Statistical Analysis of Insecurity and Criminal Cases in Ibadan, Oyo State Nigeria

Saheed. A. Afolabi

Department of Statistics, University of Ibadan, Ibadan, Nigeria

Abstract: - This research examines the state of insecurity and criminal cases within the Ibadan community and its environs. Despite several security measures put in place by the Government to curb criminal activities, the state of insecurity and criminal related activities is on the increase and becoming worrisome and embarrassing. This research uses two sets of data – data collected through the administration of questionnaires to the University of Ibadan students, residence within and outside the campus and data obtained from the Nigeria Prisons Service, Agodi Prison Division, P.M.B 5174 Ibadan, Oyo State. Descriptive statistics, inferential statistics and time series analyses were carried out, such as stationary test, model identification, estimation and evaluation, and forecast. The results show that there is a significant relationship between the causes and possible solutions to insecurity within the Ibadan community and their environs at 5% significance level (p=0.000) and the selected criminal cases examined using the unit root (ADF) test established appropriate dynamic models with the AIC values of 5.14, 5.18 and 4.43 respectively for the next four years' prediction (2017 to 2020). The results therefore suggest that insecurity and criminal cases in Ibadan and its environment tend to increase over time which could be due to many factors from either government or individuals.

Keywords: **Insecurity, Terrorism, Militancy, Stealing and Burglary, Time Series Analysis**

I. INTRODUCTION

Insecurity simply refers to the breach of peace and security. Many Nigerians have it at the back of their minds that factors like: bad governance, unemployment, poverty, religion issues and ethnicity may have driven the youths to violent acts like cultism, terrorism, and kidnapping. Youth development ought to be the topmost priority of any country, this is because the youths constitute a formidable force and if their energies are properly channeled, there will be immense growth and development and many believe they are the leaders of tomorrow. However, when such energies are not properly channeled, such a country will definitely experience different problems as Nigeria of today is facing it. Ibadan town, Oyo state a home of peace, harmony and unity (Pace Setter) has now turned to a place of panicking and unsettled vicinity, (Agodi Criminal Activities Reports, 2016) where people can no longer sleep with their two eyes closed due to the menace of insecurity and criminal acts, in the same vein, members of the Boko Haram sect. keep increasing their killings in the country. The main problem facing tertiary institutions in Oyo State and Nigeria at large today is the issue of insecurity and criminal related activities.

Maslow (1999) described an insecure person as somebody who feels the world as a threatening jungle and most human beings as dangerous and selfish; feels rejected and isolated, anxious and hostile; is generally pessimistic and unhappy; shows signs of tension and conflict tends to turn inward. People in Oyo State will feel insecure with the everyday Nigerian news about the series of bombings and killings in the northern part of Nigeria; Niger Delta avengers in the eastern part; Fulani cattle herdsmen here and there especially western part; kidnapping and armed robbery attack in the southern part; political and economic related assassinations as well as the politically influenced communal wars arise in Nigeria. However, just a few years back it was as if we were safe, and would not face security issues within the Ibadan community and their environs but presently, people sleep every night with one eye open; no one really feels safe in the town. The situation has so degenerated to the extent that any little noise along the street can cause people to be running helter-skelter to secure safety.

In this regard, this research is being undertaken to determine the insecurity and pattern of different categories of crime in Ibadan, Oyo State in terms of significant relationship with possible solutions and stationarity of three different criminal cases (Stealing, Burglary and Drugs) with the hypothesis of significant relationship between the causes and possible solutions to insecurity in Ibadan and its environment.

II. LITERATURE REVIEW

Pelumi *et al.*, (2018) carried out research on analysis of some selected crime data in Nigeria using the obtained data from Nigerian National Bureau of Statistics of ten different states including Oyo, their research showed the pattern and rate of crime in Nigeria and it was revealed that significant relationship exist among the crime types; murder, armed robbery, assault, felonious wounding, manslaughter, bribery & corruption and burglary.

