### ANALYSIS OF DETERMINANTS OF INFORMAL SECTOR GROWTH IN NIGERIA, 1991-2021

Godstime Ikechukwu Opara 1\* & Adanna Chikezie<sup>2</sup>

<sup>1</sup>Department of Economics, Imo State University, Owerri, Nigeria

<sup>2</sup>Department of Social Sciences, Federal Polytechnic Nekede, Imo State, Nigeria

\*g.ikechukwuopara@imsu.edu.ng

**ABSTRACT:** This study investigated the determinants of informal sector growth in Nigeria from 1991 to 2021. The determinants of informal sector growth identified in the study were percentage of informal sector players that have accessed credits, skill development programmes organized for the informal sector and percentage of total labour force in the informal sector. The study utilized informal sector density (estimated percentage of informal businesses in Nigeria) as a measure of informal sector growth in Nigeria. The data used were secondary data obtained from the collaborative survey of the World Bank with the Federal Office of Statistics (FOS) and Nigerian Institute for Social & Economic Research (NISER). The informal sector referred to in the World Bank collaborative survey were 1800 each from the six geo-political zones of the country making it a total of 10,800 informal businesses. Data were analyzed using the Error Correction Model technique within the framework of the Multiple Least Squares methodology. Findings revealed that the percentage of informal sector players that have accessed credits and the skill development programmes organized for the informal sector have negative relationships with informal sector density in Nigeria. Also, the percentage of total labour force in the informal sector had positive and increasing effect on informal sector density in Nigeria. The study concluded that the decreasing effect of the skills and credits acquired by the informal sector players on informal sector density was as expected because these would further enhance the formalization of the activities of the informal sector. It was recommended that government should further enhance access of the informal sector not only to financial credits but also skill sets which should be a continuous process.

**Keywords:** Credit to Informal Sector, Determinants, Informal Sector Growth, Informal Sector Density, Nigeria

### **INTRODUCTION**

The informal sector in Nigeria has experienced a massive surge since the turn of the twentieth century. Nearly all the nooks and crannies of the country has one form of informal sector activity or the other and this has led the government to develop so many programmes and actions aimed at formalizing the activities of some of these informal sector players. Some of these programmes include skills development programmes in arts and crafts, the National Poverty Eradication Programme (NAPEP), National Economic Empowerment and Development Strategy (NEEDS), the Subsidy Re-investment Fun (SURE-P), N-Power programme, the Central Bank of Nigeria (CBN) loan scheme etc. These programmes are aimed at aiding informal sector activities towards growing the local economy. Thus, the

growth of the informal sector depends largely on government aid as well as how the informal sector players carry out their day-to-day activities.

The International Labour Organization (ILO, 2019) estimates that urban workforce engaged in informal sector makes up about 50% of total workforce in Nigeria and this is the highest in Sub-Saharan Africa. Also, the ILO estimates that urban employment is mostly on the informal sector taking up another 50% of total employments in two-thirds of the countries surveyed in Sub-Saharan Africa.

Information on the size, form, development and employment stricture in the informal sector in Nigeria is very difficult to obtain but Nwaka (2005) noted that the informal sector in Nigeria dates back to pre-colonial Nigeria when majority of trade and other forms of buying and selling were left in the hands of Nigerians alone while the colonialists take the bulk of the formalized institutions. Prior to the 1970s, the informal sector was not considered as a distinct sector rather their activities were classified as traditional crafts and petty trades in the subsistence sector, or as small scale industries within the formal sector. Some efforts to upgrade their low level of growth and low standard of operation were made through the establishment of the Small Industrial Development Centres (IDC) and later the Small Scale Industry Credit Scheme (SSICS). Towards the 1990s, no effort was made by the government to protect informal sector products from competition with imported and mass produced goods and as a result, many informal sector operators tended to gravitate towards trading, services and transportation.

The urban informal sector expanded more than the rural informal sector in the early 2000s due to the growth of large cities and towns occasioned by the creation of new states and several local government areas (Nwaka, 2005). This led to an increase in demand of low-income wage earners for moderately priced consumer goods and services but the formal sector still monopolized much of the support that government provided and little effort was made to foster the formal-informal sector linkages.

