a number of innovative policies and plans to address the issue of under-performance, especially in terms of healthcare delivery. The Nigerian government has also introduced a number of reforms across different sectors, such as healthcare financing, healthcare financing, health insurance, continuing medical education, and health information systems. Yet, the public healthcare delivery system is unable to deliver and meet the health goals of Nigeria.

Apart from the private players, many civil society organizations have also entered the arena of healthcare delivery. The Nigeria government is encouraging public private partnerships (PPPs), and is also acknowledging their role and contribution in meeting the health goals of the country. Promotion of these PPPs is also important to lessen the

burden on the government in terms of providing the outreach as well as to alleviate the funding constraints. Under the 10th five year plan (2002-2007), initiatives have been taken to define the role of the government, private and voluntary organizations in meeting the growing needs for healthcare services and meeting the goals of national health programmes. The mid-term appraisal of the 10th five year plan also advocates partnerships subject to suitability at the primary, secondary and tertiary levels. The contemporary national health policy of Nigeria formulated in the year 2002, and the ambitious national rural health mission (NRHM) formulated for the period 2005-2012, takes into consideration the important role played by private players and civil society organizations in meeting the health goals of the country. At the national level for Nigeria, the MDGs have been integrated into the 10th and 11th five year plans as well as form an integral part of the national rural health mission (NRHM).

The national health policy of Nigeria envisaged the participation of the private sector in primary, secondary and tertiary care and recommended suitable legislation for regulating minimum infrastructure and quality standards in clinical establishments and medical institutions. The FGN, ministry of health and family welfare, has evolved guidelines for PPPs in different national health programmes like revised national tuberculosis control programme (RNTCP), national blindness control programme (NBCP), National leprosy eradication programme (NLEP), and reproductive and child health (RCH). Under the reproductive and child health programme several initiatives have been proposed to strengthen social-franchising initiatives. As per the FGN planning commission's Draft report of working group on PPPs, the NHRM as well as the national health policy envisage a definite role of PPPs in delivering healthcare services to both urban and rural Nigeria. Most importantly, NRHM proposes to support the development and effective implementation of regulating mechanisms for the private health sector to ensure equity, transparency and accountability in achieving public health goals.

All governments in Nigeria-federal, state, and local are confronted by fiscal constraints that force them to prioritize and restrict public expenditures on health. Consequently, several government-owned and operated hospitals are in dire financial state and face further pressures on the resources for health care services. These include the need to meet patient expectations in terms of demand for modern medical facilities; improve quality of care; and invest in expensive medical technology. These are factors that led the federal government to seek alternative ways of providing these services, hence, the Public-Private Partnership (PPP), in order to enhance the living condition of the its citizens and improved the health condition of the citizen. Despite the government in improving the health care service delivery in Nigeria the sub-sector has not lived to full expectation, because of some factors. At a sectoral level however, factors include on-going dynamic changes in the health system; the deplorable national health profile as evidenced by poor infant and maternal mortality rates and low life expectancy. The declining resource allocation to health, and the breakdown of equipment in public health services, has worsened the situation.

It has been acknowledged that government resources allocated to health have not be sufficient to maintain the existing health facilities; meet the increased demand due to population growth and rising public expectations; increase access to services; and improve the quality and level of care provided. Such key concerns about the ability of governments to finance health services adequately, the poor performance of public health service delivery systems, and the desire to expend the choices available to patients have prompted the Federal Government to embark on the Public-Private Partnership (PPP) scheme (Sagagi, 2005). Therefore, this paper is an attempt to empirically examine the impact of health sector public-private partnership on effective health care delivery for economic growth in Nigeria.

Literature Review

According to World Health Organization, (1999), "Public-Private Partnership (PPP) is a means to bring together a set of actors for the common goal of improving the health of the population based on the mutually agreeable roles and principles". A form of agreement that entails reciprocal obligations and mutual accountability, voluntary or contractual relationships, the sharing of investment and operational risks, and joint responsibility for design and execution. A partnership means that both parties have agreed to work together in implementing a programme and that each party has a clear role and say on how that implementation happens (Balgescu and Young, 2005).One key form of Public-Private Partnerships (PPP) is specific contractual relationship where the private sector performs certain functions, or delivers specific programme on behalf of the government. Such Public-Private Partnerships (PPP) may be employed by all tiers of government. In such Public-Private Partnerships (PPP), the responsibilities of both the private and public partners will be explicitly negotiated and documented at the onset in form of partnership agreement, contractual or memorandum of understanding (Federal Ministry of Health, 2005). Other partnerships will be based around governments (federal, state and local governments) carrying out specific institutional functions in the public interest and for the public good. These include the core governmental roles in regulating and sustaining an enabling environment for health markets.