Ebenuwa-Okoh *et al.* (2014) carried out a research on undergraduates' perception of causes of youth restiveness in Delta State of Nigeria with four research questions and hypotheses. They employed a descriptive survey design with 275 questionnaire administration to the undergraduates together with the t-test and the F-test (ANOVA). It was later revealed from their results that there was no significant difference between the perception of male and female undergraduates of the causes of youth restiveness in Delta

State but there was significant difference between the perception of younger and older undergraduates of the causes of youth restiveness.

Anyadike, N. O., (2013) established that religious sensitivity of Nigerians created fertile ground for the breeding of the Boko Haram sect and some other related criminal acts in the country which would definitely have a great effect on Nigerian economy that will affect the Oyo State, Nigeria.

According to Nnonyelu (2013), Nigeria has become a reference point for corruption, and lately insecurity. He added that the mindless looting of public funds, which is emblematic of governance in Nigeria has proceeded a quick pace with equally mindless destruction of lives and property, with fear and disenchantment pervading the land.

Tenibiaje (2000) pointed out that criminal behaviours are common phenomena in the society, and the high rate of occurrence in recent time is of greater concern to the society. According to him, historical evidence and information gathered indicated that crime in Nigeria has now reached a great height. This implies that the high rate of crime is not peculiar to the male only but also female.

III. METHODOLOGY

3.1 Study Area

The study covered Ibadan, Oyo state and its environments which made up of thirty-three Local Government Areas whereby the undergraduate students of the Department of Statistics, Faculty of Science, University of Ibadan were involved.

3.2 Data and Study Population

A Questionnaire was drafted to assess the level of insecurity in Ibadan and its environment which is the qualitative part of the analysis (Primary Data) while secondary data was obtained from the Nigeria Prisons Service, Agodi Prison Division, P.M.B 5174 Ibadan, Oyo State to assess the criminal cases in Ibadan. The choice of the Simple Random Sampling Technique was based on its simplicity and flexibility with the aid of Questionnaire distribution and selected categories of crime.

The entire population of the research work was the whole Ibadan and its environments whereby 250 Questionnaires were administered by giving it to them and wait for like few minutes for the collection and 237 (that is 237 were able to give the response) were returned to complete the primary aspect of the analysis, later secondary data were collected on criminal cases for further affirmation of the insecurity and pattern of crimes in Ibadan, Oyo State.

3.3 Hypothesis of the Research

H_0: There is no significant relationship between the causes and possible solutions to insecurity in Ibadan and its environment.

H_1: There is significant relationship between the causes and possible solutions to insecurity in Ibadan and its environment.

3.4 Chi-Square Methodology

The Chi-square test denoted by χ^2 is one of the simplest and most widely used non-parametric tests in Statistics. In essence, it is used to determine whether the relative difference in causes of insecurity in Ibadan and possible solutions to it is due to chance or as a result of differences in quantity. Here, two values are important: the observed values (O) and expected values (E). The observed values are values obtained as a result of the respondents' outputs/responses from the field. The expected values are the values that ought to result from the respondents' outputs/responses under given conditions.

The statistic χ^2 may be defined as:

$$\chi^2_{cal} = \sum \left(\frac{(o-E)^2}{E} \right) \qquad (1)$$

$$\chi^2_{tab} = \chi^2_{(n-1),1-\frac{\alpha}{2}} \qquad (2)$$

Also,

$$\chi^2_{cal} = \sum_{i=1}^{r} \sum_{j=1}^{c} \frac{(O_{ij} - E_{ij})^2}{E_{ij}} \qquad (3)$$

$$\chi^2_{tab} = \chi^2_{[(r-1)(c-1)],1-\frac{\alpha}{2}} \qquad (4)$$

Where $E = \dfrac{R_T \times C_T}{G_T}$ and R means Row, C means Column.

But if the number (n) in the sample is only 2, in which the case the number of degrees of freedom is 1, Yate's Correction is effected on χ^2. χ^2 is then defined as:-

$$\chi^2_{cal} = \sum \left[\frac{(|O-E|-0.5)^2}{E} \right] \qquad (5)$$

$$\chi^2_{tab} = \chi^2_{[(r-1)(c-1)],1-\frac{\alpha}{2}} \qquad (6)$$

The major Chi-square test applied in this research work is the **test of independence**; it is used to check if there is relationship between two categorical variables and to answer whether the effects of one variable depend on the value of another variable. That is, test for association/independence or homogeneity with the following assumptions:

- The table categories are mutually exclusive and exhaustive, that is measures on each member of a sample may be assigned to one and only one cell.