In view of the latest interest in informal sector activities by the Nigerian government, this study posits that the trajectory between informal sector growth and the determinants of their growth has seen less research in recent years. Studies like Onyebueke and Geyer (2011), Eghosa et al (2015), Zachariah, Anga and Isa (2019) etc. tried to understudy informal sector but their research focused more on exploratory review of informal sector in Nigeria while only Zachariah, Anga and Isa (2019) came close but their study was on the determinants of MSMEs output. Another problem of the informal sector in Nigeria, which this study identifies, is the paucity of a formalized data on their activities. This is notably the reason for the paucity of research on the informal sector and what makes up their growth determinants.

In the light of the above problems identified, the major objective of the study is to investigate the determinants of informal sector growth in Nigeria. Based on the literature reviewed, we streamlined the specific objectives to include

- 1. To ascertain the extent to which credit to informal sector has affected informal sector density in Nigeria;
- 2. To investigate the effect of skill programmes organized for the informal sector on growth of the sector;

3. To examine the percentage of total labour force in the informal sector and how this has affected informal sector density in Nigeria.

Following the specific objectives stated above, the following research questions will provide further guide to the study:

- a. To what extent has credit to informal sector affected informal sector density in Nigeria?
- b. What is the effect of skill programmes organized for the informal sector on growth of the sector?
- c. How has the percentage of total labour force in the informal sector affected informal sector density in Nigeria?

The statement of hypotheses which addresses the research objectives are stated as follows:

- H<sub>01</sub>: There is no significant relationship between credit to informal sector and growth of the informal sector in Nigeria
- H<sub>02</sub>: There is no significant effect of skill programmes organized for the informal sector and growth of the informal sector in Nigeria
- H<sub>03</sub>: Percentage of total labour force in the informal sector has no significant effect on growth of the informal sector in Nigeria

The scope of this study is on the recorded activities of the government in the informal sector from 1991 through 2021 (31 years). The determinants of informal sector growth are limited to credit to informal sector, skill programmes organized for the informal sector and percentage of total labour force in the informal sector for the period under review.

### LITERATURE REVIEW

### **Conceptual Issues**

**Informal Sector in Nigeria:** The official concept of informal sector in Nigeria is based on enterprise relationship to regulation by the state. In this instance, an informal enterprise is "that which operates without binding official regulations (but it may or may not regulate itself internally) as well as one which operates under official regulations that do not compel rendition of official returns on its or productive process" (CBN/FOS/NISER, 2010). The International Labour Organization (ILO, 2003) defined informal sector as comprising of segments engaged in the production of goods or services with the primary aim of generating employment and income to the persons concerned.

Furthermore, Brett (2020) sees informal sector as businesses that are rarely registered at national or regional levels and usually do not have formal arrangements with employees. A latest perspective from Daramola (2021) sees informal sector as the sector consisting of businesses that do not fall under government regulation. These include all forms of petty trading, artisan work and sales as well as supply of goods. The International Monetary Fund (IMF, 2021) provided a broader definition of the informal sector as consisting of activities that have market value but are not formally registered. The informal sector cuts across

various professions such as drivers, hawkers, gig and construction workers, domestic workers, etc.

Although a threshold size of less than 10 employees is often alluded to the informal sector, all three successive national surveys in Nigeria, however, recognize that the ownership structure of most of these enterprises is sole proprietorship, and in a number of cases with the assistance of unpaid family members and tenured apprentices (Abumere, Arimah & Jerome, 1998; CBN/FOS/NISER, 2001; Oduh, Eboh, Ichoku & Ujah, 2008).