According to federal Ministry of Health the rationale for PPP are: the governmental has the obligation to ensure an enabling environment for health provision and to ensure that all the people are protected from harmful health practices and have rights as health consumers; to provide sufficient health care to the large number of people who have little or no access to health care; Current resources area poorly targeted and inefficiently deployed and Increases in a variety and impacts of infections and non-infectious diseases. Also the goal for PPP in health care provisioning is to promote and maintain all forms of partnership and collaboration between the public establishments and the private sector with a view to attaining and sustaining the desired level of health development in Nigeria (Federal Ministry of Health, 2005). Salanie (1997) suggests that health seen through reductions in mortality has an important impact on economic growth during the early twentieth century. However, he comments that increases in the health status of the population of developed nations will have little impact on economic growth, but the impact could be different for developing nations. For this matter, he

points out several ways how health programmes could have an impact on economic development on developing nations.

Jack (1999) explains that productivity of labour depends on factors like physical and mental capabilities, investments in human capital and efficiency of labour organization and management, and emphasizes that changes in health could affect labour productivity through the previous channels. Also, labour productivity could also be reduced by the need to care for sick relatives or by reducing years of schooling if parents are chronically ill. On the other hand, improvements in health could positively affect the experience level of the work force by increasing their expectancy and good health status condition. According to (Okoli, 2003), PPPs can be structured to assist in the course of improving health status of the Nigerians in many ways. PPPs b virtue of their structures and orientations can ease the binding constraints to sectoral growth, and by so doing, will be able to generate incomes that assist in sustainable infrastructure for health. It also provides service-oriented employment, rather than the picture of bloated public sector service that is not result-oriented, and "eaten-up" corruption. This will then enable government revenues to finance higher levels of private and public needs and ease pressures on the system. According to him, PPP projects can also have an indirect influence on health outcomes in Nigeria and other low-income settings by: enabling the poorer populace to have a better quality of life by increasing access to health care service, education, wholesome portable drinking water, information and markets; providing available and affordable access to good-quality, economic and social infrastructures services to poor people; providing employment and business opportunities to the underprivileged.

Methodology

Sources of Data

Secondary data were used in this study, the data include real gross domestic product in Nigeria as endogenous variable. Public expenditure on health, private expenditure on health, life expectancy rate in Nigeria, per capita income and interest rate are the exogenous variables. These data were sourced from Central Bank of Nigeria statistical bulletin 2014, National Bureau Statistic web site and World Bank Databank, 2014.

Method of Data Analysis and Model Specification

This paper employed the Error Correction Mechanism (ECM) in the analysis of study. ECMs are helpful while dealing with co-integrated facts, however can also be used along with fixed facts. The basic structure an ECM model is represented as:

$$\Delta Y_t = \alpha + \beta \Delta X_{t-1} - \beta EC_{t-1} + \varepsilon_t \qquad (3.1)$$

ΔY is the output that is Real Gross Domestic Product (RGDP) which is used as a proxy for economic growth in Nigeria. The βX present the five endogenous variables i.e (PUEXH, PAEXH, LEN, PCY, INTR) which arePublic expenditure on health (PUEXH), private expenditure on health (PAEXH), life expectancy rate in Nigeria (LEN), per capita income (PCY) and interest rate (INTR).To formulate Error Correction Model (ECM) it will begins

with the Ordinary Least Squares (OLS), the Ordinary Least Squares for multiple model is formulated as follows:

$$RGDP = \alpha + \beta_1 PUEXH + \beta_2 PAEXH + \beta_3 LEN + \beta_4 PCY + \beta_5 INTR + \varepsilon_t \quad (3.2)$$

To make the units to be the same, the natural log of equation 3.2 is taken as:

$$LOG(RGDP) = \alpha + \beta_1 LOG(PUEXH) + \beta_2 LOG(PAEXH) + \beta_3 LOG(LEN) + \beta_4 LOG(PCY) + \beta_5 LOG(INTR) + \varepsilon_t \quad (3.3)$$

