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AN EVALUATION OF THE IMPACT OF THE INFORMAL SECTOR ON ECONOMIC GROWTH IN NIGERIA USING ERROR CORRECTION MODEL (ECM) 1985 - 2014

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Abstract

Nigeria with a population of over 160 million people has the highest numbers of workers in the informal sector in Africa. Informal sector therefore, plays a significant role in the Nigerian economy for it creates employment and reduces poverty. This study therefore, examines evolution of the impact of the informal sector on economic growth in Nigeria from 1985 to 2014, using Error Correction model (ECM) to analyze the data. The result reveals that informal sector has long-run and positive relationship with economic growth but statistically insignificant. Based on these findings, the study recommends fiscal regulation and employment policies to foster economic growth and development. And thereby, concludes that informal economy is a source of income but it is difficult to ascertain its contribution to economic growth and development of Nigeria in the short run.

KEYWORDS: Informal Economy, Economic Growth, Nigeria, Error Correction Model

Introduction

Nigeria with a population of over 160 million people has the highest numbers of workers in the informal sector in Africa. According to Arosanyin et al. (2011) the informal economy plays a

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significant role in the Nigerian economy by creating employment and reducing unemployment and poverty. Although, most of the of the employees of informal economy, work in a precarious situation, with low pay, no social security or safety net, they find the informal sector as a safe haven since government cannot provide them with suitable jobs, working in the informal sector seems to be the last resort. The informal economy is associated with microeconomic activities such as furniture making, woodwork, tailoring, carpentry and tax evasion is predominantly in this sector (Agbuabor and Malaolu 2013).

The informal sector consists of all activities operating outside the official legal and fiscal system, with a resulting lack of reliable statistical information. The sector contributes significantly to production, consumption, employment and income generation in developing countries. It is a source of livelihood to poor majority, skilled and unskilled, socially marginalized and female population and is an important means of survival for people in countries lacking proper social wellbeing (Agbuabor and Malaolu, 2013; Oladayo, 2014; Oresayan, et al 2011). For example, the informal economy in Nigeria contributes 57.9% to Nigerian GDP in 2013, while the formal sector compliments it with 42.1%. Furthermore, it offers various outlets for professional entrepreneurs from the medium and large scale enterprise who desires to be self-employed using minimal capital resources (Oladayo, 1014).

According to National Bureau of Statistic (NBS) report in 2014, the informal sector comprises of over 17 million enterprises and account for more than 50% of jobs generated in the Nigerian economy. The informal sector represents the greatest number of estimated jobs created with 240,359, which is 55.25 per cent of all jobs created in the Nigerian economy. This followed by the formal sector with 164,293 jobs representing 38.45 per cent, in the Nigerian economy in the third quarter of 2012. In 2013, informal sector generated an estimated 396,518 jobs. The sector thus maintains its position as the major employer of labour in Nigeria. The types of jobs that constitute this sector are mainly peasant or small-holder farmers, wholesale and retail trading, household manufacturing and individual services. In 2014 the formal sector created 145,464 jobs in the third quarter, compared to 78,755 jobs created in the second quarter of 2014. The report

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also stated that the Informal sector generated 198,114 jobs in the third quarter, up from the 175,786 jobs created in the second quarter of 2014, while the Public sector created 5,735 new jobs compared to the 4,812 jobs in the previous period.

Despite the contribution of informal sector in employment generation, poverty reduction, inequality and unemployment are still increasing significantly in Nigeria (Ismail and Fasanya 2012). Similarly, the Nigeria's Poverty Profile released by the NBS in 2012 shows that 112 million Nigeria live in relative poverty (Oladayo, 2014). Dual view theory of informal sector also opined that, although, informal sector contributes significantly to the development of developing countries, there is no concrete evidence that this sector enhances economic growth (Yadav, 2009). According to Onakoya, (2012), despite the wide importance, current knowledge of the size, causes, characteristics, and dynamics of the informal sector, it remains very scanty and inadequate. He further said, despite the increasing interest of the world over informal sectors as a tool for actualization of sustainable growth and development among other beneficial effects, there seems to be shortage of research work in the field in Nigeria. These therefore, serve as the bases of motivation for this study

The objective of this study is to ascertain the degree of informal sector's contributions to the Nigerian economic growth over a specific period of time. The study is divided into five sections. Section two after the introduction is literature review, section three is the methodology and section four is made up of recommendations and conclusions.