Based on the definitions given above, we can identify some key characteristics of the informal sector to include absence of official protection and recognition, predominance of own-account and self-employed individuals, absence of trade organizations, low income and wages, little job security, one-man ownership, sometimes the business may be mobile and not stationary. Another noteworthy attribute of this sector is its broad activity spectrum that spans the entire segment of the economy as can be observed from the survey result by the CBN in Table 1 below:

**Table 1: Number of Informal Businesses by Sector** 

<b>Activity Category</b>	Ye	ar 2000	Ye	ar 2010	Year 2018		
	No. of	Percentage	No. of	Percentage	No. of	Percentage	
	Persons	(%)	Persons	(%)	Persons	(%)	
Manufacturing	22,539	30.1	55,617	28.8	156,718	18.9	
Water Supply	458	0.6	1,211	0.6	3,500	0.4	
Building & & Construction	1,375	1.8	2,046	1.1	7,986	1.0	
Wholesale & Retail Trade	36,722	49.0	101,344	52.4	579,431	70.0	
Repairs (cars, cycles & goods)	2,406	3.2	4,001	2.1	8,522	1.0	
Hotels & Restaurants	1,948	2.6	8,534	4.4	11,540	1.4	
Transportation (land & water)	2,164	2.9	7,900	4.1	10,322	1.2	
Financial Intermediation	57	0.1	176	0.1	3,211	0.4	
Real Estate/Renting Services	300	0.4	716	0.4	900	0.1	
Education	298	0.4	805	0.4	1,277	0.2	
Health & Social Works	637	0.9	722	0.4	1,034	0.1	
Other Community/Social Services	6,008	8.0	10,344	5.3	43,566	5.3	
Total	74,912	100.0	193,416	100.0	828,007	100.0	

Source: Central Bank of Nigeria/FOS/NISER, Survey of Urban Informal Enterprises (various years)

Another common attribute that can be garnered from the national survey by the CBN is the predominance of informal activities in the manufacturing sector. Also, the huge leap in informal wholesale and retail trade indicates a very interesting fact that activities in the retail

trade are mostly informal and need to be harnessed so as to ensure growth of the local economy. In addition, two facts stand out as Abumere *et al* 2018) observed that the majority of informal enterprises are neighbourhood-based and the *fungibility* of single-rooms tenement buildings makes it the dominant house-type for home-based enterprises (CBN/ FOS/NISER, 2017). Having outlined the basic structure of the Nigerian informal sector, we shall now focus on the specific determinants of growth in the informal sector in this research.

Credit to Informal Sector in Nigeria: Okoye (2019) noted that informal sector credit activities and loans are not governed by any organization and so they charge higher and differential rates of interest. The informal sector's loans include loans from moneylenders, traders, employers, relatives, friends etc. and these loans are provided on easy terms without collaterals and documentation mostly because the loan providers know the borrowers personally (Aditya, 2018).

Skill Programmes Organized for the Informal Sector: Raising growth in the informal sector would help reduce poverty. The World Bank report (2019) noted that most of the nonfarm workforce is employed in the informal sector. Skills levels differ significantly between formal and informal sectors. Different skills can affect earning opportunities through different channels. Skills acquired can influence the type of jobs and sectors workers may have access to and can directly influence the earnings capabilities within each sector (Arvil, Sara & Setareh, 2018). Informal sector workers have some basic literacy and numeracy skills, though less so than formal workers. Nine of 10 formal workers read, write, or perform calculations. The majority of informal sector workers also have basic capacities; about 2 in 5 informal workers do not have these basic skills. Only a small minority (between 2 percent and 4 percent) of workers have actually attended a literacy course. Apprenticeships are an important source of skills for the informal sector, increasing the predicted probability of informal sector participation by more than 30 percentage points.

Informal sector agents complain of lack of practical hands-on experience, information and communication technology knowledge, and communications skills (Arvil *et al*, 2018). The question is how Nigeria can strengthen training opportunities (in the broad sense) to improve growth and earnings in both the informal and formal sectors. The opportunities for skills development take several routes: (a) primary to post-secondary levels of education in the formal general education system; (b) accredited and formally recognized education and training in the formal technical and vocational stream; (c) non-formal, short-term vocational training; and (d) apprenticeships.

