The Nexus between Informal Sector, Unemployment rate and the Survival of the Firms in the Formal Sector: the Nigeria Experience

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Abstract:
The core problem that necessitated this study is the total negligence of the informal economy in policy development, National income estimates despite the significant role it plays in terms of job creation, income to the teaming population and the poorest households. The study aims to establish the predictive and long run relationship between informal sector and unemployment rate in Nigeria and to determine the effect of the credit to private sector on employment rate in Nigeria.
The research employed the use of descriptive statistic, Unit Root test, Co-Integration test, Vector Error Correction Model (VECM) and the Granger Causality. The descriptive statistic revealed the variables were positively skewed and normally distributed. The Unit root test showed that UMRT, LFPR,DCPS,FDI and MVA were all stationary at first difference i.e I(1) at 5% significance level, the Co-Integration test which shows there is a long run relationship among the variables and VECM test showed the model is statistically significant and it further showed that LFPR granger cause UMRT in the long run with the ECM value of 0.044 which shows the speed of adjustment and in case of deviation in the future, it will converge back to the equilibrium with about 44%. And finally the granger causality test revealed bidirectional relationship between LFPR and UMRT, Unidirectional relationship running from DCPS to UMRT andfrom FDI to UMRT and no causation between MVA and UMRT.
The researcher hereby recommends the following policy statements; The government should endeavor to record the data for the informal sector, there should be social protection and legal right for the informal economic activities, the informal sector should be provided access to credit and they should be fairly taxed because the role of informal sector to the development of any economy has become almost indispensible.
Key Words: Informal Sector; Unemployment Rate;Firms; Formal Sector;

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I. Introduction

Since the advent of the concept of "Informal Economy" that was championed by the International Labor Organization (ILO) in Kenya in 1972, the concept has become an area of interest to various researchers and research institutions. The rationale for this could be as a result of its manifested contributions, dynamic tendencies and the pressure that the informal sector has contained from many economies the world over by absorbing integral percentage of their active labor force through significant reduction in unemployment especially in developing economies basically the Sub-Saharan African countries. However, the idle is the formal economy and various governments from different continents have made attempts to break the informality in their economy and that has remained an economic development challenge to those economies because achieving such will adversely affect the country through artificial increase in poverty and unemployment rates and will occasion increase social vices.

Reports from ILO(2018) shows that over 2 billion people work informally excluding agriculture and the highest composition is from developing and emerging countries and majority lack social protection, rights at work and decent working condition. This composition is about 61% of the world's employed population which is further justified with the breakdown: Africa 85.8%,Asia and Pacific 68.2 %, 68.6% Arab states, 40.0 % Americas and 25.1% in Europe and the informal sector is a greater source of employment for men(63.0 %) than women(58.1 %).

From the popular point of view, the informal sector have immensely contributed to the growth of the Asian countries and African economies in terms of job creation, capital savings and mobilization, efficiency in the use of resources, utilization of local technology training ground for entrepreneurs and self-reliance through small and medium scale enterprises. Nigeria in the 1980s was faced with serious economic challenges, the per-capita income fell considerably and wage employment has declined (NISER report, 1993). Informal sector was at the rescue of the Nigerian economy because it constituted a significant segment of the Nigerian economy. The contribution of the sector to employment has significantly reduced the shock on the labor force which could have led to negative activities by the citizenry (Omisakin, 1999 cited in Fasanya&Onakoya, 2012).

Furthermore, the United Nations member states have made it a point of duty by projecting to deliver full and productive employment with decent work for all, by 2030, in their signing of the Sustainable Development Goals (SDGs) which came immediately after the expiration of the Millennium Development Goal in 2015. The Goal 8 of the SDG capitalizes on, 'Decent Work and economic growth', contains the following target: 'By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value', (Stuart &Samman, 2017).

Ensuring any sustained growth in an economy is critical for attaining sustainable development. Poor job quality and high levels of working poverty rather than unemployment remain the main challenges in the African Labor markets which are connected to the high incidence of informal and vulnerable employment. Africa's unemployment has been on a steady rise at an average of around 7% while the informal employment account for a significant fraction of 86% in 2016. Private sector development and job creation in African countries are onerous and cumbersome business environment and regulatory framework. A Survey showed about 1.3 to 3 million jobs are lost annually owing to administrative bureaucracies, corruption, unfavorable tax system, insecurity among others (United Nations, 2019).

Base on the foregoing, it was evident that the informal sector has become a child of necessity by continuously gaining momentum among the developing countries. This area of concern by the government perpetuates even as the International Monetary Fund (IMF) projected 2.1% growth for 2018, which falls below the population growth forecast of 2.6%. Population growth, accompanied with high underemployment and unemployment rates as a result of frictional or structural situation (combined 40%), will result in an increase in the number of job seekers in 2018 and beyond. It also translates to an increase in the number of people who look to the informal sector for economic survival which is usually the last hope for the unemployed. The Nigerian Informal Sector (IS) is a major contributor to the Nigerian economy, accounting for a significant portion of employment. According to the IMF, the Nigerian informal sector accounted for 65% of Nigeria's 2017 GDP (Arndt 2018).