- The members of samples are randomly and independently drawn from the population of interest.
- Chi-square statistic approximates the theoretical distribution only when the sample is fairly large.

3.5 Time Series Methodology

Time series is a collection of observation made sequentially at equal interval of time, this is denoted by X_t; where X_t are the three selected criminal activities (Stealing, Burglary and Drugs) in this research at time (t) between 2007 and 2016 inclusive. The fundamental importance of time series is that the observation on time and the successive observations are dependent on one another. Time Series Analysis (TSA) involves the degree and pattern of dependent criminal case(s) X_t. This assumption can be conventionally expressed as a linear model.

$$X_t = \psi_1 X_{t-1} + \psi_2 X_{t-2} + \cdots + \psi_q X_{t-q} + \omega_t$$
(7)

Where $\psi_1, \psi_2, ..., \psi_q$ are unknown fixed regression coefficient of the criminal case(s) and ω_t is a random error or noise process consisting of independent and identically distributed normal variables with mean zero and variance σ_ω^2.

Time Plot

This is the graph of time series observation against time. Time plot helps in understanding the past behaviours of a variable and also helps to determine the rate of growth extent and direction of periodic fluctuation. Time series analysis has four major components; The Trend(T_t), The Seasonal Variation(S_t), The Cyclical Variation(C_t) and The Irregular Variation(I_t).

Unit Root Tests (Testing for Series Stationarity)

To detect whether a given series is non-stationary, let us assume that the relationship between current (in time t) and last value (in time t-1) in the time series is as follows (Enders, 1995):

$$X_t = \phi X_{t-1} + \varepsilon_t$$
(8)

Where X_t is an observation value at time t, ε_t is white noise process. The unit root test subsequently tests using the below hypothesis;

H_0: $|\phi| = 1$ (has a unit root)   against H_1: $|\phi| < 1$ (has root outside the unit circle).

Augmented Dickey-Fuller Test (ADF)

ADF is a test for a unit root in a time series sample. The more negative ADS statistic is, the stronger the rejection of the hypothesis that there is a unit roots at some level of confidence.

Testing procedure:

$$\Delta y_t = \alpha + \beta t + \gamma y_{t-1} + \ldots + \delta p{-}1 \Delta y_{t-p+1} + \varepsilon_t$$
(9)

Where α is a constant, β is the coefficient on a time trend and p is the lag order of the autoregressive process. Imposing the constraint $\alpha = 0$ and $\beta = 0$ corresponding to modelling a random walk and using the constraint $\beta = 0$ corresponds to modelling a random walk with drift or constant.

By including lags of order p the ADF formulation allows for the higher-order autoregressive process.

$$DF_T = \frac{\gamma}{SE(\gamma)}$$
(10)

Univariate Time Series Models

As mentioned above, modelling time series data can be dealt with using either time domain or frequency domain approach. Time domain approach is somehow simpler. Time domain are usually parametric in nature and are based on direct modelling of the lagged relationship between a series and its past history (past values/lagged values) possible to forecast its future values. The most applied univariate time domain models are given below;

For stationary time series;

- Autoregressive Model (AR).
- Moving Average Model (MA).
- Autoregressive Moving Average Model (ARMA).
- For non-stationary time series, we have;
- Autoregressive Integrated Model (ARI).
- Integrated Moving Average (IMA).
- Autoregressive Integrated Moving Average (ARIMA)

All the models mentioned here are for linear time series data. There are some non-linear time series models capable of modelling non-linear time series data.

Some Univariate Stationary Models in Time Series

Given a finite number of observation, like criminal case(s) in this research $\{X_t\}$ we can construct a finite order parametric model to describe a time series process. Several dynamic models that are linear stationary time series model are Auto-Regressive of order p, AR(p); Moving Average of order q, MA(q); and Autoregressive Moving Average of order pq, ARMA(p,q) models.