**Table 2: Areas of Specialization in Informal Sector** 

Growth Areas	<b>Broad Occupations</b>	Specific	Generic Skills
	in Demand	Occupations	
Farm	Livestock rearing	Poultry farming	Communications
	Crop rotation	Dairy farming	Supervisory
	Animal husbandry	Aquaculture	Numeracy
Manufacturing	Food processing	Food preparation	Work related
	Light manufacturing	Metal fabrication	Literacy
		Carpentry	ICT
		Furniture maker	Entrepreneurship
		Structural timber	

			Boat maker
Services		Wholesale and retail	Garment/tailoring
		ICT	Computer
		Vehicle repair	programming
		-	Auto mechanics
			Hairdressing
			Motor vehicle
			mechanic
Hotel	and	Catering	Cooks
Restaurant		Hotel management	Supervisors
		Tourism	Pottery making
Construction		Masonry	Electrical installation
		Carpenters	Brick making
			Scaffolding
			Arc welder
			Bricklayer
			Carpenter

Source: Arvil et al, (2018)

Overall, Arvil *et al* (2018) asserted that public initiatives (training programs, trade certification, formal apprenticeship systems) face problems of limited access and excess demand, uneven quality, lack of connection to labour markets, and lack of monitoring and evaluation of program impact and outcomes.

Informal Sector Labour Statistics in Nigeria: Employment in the informal sector comprises of those who are self-employed, or who work for those who are self-employed. These set of individuals who earn a living through self-employment in most cases are not on payrolls in Nigeria and thus are not taxed. Nigeria has the largest informal sector in Africa, a predominance that stems from its massive population of almost 200 million and decades of poor economic performance denoted by a high unemployment rate of 12.9% in 2016 and soaring poverty incidence of up to 54% (CBN, 2019). An estimate in the year 2000 by Schneider (2002) put the size of Nigeria's informal sector at 57.9% of its Gross National Product (GNP) or an equivalent of US\$212.6 billion which later increased to about 84% in 2019 according to Zachariah, Anga and Isa (2020). Judging by statistics, Nigeria is only followed by Zimbabwe (59.4% or \$42.4 billion) and Tanzania (58.3% or \$52.4 billion). Factoring in both the huge market size and population of Nigeria inexorably makes Nigeria the informal sector hub of Africa. The net worth of the Nigerian informal sector as a proportion of the GNP exceeds those of Zimbabwe and Tanzania combined (Zachariah et al, 2020). A joint national survey by the Central Bank of Nigeria in 2010 put the number of urban and rural informal (sector) enterprises in the country at 8,604,048 enterprises, comprising a total employment generation of 12,407,348.

### **Theoretical Framework**

The early analysis of the informal economy is explained by the *Dualism or Modernization* theory. There are various definitions of this theory with many researchers referring to the theory as traditional and modern sectors (Boeke, 1953), firm-centred and bazaar-type economies (Geertz, 1963), upper and lower circuits (Santos, 1973), modern and traditional economies (Sethuraman, 1976), and high and low income sectors (Sethuraman, 1981). The

Dualism/Modernization theory describes two separate economies in which relative advantages exist in one (the formal) over the other (the informal economy). In addition, this theory argues that the informal economy exists to provide income or a safety net for the poor (ILO, 2019; Becker, 2004). Furthermore, the theory asserts that the informal economy will cease to exist once development and modernization sets-in (Becker, 2004).

In addition to the dualism/modernization theory, the simple Cobb-Douglas production function states that output is a function of capital and labour by assuming a representative firm i in an industry *j* operating in a perfectly competitive market producing output "Y" at time "t" by employing inputs such as *factor growth* "A", *Capital* "K" and *Labour* "L" as represented in equation below.

$$Y = AK^{\alpha}L^{\alpha-1} \qquad \dots (i)$$

In the above equation, output of the informal sector (Y) can be said to be a function of capital accumulated by the sector (K) in addition to the labour available to the sector (L). Since the Dualism/modernization theory upholds the view that the informal economy exists to provide income or a safety net for the poor, it follows that the informal sector is mostly made up by the lower class in the economy and their growth depends on capital input, labour availability, as well as other factors. This theory stresses the need for the informal sector to be developed to meet the needs of the poor in both the rural and urban areas of the country.