Furthermore, with the continues increase in the number of the informal activities, it has made many countries to draw attention to the performance, size and viability of existing firms and the rationale why people keep venturing into informal activities despite the vulnerable nature of these activities in terms of irregular incomes, lack of legal and social protection and also long term prospects. However, people should not be blamed for such actions because the level of poverty, hunger and joblessness is so alarming and this is predominantly a reoccurring phenomenon in Sub-Saharan African countries. For instance, about 45% of Nigerians live in extreme poverty and also the weak growth in the formal economy suggests that employment is relatively inadequate to curtail this poverty and joblessness. The formal sector grew by 0.8 % in 2017 and the sector was paying a minimum wage of ₦18, 000($50), which translates to an average daily income of $1.67, still below the poverty line of $1.9 per day. Until recently the when the Nigerian government signed the new National Minimum was of ₦30,000($83) on April 18,2019 and the Federal Government and the Nigerian Labor Organization(NLO) agreed on the consequential adjustment on October 18,2019, after protracted negotiations. However, as of 31st December,2019, no fewer than 25 States out of 36 states in Nigeria fail to meet the December death line given by the Trade Union for its implementation (Agbakwuru, 2020) but on the contrary the informal economy has grown faster with an annual growth rate of about 8.5% within 2015 to 2017.

The Sub-Saharan African countries are typically structured by a large number of small business units and predominantly they provide large job opportunities. However, these small businesses do not have the capacity to absorb the growing African population. In addition, these businesses have the potentials to grow and create meaningful jobs, higher-value-adding roles and to benefit from external economies of scale and to have a competitive ground even to the extent of competing at the international markets. Supporting the growth of Small and Medium scale enterprises in Sub-Saharan Africa, as well as sustenance of bigger businesses, will require structural change and workable economic policies aimed at enabling businesses to grow, through access to finance either from commercial banks or social intervention programs by the government, improving transport infrastructure and also technology. From the report by United Nations Development Program's Human Development Index, they projected that in order to create job opportunities to the growing population; Africa needs investment to salvage such challenges bedeviling their economies. Furthermore, the UN stated that about

15% of the world's population dwells in Africa but it only attracted around 4.4% of total Foreign Direct Investment (FDI), about $54 billion and that 10 expatriate Africans also sent home remittances totaling $33 billion in 2016, which makes it 11 down from $35.2 billion in 2015. In their analysis they came to conclusion that these inflows are eclipsed by capital flight, especially from resource-rich economies (Thompson, Shepherd, Welch and Anyimadu, 2017). But the question remains, what precisely needs to be done in other to improve and integrate the informal sector so that it consolidate the developmental contribution of the formal sector without linkages for the overall growth and development of African economies?

Furthermore, the linkages between formal and informal sectors posed daunting challenge to the Sub-Saharan countries because good number of firms in the formal sector buy and sell inputs and output to the informal sector and also there is often transfer of technology among the sectors. Despite the relentless effort of Nigerian government to increase her revenue collection by planning to tax informal sector in 2020, it is clear that Nigerian politicians thwart the tax administrators plans because they fear losing votes in general elections because high number of the voters are part of the informal workers as many of them have been promised protection from taxation by the politicians during electioneering period.

This study aims find out the predictive and long run relationship between the informal sector and unemployment rate in Nigeria and also determine the effect of the credit to private sector on unemployment rate in Nigeria.

II. Conceptual Issues

2.1 Informal Sector
In recent time, the growing interest by researchers to venture into the study of the shadow economy or informal sector after a long period of negligence often makes researchers give diverse definition on the subject matter, however within the same context as justified below.

(Onwe, 2013) views informal sector in terms of employment which comprises both self and wage-employment that are usually not recognized, regulated, or protected by legal or regulatory frameworks.

Furthermore, (Fasanya eta al. 2012) captures the definition made by Bromley (1990) to mean informal sector denotes economic activities that are obtained outside the formal standard of economic transactions established by the state and formal business practices, although it may not be illegal. The term applies to micro or small businesses that start at individual or family self-employment business.

In addition, (Webb, Bruton, Tihanyi& Ireland 2012) gave this definition that informal economy consists of economic activities that occur outside of formal institutional boundaries but which remain within informal institutional boundaries for large segments of society.

