Correlation Coefficient of Insecurity in Nigeria from 2012 to 2021

Ezenekwe, I. E
Department of Mathematics Chukwuemeka Odumegwu Ojukwu University, Uli, Anambra State

Abstract:- Insecurity has become Nigeria's word on the lips and daily topic of discussion where meaningful Citizens of the country are gathered. This situation is subject to fear or danger. Activities such as armed robbery, violent crimes, political assassination, kidnapping and a lot of others are evidence of Nigeria insecurity as these gave rise to all manner of atrocities in the country and negatively affect the economy of the country. In this study, data collected on the Gross Domestic Products and causes of insecurity in Nigeria from 2012 to 2021 was carefully analyzed using the approach of correlation coefficient and the result revealed that insecurity in Nigeria is negatively affecting the economic growth and development of the country. The study recommends that transparency administration in Nigeria system of leadership should be strictly adhered to.

Keywords:- Insecurity, Economic Development, National Security and National Development.

I. INTRODUCTION

Nigeria insecurity is getting out of hand and has totally affected the national life of the country. Every day, people are being killed and this reduces the population of the country, affect investments and business operations, migration of people out of the country to a better safe place, increases unemployment rate and above all, put people's life in danger and fear. Thus, this has been a very big threat to the economic growth of the country as it troubles the country on daily basis. From the beginning of military regime of political era to this present Nigeria democracy system of government, the country has totally experienced uncomfortable problems of insecurity and this has put many Nigerians on run. Since 2007 till date, the insecurity state of country which are being caused by many groups of people are getting out of hand. Some of their activities includes south-south region militancy, south east kidnapping, unknown gunmen activities, armed robbery, violent cases, ritual killings, political assassination, and the north east most recent suicide bombing. All these put people's life in danger as it disturbs their daily business activities and thus affects the economic growth and national development of the country.

(Stewart, 2004) added that the insecurity economic cost is enormously. Productivity of every nations depends on their national security. In Nigeria, roads which supposed to be maintained daily are being destroyed and this reduce the economic production capacity. Furthermore, people's

displacement reduces export production, thus it reduces earnings of foreign exchange, potential imports and regular output constraints which declines earnings and employment. The government failures to tackle insecurity problems in Nigeria leads to poor national development and people's lives are exposed to dangers on daily basis. (Onifade, Imhonopi and Urim, 2013) added that ethnic hate increment, political rivalry, religious bigotry and displacement of people from one part of the country or the other are being caused by poor access to insecurity on the country

Boko Haram activities in the country together with their regular northern region suicide bombings have claimed many lives of the citizens, properties and has made the economic activities of the region to be stagnant. The effect of Nigeria insecurity is very clear to every citizens of the country as this has made infrastructures that supposed to bring development and growth to the nation to be at the minimal rate and unemployment rate is on increase on daily basis.

In this paper, we present the correlation coefficient of insecurity in Nigeria from 2012 to 2021 as this has been a serious problem in Nigeria. Furthermore, the findings recommends good governance and selfless leadership service so as to tackle problems of insecurity, poverty, unemployment and others

➢ *Basic Definition*

- *Security*
   It is a way of protecting and saving people from every kinds of internal or external harm (Bright, 2018).

- *National Security*
   It is the safety and protections of the state's territorial integrity so as to ensure human security and promotion of every citizens (Bright, 2018).

- *National Development*
   It an act of ensuring progress and growth of every economic sectors across the country (Oluwarotimi, 2021).

- *Social Insecurity*
   It is an act of lacking confidence in someone's ability to succeed and do well social setting. In order words, social insecurity is a creation of anxiety of a person about what may happen in the future (Abdulsalam, 2021).

- *Economic Development*

The act of improving human life quality through increasing per capita income, poverty reductions, and enhancing individual economic opportunities is called economic development (Soyinka, 2009).

II. RESEARCH QUESTIONS

➤ *The Study was Guided by the following Research Questions;*

- *What are the causes of insecurity in Nigeria?*
- *What are the best effective strategies for tackling insecurity in Nigeria?*

III. CREATING DATABASE FOR SOCIAL INSECURITY IN NIGERIA FROM 2012 TO 2021

➤ *Dependent Variable = National Development or Gross Domestic Product (GDP) = y variable*