### **Empirical Review**

Empirical studies such as Fapohunda *et al.* (1975), Mabogunje and Filani (1977) etc. pioneered the study of informal sector concept in Nigeria back in the 1970s. These studies were based on the regional economies of Lagos and Kano respectively. These groundbreaking studies and their immediate offshoots like Mabogunje and Filani (1981) and Fapohunda (1984) established, among other things, that rural-urban migration featured as a key factor in the informal sector's expansion; the sector contributed significantly to employment generation and national growth, and the majority of the enterprises identified were located in residential neighbourhoods, their prime customer base.

Subsequently, other works sprang up which centred on informal sector development. One of such works is Eghosa, Rob, Simeon and Carlyn (2015) who studied the determinants of the informal economy of an emerging economy (Nigeria) using a multiple indicator, multiple causes (MIMIC) approach. They collected primary data and represented the MIMIC model in a log-linear model. They found that the factors responsible for the origin and expansion of the Nigerian informal economy include: unemployment, a need to be autonomous/self-employed, corruption of government officials/agencies, participants' desire to pay less tax, and participants' need to survive. They also found that the greatest influence, in terms of magnitude and impacts, comes from the 'participants' need to survive' factor, followed by corruption.

Williams, Shahid and Martinez (2016) evaluated the determinants of the degree of informality of informal micro-enterprises in Lahore, Pakistan. Reporting a 2012 survey of 300 informal microenterprises in the city of Lahore in Pakistan, they found that the key predictors of their level of informality were the characteristics of the entrepreneur and enterprise, rather than their motives or the wider formal and informal institutional compliance

environment. They also found that the lower degrees of informality were associated with women, older, educated, and higher income entrepreneurs and older enterprises with employees in the manufacturing sector.

In a related study, Zachariah, Anga and Isa (2019) studied the determinants of MSMEs performance in Nigeria using data from the World Bank business enterprise survey in 2014. They employed correlation analysis and their result showed that skilled labour, capital intensity, age, size, foreign ownership, percentage of export, research & development as well as bribe payment had positive impact on MSMEs performance.

Mamman, Eldridge and Branine (2019) investigated the skill needs of SMEs and the informal sector in Africa. They examined the following: Provision of vocational education and training (VET) relevant to SME needs; Government policies and views pertaining to SMEs and VET; Problems faced by SMEs and VET. They collected primary data from Kano and Kaduna and analyzed same using discussion method. They found that the situations of the SME and Micro-Enterprise sectors vis-à-vis the attitude and potential support of government was far from conducive for job creation.

A cursory look at the empirical review above shows that majority of the works on the informal sector did not critically examine the determinants of their growth. Eghosa *et al* (2015) came very close to this study but their study was limited in terms of the critical determinants of informal sector growth like informal credit facilities, skills set, etc. Also, considering the paucity of research on the informal sector growth determinants, this study fills the gap by establishing a functional relationship among the key determinants of growth in the informal sector of the Nigerian economy.

### **METHODOLOGY**

The research design adopted in this study is the *ex-post-facto* design. The use of published data on informal sector density, informal labour statistics and informal labour skills acquisition is predicated on the availability of data from the collaborative publications of the World Bank Business Enterprise Survey in 2014 with the Federal Office of Statistics (FOS) and Nigerian Institute for Social & Economic Research (NISER). Data for recent years 2015 – 2021 were sourced from the World Bank research on "balancing the livelihoods of informal workers in SSA" 2021 edition.

The model for this study is a modification of the Solow-growth model where output is seen as a function of capital, labour and other inputs. As seen in Eghosa *et al* (2015), we modify the model by specifying a linear model using the percentage of informal sector players that have accessed credits, skills development, percentage of total population employed by informal sector and we specify as follows:

$$ISD = (CRED, SKLP, LAB)$$
 ... (ii)

Where:

ISD = Informal sector density (i.e. estimated percentage of informal businesses in Nigeria)

CRED = Percentage of informal businesses that have accessed credits

SKLP = Skill development programmes organized for the informal sector

LAB = Percentage of total labour force in the informal sector

The model is expressed in econometric form as:

$$ISD_t = \beta_0 + \beta_1 CRED_t + \beta_2 SKLP_t + \beta_3 LAB_t + \varepsilon_t$$
 ... (iii)