Literature Review

The informal sector was originally treated as a residual emanating from the insufficient absorptive capacity of the formal economy. It has been emphasised in the literature that productivity growth in the formal sector acts as a 'pull' factor in drawing informal sector workers and enterprises towards it. Ironically, informal sectors of most developing countries have actually increased over time. Informality has been characterised as a response to high transaction costs caused by cumbersome bureaucratic procedures for business start-ups, and

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irritating compliance with unclear and prohibitive rules and regulations. Rise in informality is associated with economic restructuring and economic crisis. For example, the Nigeria's Structural Adjustment Programmes (SAPs) of the 1980s and 1990s is said to have increased the informal economy due to retrenchment of the public sector and associated liberalisation policies (Oladayo, 2014).

Apart from the fact that informal sector stimulates, enhances innovation and adaptation, it also helps in resource mobilization: both capital and human resources which would otherwise have been ordinarily left idle. It encompasses a wide variety of economic activities that tend to be ignored in normal economic statistical analysis (Fapohunda, 1999; 2012). One significant contribution which the sector also makes to the economic growth and development is in terms of job training and entrepreneurship, which are developed within it (Omisakin, 1999).

According to IMF in Schneider and Enste (2002) estimation for the period 1988–2000 suggest that informal sector accounted for 14–16% of GDP in 21 advanced economies (all members of the OECD). For the period 1999–2001, Italy and Greece had informal economies of 27% and 30% of GDP, respectively. The informal economy proportion of GDP averaged 21–30% between 1988 and 2000, with Russia at 44% and Georgia at 64% in 1998–1999. The latter is modest compared to some of the developing countries where IMF estimates for 1998–1999 show that the informal economies of Nigeria and Egypt were equivalent to 77% and 69% of GDP, respectively. Hong Kong and Singapore had informal economies of only 14%, but Bolivia at 67% had the largest informal economy in Latin America. It has been estimated that 60% of person-hours worked took place in the informal sector of Peru during the mid-1980s (De Soto et al., 1986). Growth in the size of the informal economy tends to push up the demand for currency (since most of the transactions are in cash), reduces labour force participation rates and the number of hours worked in the formal economy. It is not clear, however, whether growth of an informal economy depresses GDP (Jonathan and Victor (2013).

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The relationship between informality and growth is not only inconclusive but it can go in both directions: (i) Economic growth can have expansionary or contractionary effects on the informal economy; and (ii) The informal economy can have a positive or negative impact on economic growth. Sustained economic growth that is pro-poor is believed to reduce informality. Developing countries with (i) no growth, (ii) capital intensive growth (jobless growth), or (iii) high-tech growth (rise in demand for skilled service sector jobs rather than unskilled manufacturing jobs) could experience an expansion in their informal sectors. For example, in India's case, its GDP growth has been largely capital and information technology intensive rather than labour intensive, with limited formal employment generated in the manufacturing sector till 2002. The informal economy is assumed to be counter cyclical, i.e. contracting during economic booms and expanding during recessions. However, informal sector activities can also rise during times of economic boom, as exemplified by an Indonesian study, where the informal enterprises were able to quickly respond to a rise in demand by evading the bureaucratic impediments of a formal business setup.

Empirically, Salisu (2001) utilised the MIMIC approach to estimate the size of the hidden economy in Nigeria. The study found that the informal economy was about 9.64 – 65.43% of GDP in the period 1960 to 1997 and that the size of the informal sector in 1997 was about 58.76% of GDP. Likewise, Jonathan and Victor (2013) examined the magnitude of economic loss attributed to informality in Nigeria between 1970 – 2010, and found that the size of the informal economy has hovered between 53.6 – 77.2% of GDP, and that the average size of the informal economy was about 64.6% of GDP..

Adam and Yelwa (2015) studied impact of informality and economic growth in Nigeria between 1980 – 2014 and found that informal economy has a significant and positive impact on official economy nominal GDP. Tshuma and Jari (2013) studied same in South Africa and found that informal sector in developing countries makes significant contribution towards GDP and serve as major potential source of entrepreneurship hence, a source of income for the less educated and less skilled.

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Stephen. (2005) studied estimates of the informal economy in South Africa between 1966 – 2002 and founds that the it affects formal economy. This means, an increase in the size of the informal economy leads to increase in the growth of the economy as a whole. Mohammed Yelwa, Obansa, Awe and Omonoyi (2015) investigated the impact of informal sector activities and economic growth in Nigeria and found that it has a positive and significant impact on growth in Nigeria.