➤ *Independent Variable = Insecurity (Causes of insecurity) = x variable*

Table 1 Database for Social Insecurity in Nigeria 2012 To 2021

Year	GDP (Billion of Naira) = y	Insecurity (Causes of insecurity) (x-variable)										Mean of these causes of insecurity = x
		Unemployment	Poverty (Million of people)	Kidnapping	Terrorism	Violence (Political and economic based)	Bribery and Corruption	Ethno-religious conflicts/ communal clash	Python dance/ Extrajudicial killing	Organised criminal act	Assassination	
2012	72600	6,360,840	65,861,000	2,083	7,966	1,047	139	10,210	36,981	112,019	11,023	7240330.8
2013	81010	6,464,867	66,241,000	3,717	8,208	2,678	144	19,223	13,419	114,237	11,684	7287917.7
2014	90137	8,179,683	68,984,000	3,921	9,217	3,048	136	50,817	15,983	114,987	12,871	7737466.3
2015	95178	7,930,218	69,123,000	4,026	9,310	4,879	136	52,769	17,864	117,321	13,678	7727320.1
2016	102575	13,319,885	70,024,000	4,557	9,019	5,034	155	13,807	13,679	125,790	15,186	8353111.2
2017	114899	16,234,307	71,674,000	5,033	8,667	5,678	185	38,623	26,876	126,654	15,487	8813551
2018	129087	16,783,593	73,360,000	5,672	8,613	6,872	290	39,107	19,864	127,042	15,865	9036691.8
2019	145639	17,341,873	77,900,000	6,436	8,319	7,079	782	30,012	23,056	128,657	16,125	9546233.9
2020	154252	20,228,591	84,857,000	7,895	8,416	10,034	142	11,863	16,987	132,987	16,565	10529048
2021	176076	20,891,989	86,675,000	12,678	8,239	13,569	154	57,698	47,875	146,568	24,234	10787800.4
TOTAL	1161453	133,735,846	734,699,000	56,018	85,974	59,918	2263	324,129	232,584	1,246,262	152,718	870594471.2

Sources of data are; Central Bank of Nigeria (CBN) Statistical Bulletin 2022, National Bureau of Statistics (NBS) Annual Report 2021, World Bank Annual Report 2021, https://www.macrotrends.net/ countries/ NGA/nigeria/gdp-gross-domestic-product, World Health Organization (WHO) Annual Report 2021, United Nation Development Programmes (UNDP) Annual Report 2021, https://www.macrotrends.net/countries/NGA/nigeria/unemployment-rate, Poverty and Inequality in Nigeria Publication, 2022, Nigeria Police Force (NPF) Annual Report 2021, Federal Ministry of Justice, Ministry of Police Affairs, United Nations Office on Drugs and Crime Annual Report 2021, National Intelligence Agency (NIA) Annual Report 2021, Nigeria Security Statistical Bullettin 2022,

Independent Corrupt Practices and Other Related Offences Commission (ICPC) Annual Report 2021, Defence Intelligence Agency (DIA) Annual Report 2021, State Security Service (SSS) Annual Report and adapted data source from Achumba and Ighomereho, 2013, Economic and Financial Crime Commission (EFCC) Annual Report 2021, Independent Corrupt Practices and Other Related Offences Commission (ICPC) Annual Report 2021, International Ant-Corruption Coordination Centre (IACCC) Annual Report 2021 and International Ant-Corruption Coordination Centre (IACCC) Annual Report 2021.

IV. ANALYTICAL METHODS

Gross Domestic Product (GDP) and causes of insecurity in Nigeria which include Unemployment, Poverty, Kidnapping, Terrorism, Violence (Political and economic based), Bribery and Corruption, Ethno-religious conflicts/communal clash, Python dance/Extrajudicial killing, Organised criminal act and Assassination were carefully considered in this study, and data collected on their behalf for the period of study (from 2012 to 2021) were from National Bureau of Statistics (NBS) annual report 2021, Central Bank of Nigeria (CBN) annual report 2021, World Bank (WB) annual report 2021, Economic and Financial Crime Commission (EFCC) annual report 2021 and other relevant ministries, departments and agencies (MDA's). However, to identify, understand, quantify and manage this wide range of risks caused by social insecurity in Nigeria for the period of study (from 2012 to 2021), we create an actuarial modeling using Newton's method of interpolation (Forward difference). The **Dependent Variable** is National Development or Gross Domestic Product (GDP) which is y variable while The **Independent Variable** is Insecurity (Causes of insecurity) which is x variable.

V. RESEARCH RESULT

Find the correlation coefficient between the causes of insecurity in Nigeria and Gross Domestic Product (G.D.P) in the table below.

Table 2 The Correlation Coefficient between the Causes of Insecurity in Nigeria

Year	Causes of insecurity = x	GDP (Naira) = y
2012	7,240,330.8	72,600,000,000,000
2013	7,287,917.7	81,010,000,000,000
2014	7,737,466.3	90,137,000,000,000
2015	7,727,320.1	95,178,000,000,000
2016	8,353,111.2	102,575,000,000,000
2017	8,813,551	114,899,000,000, 000
2018	9,036,691.8	129,087,000,000,000
2019	9,546,233.9	145,639,000,000,000
2020	10,529,048	154,252,000,000,000
2021	10,787,800.4	176,076,000,000,000

➢ *Solution*

Table 3 Gross Domestic Product (G.D.P)