Where the  $\beta$ 's are the coefficients to be estimated and  $\epsilon_t$  is the error term of the model at time "t". As earlier noted, the data are secondary data and were subjected to time series analysis of unit root and cointegration tests. According to Egbulonu (2018), these tests are pre-estimation tests that direct the model to the appropriate estimation method which in this case is the Error Correction Model. Pesaran, Shin and Smith (2001) noted that the estimation of an ECM model is for data that are I(1) series. The a-priori expectation of the model is such that  $\beta_1 < 0$ ,  $\beta_2 < 0$  and  $\beta_3 > 0$  i.e. the coefficients of CRED, SKLP are expected to be negative while the coefficient of LAB is expected to have positive effect on ISD.

### **FINDINGS**

Since the data are time series in nature, we carried out stationarity test on them to determine whether their statistical properties are constant or whether they vary over time. The test revealed that all the variables were stationary after first differencing. This indicates that the statistical properties of the variables do not change over the time period studied and as such are stationary and can be used for predictive purposes. This is seen in Table 3 below.

**Table 3: Summary of the Unit Root Test** 

ADF Test statistics					
Variable	es	At Level	1 <sup>st</sup>	Remark	Order of
			Difference		Integration
ISD		-1.5945	-6.0380*	Stationary at 1 <sup>st</sup> difference	I(1)
CRED		0.1270	-4.8500*	Stationary at 1 <sup>st</sup> difference	I(1)
SKLP		-2.0722	-5.8627*	Stationary at 1 <sup>st</sup> difference	I(1)
LAB		-2.6793	-3.9303*	Stationary at 1 <sup>st</sup> difference	I(1)
Critical	1%	-3.6793	-3.6892		
Values	5%	-2.9678	-2.9719		
	10%	-2.6229	-2.6251		

Source: Eviews 9 Output

\*ISD, CRED, SKLP and LAB are stationary after first differencing

**Table 4: Summary of the Johansen Cointegration Test** 

	Max-Eigen Statistic						
Hypothesized No of CE (S)	Eigen- Value	Trace statistics	5% Critical	Prob**	Max- Eigen	5% Crit.	Prob**
			Value		statistics	value	
None	0.548863	39.98416	47.85613	0.2231	22.28757	27.5843	0.2060
At most 1	0.295727	17.69659	29.79707	0.5885	9.816482	21.1316	0.7617
At most 2	0.184049	7.880108	15.49471	0.4783	5.695230	14.2646	0.6526
At most 3	0.075065	2.184879	3.841466	0.1394	2.184879	3.84147	0.1394

Source: Eviews 9 Output

The Table 4 summarizes the cointegration test and the result showed that there is no cointegration in the variables at 5% level meaning that there is no long run relationship between the determinants of informal sector growth and growth of the informal sector in Nigeria. Therefore we examine only the short run relationship between informal sector growth and the determinants as shown below.

**Table 5: Short Run Estimates** 

Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	60.51224	30.04807	2.013848	0.0554
CRED	-0.006478	0.212342	-0.030509	0.9759
SKLP	-0.012957	0.285964	-0.045309	0.9642
LAB	0.145126	0.293480	0.494499	0.6254
ECM(-1)	-0.694791	0.177601	-3.912099	0.0007
R-squared	0.756977	Mean dependent var		71.65517
Adjusted R-squared	0.666473	S.D. dependent var		10.30006
F-statistic	5.049257	Akaike info criterion		7.201308
Prob(F-statistic)	0.004262	Durbin-Watson stat		1.918346

Source: Eviews 9 Output

Estimates in Table 5 above shows that the percentage of informal sector players that have accessed credits (CRED), has negative relationship with informal sector density in Nigeria. In other words, unit increase in the percentage of informal financial credit beneficiaries decreases the growth of the informal sector by 0.0064 units. The implication is that the more informal sector players access credit, the lower their density due to the fact that that the informal sector players would have moved from informal to formal sector. Thus, more credits to the informal sector are advocated as this has been empirically proven to have decreasing effect on informal sector density. According to Okoye (2019), every small business owner aims at exiting the small business cycle and operating on a larger scale. Adequate and sufficient credit is a panacea to the attainment of long term business expansion.