Ismail and Adegbelemi (2012) studied impact of informal sector on employment generation in Nigeria. They found that its activities have significant impact on absorbing the large pool of labour force in Nigeria. Njaya (2015) in a study of Zimbabwean economy however, found that although, informal sector provides for employment but unskilled and low wage works, short lived and sheer provision for survival reducing poverty not unemployment; and therefore, the employees of the sector are always looking forward to getting jobs in the formal sector. In other words, the jobs in the informal sector are without dignity and rights, highly irregular, uncertain and insecure.

The reviewed literatures show the relationship between informal sector and economic growth, determinants of informal sector, causes and size of informal sector using different method; some of the finds show significant and positive relationship between informal sector and economic growth. This explain the difficulty in defining informal sector because of all the reviewed studies there is no any study that have agreed on same findings even those that employed almost same method of analysis there is divergent view.

Theoretical Framework

The theoretical framework for the study with a view to formulating the models that is used to analyze the relationship between the informal sector and economic growth is cut view. This established that informal sector serve as a yardstick to solve puzzling circumstance in formal sector. That is, people are engaged in informal activities not for anything but to sustain a living through income generated. This theory validate the role of informal sector as a sources of income and our expectation that informality is not a parasite or threat to economic growth, rather a sources of income through creation of employment opportunity thereby reducing poverty,

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crimes, and political instability which is one of the features of economic growth and development.

The literature has contrast opinions about the subject matter. For instance, absence of surpluses for technological change limits informal firms to a ‘low productivity trap’ which adversely impacts on the overall productivity growth of a country. A large informal sector limits fiscal revenue generation, which can impact on government spending on infrastructure and social services provision and thereby hamper economic growth (Loayza, 1997). The informal economy can have a positive or negative impact on economic growth (Yelwa et al 2015). The informal sector stimulates and enhances innovation and adaptation. It increases utilization of virgin re-useable materials (Fapohunda, 2012). Thus, the statements of hypothesis that informal sector does not significantly influence economic growth.

Model Specification

To specify the model suitable for this research, cut view theory is used.

$$Y = f(x) \dots\dots\dots (I)$$

Where y = dependent variable and x = independent variable

The model of this study is specified as follow;

$$RGDP = f(INFOR, UNEM, POP) \dots\dots\dots (II)$$

RGDP= Gross Domestic product growth rate

F = Function

INFOR = Informal sector (proxy as currency in circulation and measured as percentage of GDP)

UNEM = Unemployment rate

POP = population growth

This relationship can be express as:

$$RGDP_t = \alpha + \beta_0INFOR_t + \beta_1UNEM_t + \beta_2POP_t + \mu_t \dots\dots\dots (III)$$

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Where

RGDP = Dependent or response variable

α = Constant

$\beta_0 - \beta_2$ = Coefficient to be estimate

t = time

INFOR, UNEM, and POP = independent or explanatory variables

μ = Stochastic or error term (other factors that affect this model that are not captured)

Justification of the Variables

Due to the difficulties in measuring the contribution of the informal economy to the national income as well as the lack of relevant statistics, empirical evidence on the exact contribution of informal activities to national output is difficult to obtain. While, the majority of transactions in the informal economy are in cash, it is not 100%. Researchers have found that about 80% of transactions are made in cash (Isachsen and Strom, 1980). Since our study is not different from other developing country, we used currency demand approach. However, in this study and in accordance with Giles and Tedds (2002), Buehn and Schneider (2008), as well as Jonathan and Victor (2013), we used currency in circulation (M1), as proxy to measure informal sector in Nigeria and we expected a positive relationship between the informal economy and Economic growth. Other variables used in the model are:

Unemployment rate: The relationship between unemployment and economic growth goes hand in hand. According to Walterskirchen (1999) the simple, but wrong argument is: there can be no negative relationship between economic growth and unemployment, because GDP and unemployment are both rising in the long run.

Population growth: Population is an asset of economic growth because economic can only grow if people are at work. Population growth linearly depends on economic growth (Minh, 2012)

Unit Root Test

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The data used in this study are annual time series data from 1984 to 2014. The number of observations is 30. We began our empirical analysis by pre-testing the data to avoid accepting spurious regression. Regression of a non-stationary time series on another non-stationary time series may cause a spurious regression or non-sense regression. A spurious model is not desired. Symptoms of a spurious regression; if the R-square value is greater than the value of Durbin Watson statistics the result is spurious regression model which is not accepted but if the residual is stationary the estimate is not spurious and accepted.