Year	Causes of insecurity (x)	Gross domestic products GDP in millions (y)	xy	x^2	y^2
2012	7.2403308×10^6	$72,600,000 \times 10^6$	$525,648,016.08 \times 10^{12}$	$52.422390093428 \times 10^{12}$	$5,270.76 \times 10^{24}$
2013	7.2879177×10^6	$81,010,000 \times 10^6$	$590,394,212.877 \times 10^{12}$	$53.113744401973 \times 10^{12}$	$6,562.6201 \times 10^{24}$
2014	7.7374663×10^6	$90,137,000 \times 10^6$	$697,431,999.8831 \times 10^{12}$	$59.868384743635 \times 10^{12}$	$8,124.678769 \times 10^{24}$
2015	7.7273201×10^6	$95,178,00 \times 10^6$	$735,470,872.4778 \times 10^{12}$	$59.71147592786 \times 10^{12}$	$9,058.851684 \times 10^{24}$
2016	8.3531112×10^6	$102,573,000 \times 10^6$	$856,803,675.1176 \times 10^{12}$	$69.774466719565 \times 10^{12}$	$10,521.220329 \times 10^{24}$
2017	8.813551×10^6	$114,899,000 \times 10^6$	$1,012,668,196.349 \times 10^{12}$	$77.678681229601 \times 10^{12}$	$13,201.780201 \times 10^{24}$
2018	9.0366918×10^6	$129,087,00 \times 10^6$	$1,166,519,434.3866 \times 10^{12}$	$81.661798688187 \times 10^{12}$	$16,663.453569 \times 10^{24}$
2019	9.5462339×10^6	$145,639,000 \times 10^6$	$1,390,303,958.9621 \times 10^{12}$	$91.130581673509 \times 10^{12}$	$21,210.718321 \times 10^{24}$
2020	10.529048×10^6	$154,252,00 \times 10^6$	$1,624,126,712.096 \times 10^{12}$	$116.37663747024 \times 10^{12}$	$23,793.679504 \times 10^{24}$
2021	10.7878004×10^6	$176,076,00 \times 10^6$	$1,899,472,743.2304 \times 10^{12}$	$116.37663747024 \times 10^{12}$	$31,002.757776 \times 10^{24}$
	$\sum x = 87.0594712 \times 10^6$	$\sum y = 1,161,451,000 \times 10^6$	$\sum xy = 9,871,151,021.4657 \times 10^{12}$	$\sum x^2 = 772.59901273100 \times 10^{12}$	$\sum y^2 = 145,410.520253 \times 10^{24}$

$\sum x = 87.0594712 \times 10^6$; $\sum y = 1,161,451,00 \times 10^6$; $\sum xy = 9,871,151,021.4657 \times 10^{12}$

$\sum x^2 = 772.59901273100 \times 10^{12}$; $\sum y^2 = 145,410.520253 \times 10^{24}$

$(\sum x)^2 = 7,579.3515256236 \times 10^{12}$; $(\sum y)^2 = 1,348,968.425401 \times 10^{24}$; n=10

But correlation coefficient is

$$\delta(x,y) = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

$$= \frac{(10)[9,871,151,021.4657^{12}] - (87.0594712 \times 10^6)(1,161,451,000 \times 10^6)}{\sqrt{[(10)(7725.9901273100 \times 10^{12}) - (7,579.3515256236 \times 10^{12})][(10)(145,410.520253 \times 10^{24}) - (1,348,968.425401 \times 10^{24})]}}$$

$$= \frac{98,711,510,214.657 \times 10^{12} - 101,115,309,884.71 \times 10^{12}}{\sqrt{[7725.9901273100 \times 10^{12} - 7,579.3515256236 \times 10^{12}][145,410.520253 \times 10^{24} - 1,348,968.425401 \times 10^{24}]}}$$

$$= \frac{-2.40379959 \times 10^{21}}{\sqrt{(1.46638602 \times 10^{14})(1.05136777 \times 10^{29})}}$$

$$= \frac{-2.40379959 \times 10^{21}}{\sqrt{1.541711 \times 10^{43}}}$$

$$= \frac{-240379959 \times 10^{21}}{3.926462785 \times 10^{21}}$$

$$= -0.6122$$

Thus, there is negative correlation between the causes of insecurity and gross domestic product (G.D.P). Hence, the insecurity in Nigeria is seriously affecting the Gross Domestic Product (G.D.P). The Gross Domestic Product (G.D.P) keeps on increasing while the insecurity in Nigeria keeps on affecting the Gross Domestic Product (G.D.P). It makes business and political environment unsafe and has caused a lot of loss of financial and human capital development which would have been invested for the development of the country. Lastly, the negative correlation coefficient (-0.6122) obtained shows that the causes of insecurity in Nigeria grossly affect the National Development.

VI. CONCLUSION

The correlation coefficient between the Gross Domestic Products and causes of insecurity in Nigeria is -0.6122 showing that it affects the national development negatively as this makes business operations unsafe.

RECOMMENDATION

The study recommends that transparency leadership in Nigera government administration should be strictly adhere to.

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