In furtherance, informal sector is also seen as one group of economic arrangements which are not subject to government arrangements, which are not subject to government regulations, and which the nature of employment is both self-employment such as home production and petty trading and wage employment such as casual labor, contract labor and piecework (Tutik,2014 as cited in Obara&Nangih,2016)

The debate on informal sector over whether a satisfactory model of informal activities should imply some wage segmentation has paramount role for policy formulation. From one of policy response to wage segmentation is to introduce a formal sector wage subsidy (Ray 1998 as cited in Fasanya&Onakoya, 2012). If labor markets are approximately holistic however, subsidy could have adverse effects on welfare and net tax revenues. If wage differentials across sectors reflect primarily productivity differentials, policy that aim solely at reducing the size of the informal sector are likely to be a poor substitute (at best) for direct investment in education or investments in the quality of formal institution. Whatever the outcome of the debate over segmentation, contemporary theories of informal economic activities provide natural explanations many salient features of the organization of production in developing countries changes over time (Fasanya e ta al, 2012).

The research on these thematic issues provides an interesting contrast to legitimacy-related research as informal sector possess legitimacy in regards to informal institutions yet are technically illegal in terms of formal institutions. This gathers more strength from economies where social definitions of legitimacy are relatively congruent with legal prescriptions, why do individuals purchase informal products since such products are not wholly legitimate (from a formal institution perspective)?

Studies suggests that informal entrepreneurs manufacture products so that they imitate legitimacy-providing benefits of formal economy products while hiding the product's informal origins, consumers will purchase counterfeit goods to adjust their social status (Han et al., 2010; Wilcox et al., 2009 as cited in Webb, e ta al,2012). This phenomenon highlights a strain between different demographics in which customers are motivated to procure certain outcomes, and if legitimate means of acquiring these outcomes are unavailable, then illegitimate means become more acceptable. Additional costs and minimal benefits associated with formality motivate informality. Operating formally creates costs, including taxes, registration fees, and compliance with policies (Webb, *e ta al*, 2012)The relationship between the formal and informal economy have been briefly summarized by three main schools of taught from the work of Becker, 2004.***The Dualists***

Approach: which views the informal economy as a separate marginal economy (additional) not directly linked to the formal economy, but providing income or a safety net income for the poor in the society (ILO 1972, cited in Becker,2014). Furthermore, *the Structuralism Approach*: opined that the informal economy is subordinated to the formal economy. Thus, in order to mitigate costs, the privileged capitalists seek to subordinate petty producers and traders (Castells and Portes 1989 cited in Becker 2014) while the *Legalists Approach*: views the Informal sector as informal work arrangements that are a rational response by micro-entrepreneurs to over-regulation by government bureaucracies.

2.2 Challenges faced by informal sector in Nigeria

The informal sector is bedeviled with a lot of banes despite the sector's contribution to the economy.Awojobi, Ayakpat, Adisa,(2014) captures the following challenges

(i)Lack of Access to Credit Facilities: Most of the informal workers lack access to credit facilities, the introduction of micro-finance banks in Nigeria in 2005 by the federal government did not solve the issue of informal workers accessing credit facilities this is because many of them do not have the collaterals to secure loans from the micro-finance banks and also bureaucracies in applying and collecting loans while many do not understand the significance of the loan acquisition due to low level of education.

(ii) Unsafe working Conditions: The informal sector is associated with poor working conditions, according to (Ghana TUC 2006), the informal sector is known for lack of health care, safety standard and they eat in a poor environment. The environment they work is precarious in nature since most of them who work in the factories are exposed to dangerous chemicals, dangerous environment and poor working conditions.

(iii) Harassment by Public Authorities

Vendors always have a rough time with the officials from the local governments' officials, State government and federal task force, who always harass them if they feel that the vendors are displaying their products along the roadsides thereby obstructing traffic on the roads and most at times their properties, are destroyed and resources wasted.

2.3 Employment Generation

Employment generation is a natural process of social and environmental development. Humans have needs and these needs are insatiable, as a result it presents employment opportunities for others to be employed so that the needs can be relatively met. If this is not true, the world would not have grown to this present level where needs are met by suppliers supplying at the right place, right quality and price.

Furthermore, (Aremu, 2010) views employment generation as the process which involves in engaging the labor force in productive activities in the economy. Full employment is the ideal employment condition in the economy. However, this is a ruse in most countries either developed ordeveloping countries like Nigeria, because it is a dream that is yet to be achieved. (Beveridge1994 as cited inAremu,2010) defined full employment as situation where there are more jobs than men. Full employment does not mean that everybody in the labor force is employed. A condition of full employment can be said to exist if the number of unfilled vacancies is equal to the number of people who are out of work. In any dynamic economy, some unemployment rate of 4 and 5% will be compatible with the aims of full employment. Unemployment has been the problem that is beleaguering Nigeria and it has been of serious concern to the government. Hence, the alternative sector, known as informal sector has always been serving as back up for the formal sector in employment generation. As a result of magnitude of labor force that has this sector has their last resort, the sector demand maximum attention.