From the equation above the Error Correction model (ECM) is formulated as follows:

$$LOG(RGDP) = \alpha + \beta_1 LOG(PUEXH) + \beta_2 LOG(PAEXH) + \beta_3 LOG(LEN) + \beta_4 LOG(PCY) + \beta_5 LOG(INTR) + \beta LOG(PUEXH)_{t-1} + \beta LOG(PAEXH)_{t-1} + \beta LOG(LEN)_{t-1} + \beta LOG(PCY)_{t-1} + \beta LOG(INTR)_{t-1} + \beta LOG(X)_{t-2} + \ldots\ldots\ldots\ldots + \beta LOG(X)_{t-n} - ECM_{t-1} + \varepsilon_t \quad (3.4)$$

The over parameterized model will be used to adjust the estimation until the ECM turned negative. The negative sign of coefficient of the error correction term ECM (-1) shows the statistical significance of the equation in terms of its associated t-value and probability value.

Discussion of Results

Unit Root Test (Augmented Dickey-Fuller (ADF))

Table 4.2: Result of Augmented Dickey-Fuller (ADF) Test for Stationarity

Variables	Adf Statistic	1% Critical Value	5% Critical Value	Difference
RGDP	-3.387907	-3.7204	-2.9850	2ND
PUEXH	-5.248245	-3.7076	-2.9798	1ST
PAEXH	-4.754534	-3.7076	-2.9798	1ST
LEN	-5.756260	-3.7204	-2.9850	2ND
PCY	-6.681267	-3.7204	-2.9850	2ND
INTR	-5.266541	-3.7076	-2.9798	1ST

The table 4.2 shows the stationary test of the economic variables, the Real Gross Domestic Product (RGDP), Public expenditure on health (PUEXH), private expenditure on health (PAEXH), life expectancy rate in Nigeria (LEN), per capita income (PCY) and interest rate (INTR). From the test result the Real Gross Domestic Product (RGDP), life expectancy rate in Nigeria (LEN) and per capita income (PCY) were stationary at second difference (0)2 using the Augmented Dickey-Fuller (ADF) values and 1 and 5 percent critical values. On the other hand Public expenditure on health (PUEXH), private expenditure on health (PAEXH) and interest rate (INTR) were stationary at first difference (0)1 using the Augmented Dickey-Fuller (ADF) values and 1 and 5 percent critical values.This implies that economic variables are fit for the estimation and the analysis for the study.

Con-Integration Test

Table 4.3: Johansen Co-Integration Test

Series (RGDP Puexh Paexh Len Pcy Intr)

Eigenvalue	Likelihood Ratio	5 Percent Critical Value	1 Percent Critical Value	Hypothesized No. of CE (s)
0.903227	141.8799	94.15	103.18	None**
0.693555	78.82435	68.52	76.07	At most 1**
0.609024	46.89098	47.21	54.46	At most 2
0.381907	21.53507	29.68	35.65	At most 3
0.263084	8.544945	15.41	20.04	At most 4
0.011136	0.302350	03.76	06.65	At most 5

**(**) denotes rejection of the hypothesis a 5 %(1%) significance level* L.R. test indicates 2 co-integrating equation(s) at 5% significance level

The Johansen co-integration test result in Table 4.3 shows the existence of two co-integrating equations at 5% significance level in the model. The hypothesis which states there is no long-run relationship between Real Gross Domestic Product (RGDP) and health sector public-private partnership in Nigeria is rejected at 5% significance level. This implies that there exists a long-run relationship between Real Gross Domestic Product (RGDP) and health sector public-private partnership in Nigeria.

Ordinary Least Squares Regression Estimates

Table 4.4: Data Estimation Results

Variables	Coefficient	Standard Error	T-Statistical	PROB.
C	-11.51124	4.791155	-2.402602	0.0249
LOG(PUEXH)	0.031848	0.015037	2.117976	0.0452
LOG(PAEXH)	0.078097	0.016118	4.845271	0.0001
LOG(LEN)	5.904487	1.332995	4.429489	0.0002
LOG(PCY)	0.068176	0.065620	1.038948	0.3096
LOG(INTR)	0.182037	0.060436	3.012060	0.0062
R-SQUARE	0.989			
ADJ R-SQUARE	0.987			
F-STATISTIC	422.4640			
D-W STATISTIC	1.916926			
PROB	0.00000000			