Conditions for accepting spurious regression

(1) The variables must not be stationary at levels.

(2) The residual must be stationary

Unit root test is a pre-test for stationary of the variables used in the model. Null Hypothesis: the variable has unit root and Alternative Hypothesis: the variable does not have unit root. We conducted the Augmented Dicky-Fuller (ADF) unit root test, to test the stated hypotheses and the results for all the variables are shown in table below:

Table: 1

ADF Unit Root Tests Result

Variables	ADF-Statistic	Critical values	Order of integration
RGDP	-8.376803 (0.0000)	1% level = -3.670170 5% level = -2.963972 10% levels = -2.621007	First difference
INFOR	-3.738149 (0.0000)	1% level = -3.670170 5% level = -2.963972 10% level = -2.621007	First difference
UNEM	-5.817762 (0.0000)	1% level = -3.670170 5% level = -2.963972 10% level = -2.621007	First difference
POP	-7.060963 (0.0000)	1% level = -3.670170 5% level = -2.963972 10% level = -2.621007	First difference

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Table 2 summarized Augmented Dicky Fuller (ADF) test and constant. The parentheses are probability values. The unit root test results show that all variables are RGDP, INFOR, UNEM and POP are stationary at level and significant at 1%, 5% and 10%. Therefore, the variables are all stationary now and we reject null hypothesis and accept alternative and conclude that the variables does not have unit root.

Cointegration Test

This is the second pre-test to determine whether there is long run relationship between the variables used in the model. The hypothesis; Null hypothesis: there is no cointegration among the variables. Alternative hypothesis: there is cointegration among the variables. The Johansen Tests for co-integration was conducted and table 2 below summarizes the result.

Table: 2

Hypothesis	Trace Statistic	5% Critical Value	Probability value
None 0	197.2401	95.75366	0.0000
At most 1	112.8534	69.81889	0.0000
At most 2	31.99244	29.79707	0.0275
At most 3	5.066148	3.841466	0.0244

Trace test indicates 4 cointegration equations at the 5% level, denotes rejection of the hypothesis at the 5% level.

From the above table 2, none 0 mean there is no cointegration among the variables. Since the trace statistic is more than critical value and probability value is less than 5% we reject the null hypothesis and accept alternative hypothesis, meaning there is cointegration among the variables. At most one, mean there is one cointegrated equation. Since the trace statistic is greater than critical value and probability value is less than 5% we reject null hypothesis and accept alternative hypothesis. At most two, mean there are two cointegrated equation or error term. Since the trace statistic is greater than critical value and probability value is less than 5% we reject null hypothesis and accept alternative hypothesis. At most three, mean there are three cointegrated equation or error term. Since the trace statistic is more than critical value and probability value is less than 5% we reject null hypothesis and accept alternative hypothesis.

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Since trace statistic behaviour is the same we conclude that there is long run relationship among variables.

This result can also be verified by testing residual stationarity. If the residual is stationary the variables in the model are cointegrated or have long run relationship or equilibrium i.e. the model is long run model and β_2 Coefficient will be long run coefficient.

Table: 3

Variables	ADF-Statistic	Critical values		Order of integration
U(resid)	-9.179746	1% level	-3.670170	At level
		5% level	-2.963972	
		10% level	-2.621007	

The above table 3 shows that unit root test result indicates that U is stationary at levels both at 1%, 5% and 10% levels of significance. This reconfirms our earlier result that the variables are co-integrated with RGDP. Since there is long run relationship among variables, then we estimate error correction model, where the RGDP is the dependent variable and the INFOR, UNEM, and POP variables are the independent variables using E-view7 as;

$$\Delta(\text{RGDP}_t) = \alpha + \beta_0 \Delta(\text{INFOR}_t) + \beta_1 \Delta(\text{UNEM}_t) + \beta_2 \Delta(\text{POP}_t) + \beta_3 U_{t-1} + V \dots \dots \dots \text{(IV)}$$

Where

$\beta_0 - \beta_2$ = short run coefficient

V = white noise error term

U_{t-1} = one period lag residual

Δ = Difference

U_{t-1} is also known as equilibrium error term of one period lag. It guides the variable to restore back to equilibrium. In other words it corrects disequilibrium.