Unemployment rate refers to the share of the labor force that is without work but available for and seeking employment or the rate of percentage of the total workforce that is not employed but seeking to be employed.

2.4: Empirical Literature

There are numerous empirical works on the subject of this study, but few among them are the research carried out by (Fasanya, *eta al*, 2012)where the research examined the impact of informal sector on employment generation in Nigeria. The research analysis was based on the augmented Solow growth analytical framework. The outcome showed that informal sector activities have significant impact on absorbing the large pool of labor force in Nigeria. The study further establishes that human capital formation is positively related to unemployment rate. Therefore, they urged the government to re-examine its policies on informal sector.

(Mbaye,2014) investigated the informal sector in low income developing countries and the research prioritized the Sub-Saharan African economies. The research examined the mechanism through which the informal sector can improve job quality, tax collection, foreign investment influxes, and the transparency and magnitude of cross-border trade. Furthermore, (Rupani, 2014) sees the Informal economy as an incubator for the empowerment of the most vulnerable fraction of a society which is mainly women and children. The research

focused on five occupational groups which are also unskilled within the informal economy. This group includes: load carriers, domestic workers, street vendors, home-based workers and construction workers. The sample size of the study was 100 workers derived from different sectors in the informal economy. The study revealed the economic and social status of the workers from the study group and how the organized informal economy can pilot sustainable development. The researcher finally suggested that the informal economy, which has sustenance capacity, should be used as a yardstick for development, rather than eliminating them from the entire economy. Finally, (Otekhile& Matthew, 2017) conducted a research on the enterprise and competitive environment, the study was descriptive in nature and they found out that the informal sector contributes significantly in job creation in Nigeria and that there will be no need for the government to curtail its growth but rather the government should promote large scale public and private enterprise. However, the research has not applied rigorous techniques in analysis to actually analyze the nexus between informal sector and unemployment and this study to the best of my knowledge is most recent capturing the trending issues after many changes have taken place within the economy over the years and also still changing at the wake of Covid-19 pandemic which has changed and halted the global economic activities.

III. Methodology

This study will employ data obtained from secondary sources which are times series in nature covering the period from 1991-2019.The data will be sourced from International Labor Organization,ILOSTAT data base,2019, World Bank Economic Outlook Database,2019, IMF,International Financial Statistics and Balance of Payment databases,International Debt Statistics and OECD GDP estimates.

Furthermore, the sourced data for this research have qualities of times series, thus the variables to be used in the model have to be stationary. This simply means, a non-stationary times series will actually have a time varying mean or both as required and this will ensure that every variable has a constant mean variance.

This study employs the descriptive techniques to test the quantitative nature of the variables, a unit root test to test the stationary level of the data, a co-integration test was also applied to establish if the variables are integrated in the long, the study further uses Vector Error Correction Model(VECM) to show the short and long run dynamics and finally granger causality was done to determine the predictive relationship variables, furthermore, the conventional Error Correction Model formula for co-integrating series is given below. The model for this study has Unemployment Rate as the dependent variable (UMRT) the other variables Labor Force Participation Rate (LFPR) is the proxy for the informal and formal sector, DCPS stands for Direct Credit to Private Sector, FDI stands for Foreign Direct Investment and MVA is the percentage of Gross Domestic Product on Manufacturing are the independent variables.

This is the functional form of the model:

UMRT= F {LFPR, DCPS, FDI, MVA}…………………………..*(3.2.1)*

Furthermore, the time series are integrated of order one i.e. I (1) and non-stationary, the VECM will be estimated to examine both short-run and long–run dynamics

$$\Delta Y_t = \beta_0 + \sum_{i=0}^{n} \beta_i \Delta y_{t-1} + \sum_{i=0}^{n} \delta i \Delta X_{t-1} + \varphi Z_{t-1} + \mu_t$$

Z is the Error Correction Term (ECT) and it is the residual of the OLS the co-integrating equation in the long run:

$y_{t-1} = \beta_0 + \beta_1 X_t + \varepsilon_t$ and it is finally transformed as Zt-1 $= ECT_{t-1} = y_{t-1} - \beta_0 - \beta_1 X_{t-1}$

The error correction, relates to the fact that last period deviation from the equilibrium in the long run has influence on the short run dynamics of the dependent variable in the equation. The ECT coefficient φ is the speed of adjustment, because it measures the speed at which Y returns to equilibrium after a change in X has taken place. Finally, the Granger causality test will be finally applied.(Raza,2015) captured Granger Causality test as a test that seeks the direction of causality between dependent and independent variable was analyzed by Granger(1969) causality test.