<sup>\*\*</sup>Trace test indicates no cointegration at the 0.05 level

<sup>\*\*</sup>Max-eigen value test indicates no cointegration at the 0.05 level

Similarly, there is inverse relationship between skill development programmes organized for the informal sector (SKLP) and growth of the informal sector (ISD). This indicates that a unit increase in the skill development beneficiaries' results to 0.0129 units decrease in the growth of the informal sector. This is also in line with the a-priori since an increase in skills acquired by the informal sector players leads to a decrease in informal sector density as they would have become formalized given the skills acquired. Zachariah, Anga and Isa (2019) in their study held that skill set of SMEs enhances their performance. The advancement of the skills acquired by SME owners is geared towards improving their performance and operational efficiency.

The percentage of total labour force in the informal sector was found to have a positive coefficient increasing informal sector density by 0.1451 units in the short run. This is an indication that a unit increase in the share of informal sector labour in the country results to 0.1451 units increase in informal sector density i.e. estimated percentage of informal businesses in Nigeria. This is in line the a-priori expectation.

The model has a speed of adjustment of 69.48% as seen in the error correction coefficient ECM(-1). This means that holding the determinants of informal sector growth constant at an increasing rate of 69.48%, the informal sector will experience a long run equilibrium growth. The model is very robust with an R-squared value of 75.69% and the error terms of the model are not serially correlated since the Durbin Watson value of 1.918 tends towards 2 than to zero.

### **Conclusion and Recommendations**

It is true that the informal sector is key to the long term development goals of a developing economy like Nigeria. Holding this in mind, there needs to be a sustained increase in informal sector growth initiatives as this will in the long term lead to a formalization of their activities. The determinants of informal sector growth have to be further enhanced in order to ensure that the economic is set on the right track. This study concludes that Nigeria's informal sector is a booming one as confirmed by Zachariah *et al*, (2020) who opined that the net worth of the Nigerian informal sector as a proportion of the GNP exceeds those of Zimbabwe and Tanzania combined.

The findings made in this study is a further confirmation of this assertion as the percentage of informal sector players that have accessed credits and skill development programmes organized for the informal sector both have decreasing effect on the estimated percentage of informal businesses in Nigeria. Thus, Nigeria is gradually formalizing the activities of her informal sector and it will only take a little more time in the near future for these efforts to be fully actualized. Also, the percentage of total labour force in the informal sector is daily on the increase as the variables showed positive effect on growth of the informal sector.

Having made these findings and the conclusions there-from, we recommend that:

- 1. The government should further enhance access of the informal sector not only to financial credits but also skill sets. The registration of informal businesses should be subsidized so as to formalize their activities and enhance growth in the sector.
- 2. Skills required by the informal sector should be a continuous process and a government agency should be set up and empowered in every state of the Federation

- to take care of informal sector activities. This should also be taken as topmost priority by the government.
- 3. Since the percentage of total labour force in the informal sector is greater than the formal sector, it is a pointer to the fact that government as well a the private sector need to harness the great potentials of the informal sector by driving a public-private partnership programme that will grow the existing informal businesses and groom new ones so as to ensure continuity of production process in the economy.