β_3 = the speed at which it correct the previous disequilibrium back to equilibrium. It significant and contain negative sign validate there exist a long run equilibrium.

Discussion of Results

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$\Delta\text{RGDP} = -0.04 + 0.07\Delta\text{INFOR} - 0.68\Delta\text{UNEM} + 119.58\Delta\text{POP} - 1.58U(-1)$					
Std error	(108)	(0.23)	(0.52)	(56.94)	(0.17)
T-statistic	(-0.04)	(0.31)	(-1.31)	(2.10)	(-9.44)
Prob.	(0.97)	(0.76)	(0.21)	(0.05)	(0.00)
R ²	[0.79]				
R ⁻²	[0.75]				
F-statistic	[22.53]				
Prob (F-statistic)	[0.00]				
DW statistic	[2.27]				

The above regression result shows that economic growth has positive relationship with informal sector and statistically insignificant with the probability value greater than 5%. This is in line with the finding of Adam and Yelwa (2015), and Stephen (2005) but contrarily to the finding of Loayza (1997). This then mean a unit changes in informal sector lead to an average of (0.07) unit changes in economic growth holding other variables constant.

Population has positive relationship with economic growth and statistically significant with the probability value less than 5%. A unit change in unemployment lead to an average of (119.58) unit decrease in economic growth, holding other variables constant. This is in line with Minh, (2012).

Unemployment is inversely related with economic growth and statistically insignificant with the probability value greater than 5%. A unit change in unemployment lead to an average of (-0.68) unit fall in economic growth, holding other variables constant. This is contrary with the findings of Walterskirchen (1999).

Residual (U) is the speed at which it correct the previous disequilibrium. The speed it correct previous disequilibrium is 1.58, it is significant and contain negative sign validate there exist a long run equilibrium. Therefore, the result then means that in the short-run informal economy doesn't affect economic growth.

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Coefficient of determination shows 79% total variation in explanatory variables explaining the dependent variable and the remaining 21% were not captured by the model meaning, the model is good fit and adjusted R²-square is 75%.

F-statistic value is 22.53 which measure simultaneous significance of explanatory variables. The f- statistic is statistically significant with probability value less than 5%. Durbin Watson statistic on the other hand is 2, absence of autocorrelation. This goes to mean that the model reveals no spurious regression because the value of R²-square is less than Durbin Watson statistic.

Conclusion

The result indicate that informal sector have insignificant and positive effect on economic growth. This result demonstrates that informality is a source of income but it is difficult to ascertain its contribution to economic growth and development of Nigeria in the short run. The evidences we have presented is broadly consistent with the dual view of informality: informal firms stay permanently informal, they hire informal workers for cash, buy their inputs for cash, and sell their products for cash, they are extremely unproductive, and they are unlikely to benefit much from becoming formal. On the other hand, we are not of the opinion of all policies that might tax or regulate informal firms. Rather than encourage informal firms to become formal, such policies may have the effect of driving them out of business, leading to poverty and destitution of informal workers and entrepreneurs. The recognition of the fundamental fact that informal firms are extremely inefficient recommends extreme caution with policies that impose on them any kind of additional costs. There is abundant evidence that growth that kills the informal sector is driven by the formation and expansion of formal firms managed by educated entrepreneurs.

Recommendation

Successful informal businesses absorb not only a significant part of the unemployed labor force, but also reduce crime and government expenditure on security and legal services as more people would be earning income and not depending on crime and social grants respectively. Having

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established that economic growth is positively related to informality, and informality is a source of income but it is difficult to ascertain her contributions to economic growth and development of Nigeria, we recommend the following.

First, policies aimed at reducing informality would lead to high unemployment and poverty overrule. Therefore, the strong prediction that the cure for informality is economic growth pleasing. In the study, evidence strongly supports this prediction: informality declines, although slowly, with development. This suggests that structural policies designed to promote formality should be introduced with caution. This can be achieved via fixing decayed existing infrastructure and building of more institutional capacity to absorb pool number of unemployed youth.