IV. Results

4.1 Descriptive Statistics Test Analysis

The result for the descriptive statistic can be found on Table 1 in Appendix 1. Base on the result, the UMRT has a mean value of 4.211379%, while the minimum value is 3.4200001 and the maximum value is 6.240000.The standard deviation of 0.841961% implies that there is a little deviation from the mean from both sides by 0.841961%. This clearly shows the extent for the deviation from the mean which is a very small

value for the standard deviation is less than the mean value. The skewness value of 1.577131 and the jarque-Bera probability value of 0.001340 shows that the data for the UMRT is highly skewed base on the rule of thumb which it shows it is positively skewed and normally distributed.

The Labor Force Participation Rate (LFPR) has a mean value of   55.16310%, this implies that an average 1% change in Labor Force Participation rate, it affects unemployment rate by 55.16310%. The LFPR minimum and maximum values are 54.74000 and 55.86000 respectively, the standard deviation of 0.289792 shows that there is a little deviation of the data from the mean value. The value for the skewness is 0.289792 and the jarque-Bera probability value is 0.241709.This indicates that the data is positively skewed and normally distributed.

The mean value for Direct Credit to Private Sector (DCPS) is 10.89621; this indicates that a 1% change in DCPS will affect unemployment rate by 10.89621. The minimum and maximum values for DCPS are 5.240000 and 22.29000 respectively. The standard deviation is 2.058605 this shows that there is a deviation from both sides by 4.277696. The value for the skewness shows that the data is highly skewed base on the analysis of the rule of thumb 1.027050 and normally distributed as shown on the jarque-Bera probability which is 0.068562. Furthermore, the mean value for the Foreign Direct Investment (FDI) is   2.001034 which imply that a 1%t change in interest rate will affect unemployment rate by 2.001034%. The values for the minimum and maximum data for interest rate are respectively shown as 0.500000 and 5.790000.The standard deviation 1.163082 which shows that, there is deviation from both sides.This implies that the data is positively skewed and normally distributed.

The mean value for the Manufacturing Value Added (MVA) exchange rate is 12.44379, which implies a 1% change in manufacturing; unemployment rate will be affected by 12.44379. The minimum and maximum values for the data are respectively shown as 6.550000 and 20.93000.
The result above brings to conclusion that the variables are positively skewed and normally distributed.

4.2 Stationary Test Analysis
The results on the unit root test can are found on Table 2 in Appendix 2. The result obtained are summarized explicitly below, it showed that all the variables for this study were non-stationary at level i.e. 1(0) based on their respective Augmented Dickey Fuller(ADF) test result which is less than the critical value at 1% and 5% in absolute terms and also their probabilities were not significant this indicate the variables have unit root at level. However, they variables were all stationary at first difference I (1) at either 1% or 5%, with value of ADF> critical values at 1% and 5%. UMRT -4.838741>-4.440739 at 1%, DCPS -4.568670 > -4.374307 at 1%, FDI -3.951855<-4.323979 at 1% but less than FDI 5%(-3.580623), LFPR-3.918611< -4.339330 at 1%, but stationary at 5%(-3.587527) and finally MVA was also significant at 5% -3.841870>-3.603202. Base on this, the study can proceed to have a co-integration test.

4.3Johansen Co-Integration Test Analyses
The result of Johansen co-integration test can is also found in Table 3 Appendix.3. This research takes into cognizance the value of the Trace Statistic and Max-Eigen Statistic. Base on the result above, there are 5 hypothesized numbers of Co-integrating equations (CEs). The asterisks (*) gives the likelihood of rejection. The 'None' implies no co-integrating equation in the model. The co-integrating equation "At most 1*" has the value of Trace Statistic 57.66403> critical value 47.85613 at 5%, the Ho: is rejected as further evident with low P-value 0.0000. This implies that there is co-integration by accepting H_1. While at equation 2,3,4 Shows the value of Trace Statistic are less than the critical value at 5% respectively (29.25831<29.79707, 10.41638<15.49471, 0.841188<3.841466) this implies that the study will fail to reject Ho: Here the research agrees that there is at most 2,3,4 co-intergrading effect.

Furthermore, the Max-Eigen statistic depicts the same outcome as obtained from the Trace statistic. The value at co-integrating equation one shows the value of Max-Eigen Statistic > critical value at 5% level of significance with the following values respectively (28.40572>27.58434) and a P-value of 0.0392. While co-integrating equations 2,3 and 4 showed Max-Eigen Statistic value < critical values at 5% level of significance, with the following values respectively(18.84193<21.13162, 9.575192<14.26460, 0.841188<3.841466).
Base on the outcome of the co-integration test, there is need to further estimate both short-run and long run-run and the appropriate estimation techniques and the appropriate technique is theVector Error Correction Technique.

4.4 Vector Error Correction EstimatesResult Analysis
Appendix 4Table 4 has the estimated result for the VECM. The estimated Vector Error Correction Model (VECM) which has unemployment rate as the target variable was obtained and applied into the conventional formula stated earlier.