Having conducted the unit root test using the Augmented Dickey-Fuller (ADF) stationarity test, we went further to estimate the economic variables having Real Gross Domestic Product (RGDP) which is used as a proxy for economic growth in Nigeria. The βX present the ten endogenous variables i.e (PUEXH,PAEXH,LEN,PCY,INTR) which are Public expenditure on health (PUEXH), private expenditure on health (PAEXH), life expectancy rate in Nigeria (LEN), per capita income (PCY) and interest rate (INTR). The

result shows that all the economic variables are positively related to Real Gross Domestic Product (RGDP) and that Public expenditure on health (PUEXH), private expenditure on health (PAEXH), life expectancy rate in Nigeria (LEN) and interest rate (INTR) are statistically significant to Real Gross Domestic Product (RGDP) at 5 percent level of significance. This implies that any unit change in these economic variables will cause percent change in Real Gross Domestic Product (RGDP) in Nigeria. On the other, the per capita income (PCY) was found to be statistically insignificant in explaining the variation in Real Gross Domestic Product (RGDP) in Nigeria. This means that any change in per capita income (PCY) will not cause any variation in Real Gross Domestic Product (RGDP) in Nigeria. This may be due to the fact that the value ofper capita income (PCY) in Nigeria is too low to account for the improvement in health care service delivery in Nigeria.

The result further shows that model in use is fit to explain the variation in Real Gross Domestic Product (RGDP) given the value of the F-statistics of 422.4640 and this implies that any variation in the independent variables Public expenditure on health (PUEXH), private expenditure on health (PAEXH), life expectancy rate in Nigeria (LEN), per capita income (PCY) and interest rate (INTR) can account for 98 percent of the total variation in theReal Gross Domestic Product (RGDP) in Nigeria. Furthermore, the adjusted R^2 of 0.98 percent indicates that 98 percent of the variations in the dependent variable are explained by variations in the independent variables and the Durbin Watson statistic of 1.92 suggests that the model is free from serial auto correlation.

Error Correction Regression Estimates

Table 4.5: Data Estimation Results

Variables	Coefficient	Standard Error	T-Statistical	PROB.
C	-15.37453	1.528467	-10.05880	0.0000
LOG(PUEXH)	0.040800	0.014252	2.862788	0.0090
LOG(PAEXH)	0.078231	0.014753	5.302590	0.0000
LOG(LEN)	6.958292	0.398547	17.45914	0.0000
LOG(INTR)	0.224797	0.069019	3.257045	0.0036
ECM(-1)	-0.470292	0.202103	-2.326996	0.0296
R-SQUARE	0.99			
ADJ R-SQUARE	0.988			
F-STATISTIC	469.9491			
D-W STATISTIC	1.619			
PROB	0.00000000			

The error correction model in Table 4.5 show that the coefficient determination (R^2) is 0.99, which indicates that about 95 per cent of the systematic variation in the Real Gross Domestic Product (RGDP) growth rate is accounted for by the variables taken together. The F-value of 469.9491 is significant at 1 per cent level of significance, which further suggests a linear relationship between the regressors and regressand. That is there is a strong relationship between Real Gross Domestic Product (RGDP) growth rate and Public expenditure on health (PUEXH), private expenditure on health (PAEXH), life

expectancy rate in Nigeria (LEN) and interest rate (INTR). While the D.W. statistics of 1.62 rules out auto-correlation.

From the result, the Public expenditure on health (PUEXH), private expenditure on health (PAEXH), life expectancy rate in Nigeria (LEN) and interest rate (INTR) were found to be positively related to Real Gross Domestic Product (RGDP) and all the variables were statistically significant in explaining any variation in the Real Gross Domestic Product (RGDP) at the short-run in Nigeria. This implies that any change in Public expenditure on health (PUEXH), private expenditure on health (PAEXH), life expectancy rate in Nigeria (LEN) and interest rate (INTR) will cause 0.041, 0.078, 6.96 and 0.22 percent change in the Real Gross Domestic Product (RGDP) in Nigeria respectively.

Also, from the result the coefficient of the error correction term is -0.470 which implies that the speed of adjustment is approximately 0.47 per cent per quarter. The negative sign and significant coefficient is an indication that co-integrating relationship exists among the variables that is Real Gross Domestic Product (RGDP) and health sector public-private partnership in Nigeria. The size of the coefficient on the error correction term (ECT) denotes that 47 per cent of the disequilibrium caused previous year's shock converges back to the long run equilibrium in the current year. This implies that in the short-run the health sector public-private partnership has fairly impact on effective health care delivery for economic growth in Nigeria.