References

- Aigner, D. et al (1988), “Me and My Shadow: Estimating the Size of the US Hidden Economy from Time Series Data”, in W. A. Barnett; E. R. Berndt and H. White (eds.):*Dynamic Econometric Modeling*, Cambridge (Mass.):Cambridge University Press, pp. 224-243.
- Agbuabor, J. E &Malaoul, V. A (2013). Size and Causes of the Informal Sector of the Nigerian Economy: Evidence From Error Correction Mimic Model - *Journal of Economics and Sustainable Development* 2013.
- Arosanyin, T., Ijaiya, T., Oludoyi, B., Ajayi., A. &Ipingbmi, O. (2011). An Empirical Investigation into Urban Informal Tire Repair Service in Ilorin, Nigeria, *Canadian Social Science*.
- A.J. Adam and M. Yelwa (2015). *Informality and Economic Growth in Nigeria*; Department Of Economics University of Abuja, Abuja- FCT

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Buehn, Andreas and Schneider, Friedrich (2008), “MIMIC Models, Cointegration and Error Correction: An Application to the French Economy”, IZA Discussion Paper No. 3306.

Becker, K.F. (2004), *The Informal Economy: A Fact Finding Study*, Swedish International Development Cooperation Agency (Sida), Stockholm Sweden.

CBN/FOS/NISER (2001) *A Study of Nigeria’s Informal Sector*, vols. I and II.

De Soto, H, Ghersi, E and Ghibellini, M (1986) *El Otro Sendero*. Instituto Libertad y Democracia, El Barranco, Peru
Dell’Anno, Roberto and Solomon, Offiong Helen (2006), “Shadow Economy and Unemployment Rate in USA: Is There A Structural Relationship? An Empirical Analysis”, the European Public Choice Society, Finland.

Eroke, L. (2010). Addressing workers’ challenges in the informal sector. Retrieved from <http://www.thisdaylive.com/articles/addressing-workers-challenges-in-the-informal-sector/83533/>

Fapohunda, M. T. (2012). Women and the Informal Sector in Nigeria: Implications for Development. *British Journal of Arts and Social Sciences* ISSN: 2046-9578, Vol.4 No.1 (2012) British Journal Publishing, Inc. 2012 <http://www.bjournal.co.uk/BJASS.aspx>

Giles, David E.A. and Tedds, Lindsay M. (2002), “Taxes and the Canadian Underground Economy”, Canadian Tax Paper No. 106, Canadian Tax Foundation, Toronto/Ontario.

Ismail O. and Fasanya (2012) *Informal Sector and Employment Generation in Nigeria: Research on Humanities and Social Sciences* www.iiste.org ISSN 2222-1719 (Paper) ISSN 2222-2863 (Online) Vol 2, No.7, 2012.

Isachsen, A. & Strom, S. (1980). “The Hidden Economy, the Labor Market and Tax Evasion,” *Scandinavian J. Econ*, 82 pp. 304-11.

ILO (2002) “Women and Men in the Informal Economy: A Statistical Picture”

Jonathan E. O. and Victor A. M. (2013) Size and Causes of the Informal Sector of the Nigerian Economy: Evidence From Error Correction Mimic Model. *Journal of Economics and Sustainable Development* ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online) Vol.4, No.1, 2013. www.iiste.org

Loayza, N A (1997), “The Economics of the Informal Sector-A Simple Model and Some Empirical Evidence from Latin America” Policy Research Working Paper 1727, World Bank.

Sakanko, M. A. and Ewugi, M. S. (2017). An Evaluation of the Impact of Informal Sector on Economic Growth in Nigeria Using Error Correction Model (ECM). *Lapai International Journal of Administration, Volume 1(2), 165 – 177*. Publisher: Ibb University Lapai, Niger State.

Mohammed Yelwa, S.A.J. Obansa & Awe, Emmanuel Omonoyi (2015) Informality, Inclusiveness and Economic Growth in Nigeria; Department of economics, university of Abuja, FCT –Nigeria, PMB 117, Gwagwalada, FCT

MinhQuang D. (2012). Population and economic growth in developing countries, *International Journal of Academic Research in Business and Social Science*.

Njaya T, (2015). Informal Sector, Panacea to the High Unemployment in Zimbabwe? Case of Informal Sector Enterprises of Harare Metropolitan. *International Journal of Research in Humanities and Social Studies* Vol. 2, No. 2, PP 97-106.