$\Delta UMRT = -0.0445ect_{t-1} + 0.3903\Delta UMRT_{t-1} - 0.122UMRT_{t-2} - 0.3250\Delta LFPR_{t-1} - 0.1185\Delta LFPR_{t-2}$ $+0.0127\Delta DCPS_{t-1}$ $+0.0502\Delta DCPS_{t-2} - 0.1116\Delta FDI_{t-1} - 0.1312\Delta FDI_{t-2} + 0.1378\Delta MVA_{t-1} + 0.0139\Delta MVA_{t-2} + 0.0730$

While co-integrating equation(long-Run Model)

$Ect_{t-1} = 1.0000UMRT_{t-1} - 33.9311LFPR_{t-1} + 0.7083DCPS_{t-1} - 1.3040FDI_{t-1} + 2.6093.$

Thus, the error correction model is statistically significant. The adjustment that the one year lagged error coefficient (-0.044) shows that 44% per cent of the disequilibrium error in the unemployment rate which accumulated in the previous year is corrected in the current year. In effect 44% of the deviation on the long run is corrected each year with the ECM(-.0.044529) which indicates the speed of adjustment, as the value of the error correction term is(-.0.044529) and this falls between -1 and 0. Based on the result, a 1% increase in Labor force participation rate will actually reduce unemployment by 0.33% and also increase in foreign direct investment by 1% will reduce unemployment by 0.11%. While direct credit to private sector does not show significant impact on unemployment as 1% increase DCPS shows the unemployment rate is likely to go high by 0.01% and even the %GDP on manufacturing sector does not reduce the level of unemployment.

Furthermore, the System Equation was estimated and the P-Value for each model can be estimated and that will draw the conclusion on the Long and short run causality .The relationship between LFPR and UMRT shows that LFPR granger causes UMRT in the long long-run. Furthermore, the overall co-efficient of model (R^2) depicts the goodness of fit of the model which describes how fit the independent variables affect the dependent variable, 59% unemployment rate explained by the applied variables while 41% is captured by the error term.

4.5 Wald Test Analysis

The Wald test is located in Table 5 Appendix 5 which clearlyanswers the question, doesLFPR granger cause UMRT? The study cannot reject null hypothesis, the null(Ho) is that LFPR does not granger cause UMRT, because the P-value 0.9450 is more than 5% level of significance, so there is no evidence of short run causality running from LFPR to UMRT.

4.6 Serial Correlation Test Analysis

Table 6 Appendix 6 shows the outcome of the serial correlation test was obtained. The research checked the issue of serial correlation by the use of residual diagnostic test, based on the outcome of Breusch-Godffrey serial correlation LM test, it shows that there is no serial correlation from the null hypothesis because the P-Value of the Chi-Square(2) shows Ho cannot be rejected with a P-Value of 0.0804> 5% and that brings to conclusion that there is no serial correlation.

Furthermore, a stability diagnostic test is essential; this is to ensure that the model is dynamically stable. The graph of the CUSUM Test explicitly shows a blue line in the middle lying within the red boundary. Based on this, the model is said to be dynamically stable and it can be found on Figure 1.

4.7 Granger Causality Test Analysis

The result found in Table 7 Appendix 7 shows the Granger causality test obtained which shows a bidirectional relationship between LFPR and UMRT with the P-Values 0.0104, 0.0421 which is less than the critical value at 0.05 or 5% significance level, this implies that a change in LFPR will cause a change in UMRT, likewise a change in UMRT will also have effect on LFPR. Furthermore, the test reveals a unidirectional relationship between DCPS and UMRT, which means it runs from DCPS to UMRT and this implies that a change in DCPS will cause a change in UMRT with no opposite reply from UMRT to that effect by their probability values of (00372, 0.7303).In addition, the predictive relationship between FDI and UMRT also shows a one way relationship (unidirectional) which runs from FDI to UMRT, because the P-value of FDI(0.0299) is less than the critical value 0.05 which shows causation while the P-value of UMRT(0.2547) is great than the critical value 0.05 or 5% significance level. This implies that any shock in FDI, it will affect UMRT but a shock in UMRT will not have any effect on FDI. However, the result obtained between MVA and UMRT clearly shows no causation between the variable with the P-values(0.4317, 0.9303) all above the critical value 0.05 and this implies that any shock in both MVA and UMRT has no effect on the other.

V. Conclusion

This research is brought to conclusion for now and still subject for further research. The research work will certainly be addition to the existing body of literature on informal economies and also its relevance in job creation, this study shows the relevance of this neglected sector among many economies especially the developing countries capturing the Nigerian experience.

It should be known that the informal sector has not only continued to exist but have grown and are fast taking the positions of formal economies in terms of job creation, wealth generation because they are now

engaging in profitable enterprises in the manufacturing activities even thou the informal sector is basically viewed to be small scale, low entry requirement, unskilled labor, labor intensive.