### **REFERENCES**

- Abumere, S. I., Arimah, B. C., & Jerome, T. A. (1998). The informal sector in Nigeria's development process. Development Policy Centre (DPC), Research Report no. 1. Ibadan, Nigeria: DPC.
- Abumere, S. I. (1978). Understanding economic development in Nigeria: The relevance and irrelevance of the dualistic theory. *Nigerian Journal of Economic and Social Studies*, 20(3), pp. 379-406.
- Aditya, B. (2018). Formal Sector Loans, Types and Forms, www.studyrankersonline.com
- Arvil, V. A., Sara, J. D., & Setareh, R. (2018). Improving skills development in the informal sector, strategies for Sub-Saharan Africa, *The World Bank*, Washington, D. C.
- Brett, H. (2020). Informal sector in dire situation, yet contributes billions to economy. Caxton & CTP Printers and Publishers Ltd. SA
- CBN (Central Bank of Nigeria) (2009). Annual report and statement of accounts for the year ended 31st December 2009. Abuja: CBN, pp. liv-lvi.
- CBN/FOS/NISER (Central Bank of Nigeria/Federal Office of Statistics/ Nigerian Institute For Social & Economic Research). 2010. A study of Nigeria's informal sector, 3: Statistics on Nigeria's informal sector. Abuja: CBN.
- CBN/FOS/NISER (Central Bank of Nigeria/Federal Office of Statistics/ Nigerian Institute For Social & Economic Research) (2001). A study of Nigeria's informal sector, 1: Indepth study on Nigeria's informal manufacturing sector. Abuja: CBN.
- Daramola, J. O. (2021). Informal businesses as game changers. www.theconversation.com
- Egbulonu, K. G. (2018). Advanced econometric techniques, Unpublished Lecture Notes for Postgraduate Students.
- Eghosa, I., Rob, A., Simeon, C. & Carlyn, D. (2015). Determinants of the informal economy of an emerging economy: a multiple indicator, multiple causes (MIMIC) approach, *Northampton Business School Journal*, 1(5), 1-22
- Fapohunda, T., Egbe, U., Amadi, T. & Eche, P. I.(1975). The emerging cities of Lagos and Abuja; informal businesses are thriving. International Labour Organization
- International Labour Organization (2003). Informal sector ILO definition. www.stats.oecd.org/glossary
- International Monetary Fund (2021). Five things to know about the informal economy. www.imf.org

- NBS (2013). Small and Medium Enterprises Development Agency of Nigeria (SMEDILO (International Labour Organisation) (2019). Women and men in the informal economy: A statistical picture. *Employment Sector*. Geneva: ILO.
- Mamman, A., Eldridge, D. & Branine, M. (2019) Skills needs of SMEs and the informal sector in Africa: problems and prospects for employment creation in Nigeria, Institute for Development Policy and Management, *The University of Manchester Publications*.
- Mabogunje, J. & Filani, P. (1977). Informal sector as an emerging sector in the Nigerian economy. International Labour Organization Series No. 1124
- NBS (2013). Small and Medium Scale Enterprises Development Agency of Nigeria (SMEDAN) and National Bureau of Statistics (NBS) Collaborative Survey: Selected Findings. Retrieved from http://www.nigerianstat.gov.ng/download/290&ved
- Nwaka, G. I. (2005). The urban informal sector in Nigeria: Towards economic development, environmental Health and Social harmony, *Global urban Development Magazine*, 1(1), 1-10
- Oduh, M., Eboh, E., Ichoku, H. & Ujah, O. (2008). Measurement and explanation of informal sector of the Nigerian economy. African Institute for Applied Economics, *AIAE Research Paper 3*, August. Enugu: AIAE.
- Okoye, T. U. (2019). Informal sector credit, a study of retail market in Jos, Plateau State, Nigeria, *International Journal of Innovative Finance and Management*, 2(3), 45-61
- Onyebueke, V. & Geyer, M. (2011). The informal sector in urban Nigeria: reflections from almost four decades of research, Centre for Regional & Urban Innovation and Statistical Exploration (CRUISE), Department of Geography & Regional, University of Stellenbosch, SA
- Pesaran, M. H., Shin, Y. & Smith, R. J. (2001) Bounds testing approaches to the analysis of level relationships, *Journal of Applied Econometrics*, 16(2), 1-16
- The World Bank (2019). Skills needs of SMEs and the informal sector in Africa, World Bank Series
- Williams, C. C., Shahid, M. S. & Martinez, A. (2016) Determinants of the Level of informality of informal micro-enterprises: some evidence from the city of Lahore, Pakistan. *World Development Journal*, 84(12), 312–325,
- Zachariah, E., Anga, R. A. & Isa, C. G. (2019). The determinants of micro, small and medium enterprises' (MSMEs) performance in Nigeria: evidence from business enterprise survey, *Munich Personal RePEc Archive*, MPRA Paper No. 98874