Autoregressive Process AR(p)

A stationary time series $\{X_t\}$ is said to be an autoregressive process of order p if it satisfies;

$$X_t = \phi_1 X_{t-1} + \phi_2 X_{t-2} + \cdots + \phi_p X_{t-p} + \varepsilon_t \quad (11)$$

Where $\phi_1, \phi_2, \ldots, \phi_p$ are autoregressive parameters and $\{\varepsilon_t\}$ is a white noise process with mean zero and constant variance σ^2. The above equation can be re-written as

$$(1 - \phi_1 B - \phi_2 B^2 - \cdots - \phi_p B^p)X_t = \varepsilon_t \qquad (12)$$

And this implies $\Phi(B)X_t = \varepsilon_t$

Where $\Phi(B)$ is a polynomial in B. For stationarity the roots of $\Phi(B)$ must lie outside the unit circle i.e. $|B| > 1$.

Moving Average Process MA(q) Process

A stochastic process $\{X_t\}$ is said to be a moving average process of order (q) if it satisfy the difference equation;

$$X_t = \varepsilon_t - \theta_1 \varepsilon_{t-1} - \theta_2 \varepsilon_{t-2} - \cdots - \theta_q \varepsilon_{t-q} \qquad (13)$$

Which can also be written as;
$$X_t = (1 - \theta_1 B - \theta_2 B^2 - \cdots - \theta_q B^q)\varepsilon_t \qquad (14)$$

And this implies $X_t = \Theta(B)\varepsilon_t$ and for MA(q), the invertibility condition holds.

Autoregressive Moving Average (ARMA) process

We can express AR(1) as an MA(∞) and MA(1) can be expressed as an AR(∞). Hence to have a minimum number of parameters, it is then logical to describe a system by as few parameters, it is then logical to describe a system by as few parameters as possible by expressing a time series model as a combination of AR and MA processes, called an autoregressive moving average process (ARMA) model.

Thus a stationary process $\{X_t\}$, satisfy an ARMA (p,q) process if

$$X_t - \phi_1 X_{t-1} - \cdots - \phi_p X_{t-p} = \varepsilon_t - \theta_1 \varepsilon_{t-1} - \cdots - \theta_q \varepsilon_{t-q}$$
$$(15)$$

Where, $\{\varepsilon_t\}$ is a white noise process with $\text{var}(\varepsilon_t) = \sigma^2$. Equation (3.24) can be expressed as;

$$\Phi(B)X_t = \Theta(B)\varepsilon_t \qquad (16)$$

Where, $\Phi(B) = (1 - \phi_1 B - \phi_2 B^2 - \ldots - \phi_p B^p)$.

For stationary, we require the root of the characteristic equation $\Phi(B) = 0$ to lie outside the unit circle and the condition for invertibility is that the root of the characteristic equation $\Theta(B) = 0$ lie outside the unit circle.

Akaike Information Criterion (AIC)

AIC can be defined as:

$$AIC(k) = \log(\sigma^2(k)) + \frac{2}{T}k \qquad (17)$$

$$AIC = \ln\left(\frac{\sum e_i^2}{n}\right) + \frac{2k}{n} \qquad (18)$$

$$AIC = \ln\left(\frac{e^1 e}{n}\right) + \frac{2k}{n} \qquad (19)$$

Where k is the total number of parameters estimated.

IV. RESULTS AND DISCUSSIONS

The analyses and interpretations of collected data in the research on the insecurity and criminal cases in Ibadan, Oyo State, Nigeria would be discussed.
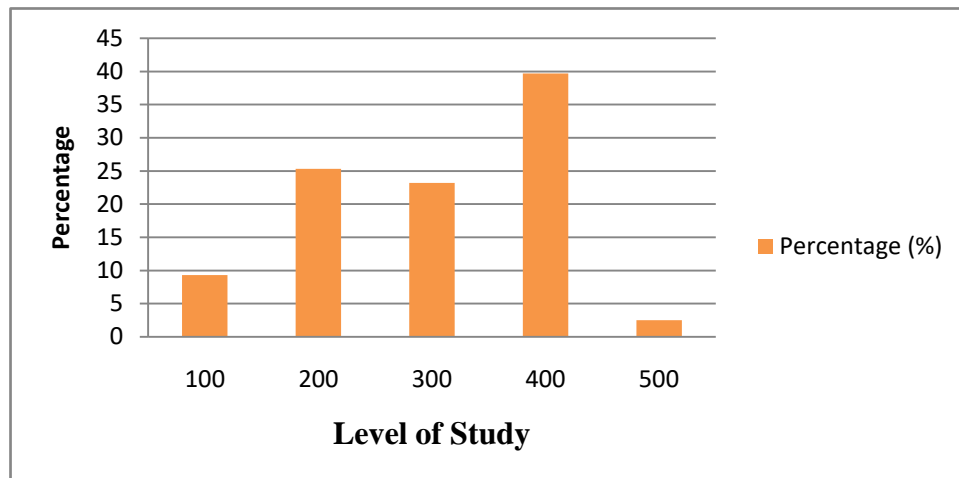