Conclusion and Recommendations

In conclusion, the long and short run results show that there is a strong relationship between Real Gross Domestic Product (RGDP) and health sector public-private partnership in Nigeria. All the economic variables were positively related to Real Gross Domestic Product (RGDP). Public expenditure on health (PUEXH), private expenditure on health (PAEXH), life expectancy rate in Nigeria (LEN) and interest rate (INTR) are statistically significant to Real Gross Domestic Product (RGDP) at 5 percent level of significance both in the long and short run except per capita income (PCY) which was found to be statistically insignificant in explaining the variation in Real Gross Domestic Product (RGDP) in Nigeria in both periods (long and short run). This means that per capita income in Nigeria is statistically insignificant in explaining the variation in Real Gross Domestic Product (RGDP). Though it is positively related to Real Gross Domestic Product (RGDP) in Nigeria but over the years has contributed less to the Real Gross Domestic Product (RGDP) in Nigeria compare to other economic variables in the study.

From the findings the poor per capita income in Nigeria has resulted to poor health care service delivery in Nigeria. Since the average citizens are poor and with low per capita income it becomes difficult for them to access good health care service and on the other hand reduce the private sector investment in the health sector in Nigeria. More also, it becomes difficult for government alone to provide the full health care service needed by the huge population of the country. The study also found out that aside the low per capita income one of the major problems of health sector public-private partnership in Nigeria

are inconsistent health policies and the poor implementation of health sector public-private partnership policies in Nigeria. Therefore, the paper recommends that government should create job opportunities for the citizens that will help to improve the income of the people and thereby increasing the per capita income of the people which in return it will improve the health sector public-private partnership for economic growth in Nigeria. Finally, government and its agencies should strengthen the health sector public-private partnership policies in Nigeria and design evaluation mechanism to evaluate the health sector public-private partnership policies implementation for effective health care delivery and economic growth in Nigeria.

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Appendix I

Table 4.1 Data for Regression

Year	RGDP	PUEXH	PAEXH	LEN	PCY	INTR
1986	205971.4	262.71	2.8	46.3	240.6	10.50
1987	204806.5	225.01	2.9	46.3	272.5	17.50
1988	219875.6	1458.80	3.6	46.2	256.4	16.50
1989	236729.6	3011.80	4.0	46.1	260.0	26.80
1990	267550.0	2402.80	4.4	46.1	321.7	25.50
1991	265379.1	1256.30	5.2	46.1	279.3	20.01
1992	271365.5	291.30	13.4	46.1	291.3	29.80
1993	274833.3	8882.38	19.6	46.1	153.1	18.32
1994	275450.6	7382.7	22.7	46.1	171.0	21.00
1995	281407.4	9746.4	26.2	46.1	263.3	20.18
1996	293745.4	11496.1	26.9	46.2	314.7	19.74
1997	302022.5	3891.1	181.9	46.2	314.7	13.54
1998	310890.1	4742.2	47.8	46.3	273.9	18.29
1999	312183.5	16638.7	54.9	46.4	299.4	21.32
2000	329178.7	15218.0	108.6	46.6	377.5	17.98
2001	356994.3	24522.2	137.3	46.9	350.3	18.29
2002	433203.5	40621.4	141.4	47.2	457.4	24.85
2003	477533.0	33267.9	145.6	47.6	510.3	20.71
2004	527576.0	34197.1	150.0	48.1	645.8	19.18
2005	561931.4	55661.6	154.5	48.7	804.0	17.95
2006	595821.6	58686.5	158.8	49.8	1014.7	17.26
2007	634251.1	72290.0	163.6	49.8	1131.1	16.94
2008	672202.6	98200.0	188.1	50.3	1376.9	15.14
2009	716949.7	90202.6	212.0	50.8	1092.0	18.99
2010	776330.0	99100.0	324.0	51.3	2315.0	17.59
2011	834400.0	231800.0	348.0	51.7	2514.1	16.02
2012	888890.0	197900.0	383.2	52.1	2739.9	16.79
2013	950110.0	179990.0	323.9	52.5	2979.8	16.72
2014	988564.0	194960.0	433.9	52.7	3,203.3	16.55

Sources: (1) CBN Statistical Bulletin online version (2014),
(2) National Bureau of Statistics online databank (2015)
(3) World Bank online databank (2015)