Informal sector in developing economies has been the shock absorber of the economies in relations to external and internal economic crises, the informal sector have always been there to provide alternative goods, reduction in social vices and crime rates among the unemployed and the potential foran economy to rejuvenate. However, theoutput from informal sector is not evaluated in computing the national income accounting of many nations and Nigeria to be specific.

Finally, a closer view at the informal sector in developing economies provides a glimpse of what could be achieved if the developing countries and financial policy makers can be more focused to the countries' every day realities.

VI. Recommendations

Based on the existingliterature on informal sectors and empirical researches carried out at different times and season in Nigeria and other developing countries, this research work makes some observations and recommendations to the government for policy formulation: These informal activities that are pegged as unprotected, irregular and unstable are no longer static to marginal economic activities but currently expanding into more productive ventures and also even to secondary production level of manufacturing and construction. Furthermore, there is a need to clearly differentiate the traditional perception of informal sector with the modern view in this period of United Nations Sustainable development goal and to make and promote policy responses that will enhance to growth of the informal sector and that will address the existing problems in that aspect.At this point, the study hereby recommends the following to aid the government in policy formulation.

i. Firstly, the government should have a clear record and data on her informal sector following the relevance of this sector to the nation's growth.

ii. The government should devise a methodology for the inclusion of the informal sector in computing the national income without adverse negative effect on their growth potential

iii. There are a lot of uncertainties in informal sector, social protection and legal rights should be granted in informal economic activities.

iv. There should be good medium for access to loans, subsidies to the informal economy because lack of such facilities will slow the growth potential of the sector.

v. The existence of informal sectors are negatively affecting the formal sector because goods from the formal sector are usually more expensive than the alternative ones from the informal sector due to taxes and other cost involved in the formal sector despite having the same market so the sectors should be attuned.

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Appendix 1

Table no 1: Descriptive Statistic

	UMRT	LFPR	DCPS	FDI	MVA
Mean	4.211379	55.16310	10.89621	2.001034	12.44379
Median	3.950000	55.10000	8.910000	1.880000	10.06000
Maximum	6.240000	55.86000	22.29000	5.790000	20.93000
Minimum	3.420000	54.74000	5.240000	0.500000	6.550000
Std. Dev.	0.841961	0.289792	4.277696	1.163082	4.660747
Skewness	1.577131	0.763354	1.027050	1.566125	0.551334
Kurtosis	3.999630	3.139794	3.465350	5.898074	1.746767
Jarque-Bera	13.22960	2.840043	5.360022	22.00354	3.366984
Probability	0.001340	0.241709	0.068562	0.000017	0.185724
Sum	122.1300	1599.730	315.9900	58.03000	360.8700
Sum Sq. Dev.	19.84914	2.351421	512.3631	37.87727	608.2319
Observations	29	29	29	29	29

Source: Researchers' Eviews Output, 2020

Appendix 2:

Table no 2: Unit Root Test

Variable	ADF	1%	5%	Level	Pro.
UMRT	**-4.838741**	**-4.440739**	**-3.632896**	**1ST**	**0.0044**
DCPS	**-4.568670**	**-4.374307**	**-3.603202**	**1ST**	**0.0065**
FDI	**-3.951855**	**-4.323979**	**-3.580623**	**1ST**	**0.0229**
LFPR	**-3.918611**	**-4.339330**	**-3.587527**	**1ST**	**0.0252**
MVA	**-3.841870**	**-4.374307**	**-3.603202**	**1ST**	**0.0309**

Source: Researchers' Eviews Output, 2020.

Appendix 3

Table no 3: Johansen Co-Integration Test
Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.889162	117.0554	69.81889	0.0000
At most 1 *	0.650784	57.66403	47.85613	0.0046
At most 2	0.502345	29.25831	29.79707	0.0576
At most 3	0.298572	10.41638	15.49471	0.2501
At most 4	0.030675	0.841188	3.841466	0.3591

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.889162	59.39139	33.87687	0.0000
At most 1 *	0.650784	28.40572	27.58434	0.0392
At most 2	0.502345	18.84193	21.13162	0.1015
At most 3	0.298572	9.575192	14.26460	0.2414
At most 4	0.030675	0.841188	3.841466	0.3591

Source: Researchers' Eviews Output,2020

Appendix 4:

Table no 4: Vector Error Correction Estimates

CointegratingEq:	CointEq1				
UMRT(-1)	1.000000				
LFPR(-1)	-33.93110				
DCPS(-1)	0.708348				
FDI(-1)	-1.304033				
MVA(-1)	2.609302				
C	-1.044845				
Error Correction:	D(UMRT)	D(LFPR)	D(DCPS)	D(FDI)	D(MVA)
CointEq1	-0.044529	0.003625	-0.436995	-0.255509	-0.268199
D(UMRT(-1))	0.390299	-0.014189	0.113731	1.124154	-0.868712
D(UMRT(-2))	-0.121975	-0.018579	-3.182600	-0.981668	-0.240694
D(LFPR(-1))	-0.324990	0.549174	-9.505416	-8.781078	-6.047037
D(LFPR(-2))	-0.118471	0.215993	-9.054218	-5.267868	-0.544715
D(DCPS(-1))	0.012650	-0.002934	0.857625	0.177605	0.113221
D(DCPS(-2))	0.050209	-0.000145	-0.307956	0.207575	0.073419
D(FDI(-1))	-0.111625	0.031658	-0.859854	-1.079189	0.112470
D(FDI(-2))	-0.131199	-0.003393	0.394557	-0.300544	-0.146873
D(MVA(-1))	0.137821	-0.016191	-1.423312	-0.345248	-0.301007
D(MVA(-2))	0.013869	0.036350	-0.217300	-0.629385	0.180685
C	0.072994	0.013625	-0.533751	-1.016106	-0.415159
R-squared	0.588940	0.371028	0.487527	0.825252	0.937407

Source:Researchers'Eviews Output, 2020

Appendix 5

Table no 5: Wald test

Equation: Untitled

Test Statistic	Value	Df	Probability
F-statistic	0.056569	(2, 14)	0.9452
Chi-square	0.113138	2	0.9450

Null Hypothesis: C(4)=0, C(5)=0

Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(4)	-0.324990	0.971797
C(5)	-0.118471	1.166182

Source:Researchers'EviewsOutput,2020

Appendix 6

Table no 6: Serial Correlation Test
Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.443073	Prob. F(2,12)	0.2744
Obs*R-squared	5.040915	Prob. Chi-Square(2)	0.0804

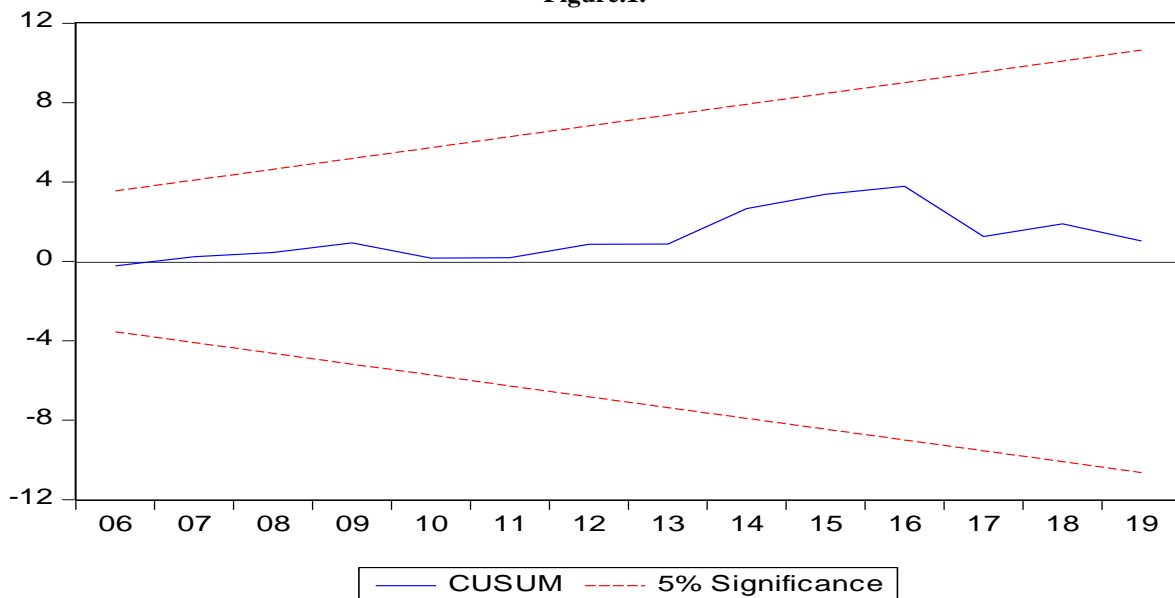*Source: Researchers' Eviews Output, 2020*

Appendix 7:
Table no 7: Summary of Pairewise Granger Result

Variables	Probabilities	Conclusion
LFPR and UMRT do not granger cause each other in both directions	0.0104, 0.0421	Bi- directional causation LFPR↔ UMRT
DCPS and UMRT do not granger cause each other in both directions	00372, 0.7303	Uni-directional causation DCPS→UMRT
FDI and UMRT do not granger cause each other in both directions	0.0299, 0.2547	Uni-directional causation FDI→UMRT
MVA and UMRT do not granger cause each other in both directions	0.4317, 0.9303	No causation

Source: Researchers' Eviews Output, 2020

Figure.1.