Figure 1: Distribution of Respondents by Level of Study

It was depicted that more than one third of the respondents participated in this research work were from 400 level with 94(39.7%), 60(25.3%) 200 level students also participated, 55(23.2%) from 300 level students, 22(9.3%) from 100 level while the least record was taken from 500 level students with

6(2.5%). The result shows that majority of the respondents were from 400 level students. In the same vein, out of 237 respondents that participated in the research work, 122 (51.5%) were males and 115 (48.5%) were females. It implies that males are slightly predominant in the study area.
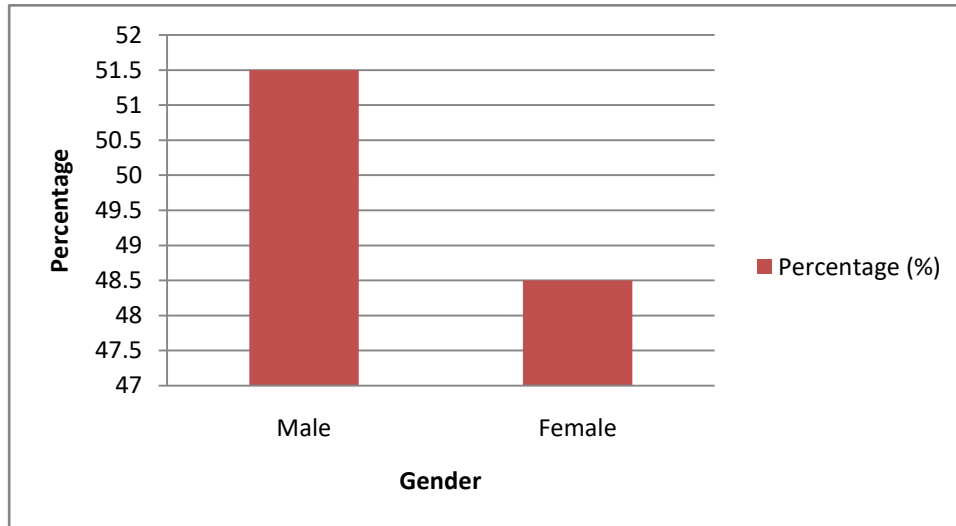

Figure 2: Distribution of Respondents by Sex

The table below revealed the measures of causes of insecurity in Ibadan with the respondents 205(86.5%) that strongly agreed and 25(10.5) that agreed to the fact that unemployment is a major cause of insecurity in Ibadan while 7(3%) disagreed to the fact that unemployment is a major cause of insecurity in Ibadan. In terms of role of ethno-religious sect, 179(75.5%) strongly agreed, 48(20.3%) agreed, only 7(3%) disagreed while 3(1.3%) were unable to decide. Majority of the respondents 131(55.3%) strongly agreed that high level of illiteracy in Nigeria is responsible for Ibadan insecurity, 91(38.4) agreed, 7(3) disagreed while 8(3.4) gave no decision. From the established fact, 195(82.3) and 208(87.3) of the

respondents believed that poverty and stealing influence the rate of insecurity with strong agreement. Item 7, 162(68.4) strongly agreed and 18(7.6) agreed to the fact that bad governance has contributed so much to the insecurity in Ibadan, Oyo State while 24(10.1) disagreed, 30(12.7%) strongly disagreed to the fact. Lastly, the last three items revealed that majority of the respondents strongly agreed to the fact that bad governance has contributed so much to the insecurity in Ibadan, Oyo State, Nigeria, failure to enforce laws in Nigeria by the leaders leads to insecurity and Inability of leaders to rise to their responsibility with 128(54%), 138(58.2%) and 137(57.8%) respectively.