NPL and NISER (2014), the informal sector and economic development in Nigeria. Pilot study final report National Bureau of Statistic (2014). Job Creation Report

Oladayo N. A., Joyce A., and Oladimeji D. A. (2014). Rebased Nigerian Gross Domestic Product:

The Role Of The InformalSector In The Development of the Nigerian Economy. *International Journal of Education and Research* Vol. 2 No. 7 July 2014

Osolor, P. (2012). The Informal Economy and Entrepreneurial Development. Retrived from <http://www.vanguardngr.com/2011/01/the-informal-economy-and-entrepreneurial-development>

Onyemaechi J. O. (2013) Role of the Informal Sector in Development of the Nigerian Economy:Output and Employment Approach. *Journal of Economics and Development Studies* 1(1); pp. 60-74

Oduh, Moses et al (2008), “Measurement and Explanation of Informal Sector of the Nigerian Economy”, *AIAE Research Paper* 3, pp. 1-64.

Oberay, A. and Chadaw, G. (2001), “Urban Informal Sector in India, Issues and Policy Opinions”

Rafael L. P. and Shleifer A. (2014), Informality and development. National Bureau of Economic Research 1050 Massachusetts Avenue Cambridge, MA 02138 June, 2014.

Salisu, M. (2008), “Incentive Structure, Civil Service Efficiency and the Hidden Economy in Nigeria”, *World Bank Institute for Development Economic Research (WIDER)*

Schneider and Friedrich (2007), “Reducing the Shadow Economy in Germany: A Blessing or a Curse?”, *Discussion Paper, Department of Economics, University of Linz, Linz*

Stephen G. S. (2005), Estimates of the Informal Economy in South Africa. University of

Sakanko, M. A. and Ewugi, M. S. (2017). An Evaluation of the Impact of Informal Sector on Economic Growth in Nigeria Using Error Correction Model (ECM). *Lapai International Journal of Administration*, Volume 1(2), 165 – 177. Publisher: Ibb University Lapai, Niger State.

Johannesburg; Faculty of Economic and Financial Sciences

Usman, Z. (2014). Nigeria’s Economy Transition Reveals Deep Structural Distortions. Retrieved from <http://africanarguments.org/2014/05/01/nigerias-economic-transition-reveals-deepstructuraldistortions-by-zainab-usman/>

Walterskirchen, E (1999). The relationship between growth, employment and unemployment in the EU European economists for an alternative economic policy (TSER NETWORK). Workshop in Barcelona, 16 to 18 September.

Yadav N. (2009) informal sector: Definitions and its implications for Growth. Cuts centre for International Trade, Economics and Environment. Briefing paper

APPENDIX I

YEARS	GROWTH	UNEM	POP	INFOR
1985	9.4	6.1	2.57	16.6
1986	3.4	5.3	2.61	17.7
1987	3.4	7	2.63	14.3
1988	33.4	5.3	2.64	14.6
1989	-11.4	4	2.62	12.0
1990	8.2	3.5	2.58	11.2
1991	4.7	3.1	2.55	13.8
1992	2.9	3.4	2.52	12.7
1993	2.3	2.7	2.51	15.2
1994	1.3	2	2.50	16.5
1995	2.2	1.8	2.50	9.9
1996	3.4	3.8	2.50	8.6
1997	3.2	3.2	2.50	9.9
1998	2.3	3.2	2.50	12.2
1999	2.8	8.2	2.51	13.4
2000	5.4	13.1	2.51	13.1
2001	4.6	13.6	2.52	18.4
2002	3.5	12.6	2.53	19.3
2003	10.2	14.8	2.55	19.7
2004	6.5	13.4	2.57	18.7
2005	6.5	11.9	2.60	18.1

Sakanko, M. A. and Ewugi, M. S. (2017). An Evaluation of the Impact of Informal Sector on Economic Growth in Nigeria Using Error Correction Model (ECM). *Lapai International Journal of Administration*, Volume 1(2), 165 – 177. Publisher: Ibb University Lapai, Niger State.

2006	6	12.3	2.62	20.5
2007	6.5	12.7	2.64	24.8
2008	6	14.9	2.66	33.0
2009	7	19.7	2.67	38.0
2010	8	21.4	2.68	20.2
2011	5.31	23.9	2.69	19.3
2012	4.21	27.4	2.69	19.4
2013	5.49	24.7	2.68	18.9
2014	6.22	25.1	2.66	19.9

Growth (GDP) source World Bank Indicator Reports on Nigeria 2025

INFORMAL (Currency in Circulation) source CBN Statistical Bulletin 2015

Unemployment source IMF 2015

Population source NBS 2015