Table 1: Distribution of Causes of Insecurity in Ibadan, Oyo State

Statements	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)	Undecided (%)
Unemployment is a major cause of insecurity	205(86.5)	25(10.5)	7(3)	_	_
Ethno-religious sect have role to play in insecurity	179(75.5)	48(20.3)	7(3)	_	3(1.3)
High level of illiteracy in Nigeria populace is responsible for insecurity	131(55.3)	91(38.4)	7(3)	_	8(3.4)
Poverty influences the rate of insecurity	195(82.3)	31(13.1)	11(4.6)	_	_
Stealing as a crime of insecurity	208(87.8)	29(12.2)	_	_	_
Rape is an act of insecurity	85(35.9)	43(18.1)	80(33.8)	13(5.5)	16(6.8)
Bad governance has contributed so much to the insecurity in Ibadan	162(68.4)	18(7.6)	24(10.1)	30(12.7)	3(1.3)
Bad governance has contributed so much to the Nigeria insecurity	128 (54)	64(27)	38(16)	4 (1.7)	3(1.3)
Failure to enforce laws in Nigeria by the leaders leads to insecurity	138(58.2)	70(29.5)	10(4.2)	19(8)	_
Inability of leaders to rise to their responsibility	137(57.8)	94(39.7)	3(1.3)	_	3(1.3)

It can be deduced from the table below that empowering the youth can minimize insecurity in Ibadan, Oyo State and Nigeria as a whole as 215(90.7%) respondents strongly agree, 19(8%) agree, and 3(1.3%) disagree. Item 2 revealed that 185(78.1%) strongly agreed to the fact that the government and the people need to develop trust is one of the remedial measures to the insecurity in Ibadan while 52(21.9%) agreed to the fact. Unity should be maintained between the government and the citizens with 183(77.2%) strong agreement and 54(22.8%) agreement of the respondents. Item 4 revealed how employment should be provided immediately after graduation from higher institution as one of the possible solutions to the insecurity in Ibadan and Nigeria as a whole in which majority 198(83.5%) strongly agreed and 39(16.5%) agreed. For the reduction or minimization or eradication of the insecurity and criminal cases in Ibadan, Nigeria, 175(73.8%) strongly agreed to the fact that government should improve on the welfare of security agencies on the campus and in Nigeria at large; 168(70.9%) strongly agreed to the fact that entrepreneurship should be part of the curricula (from secondary to university); 150(63.3%) strongly agreed to the fact that encouraging economic growth should be the motive of the Governments and the citizens and lastly 144(60.8%) strongly agreed to the fact that creating enabling environment for people to partner with government to curb insecurity in Ibadan, Oyo State, Nigeria.

Table 2: Distribution of Remedial Measures to Causes of Insecurity

Statements	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)	Undecided (%)
The need to empower the youth	215(90.7)	19(8)	3(1.3)	_	_
The government and the people need to develop trust	185(78.1)	52(21.9)	_	_	_
Unity should be maintained between the government and the citizens	183(77.2)	54(22.8)	_	_	_
Employment should be provided immediately after graduating from high institution	198(83.5)	39(16.5)	_	_	_
Government should improve on the welfare of security agencies on the campus and in Nigeria at large	175(73.8)	62(26.2)	_	_	_
Entrepreneurship should be part of the curricula (from secondary to university)	168(70.9)	40(16.9)	11(4.6)	_	_
Encouraging economic growth	150(63.3)	75(31.6)	_	_	12(5.1)
Increasing patriotism level of Nigerians	184(77.6)	49(20.7)	4(41.7)	_	_
Creating enabling environment for people to partner with government to curb insecurity in Nigeria	184(77.6)	49(20.7)	4(41.7)	_	_
Security issues should be everybody's concern	209(88.2)	28(11.8)	_	_	_

Table 3: Undergraduates' Perception on Causes and Possible Solutions

Variables	N	χ^2 –Value	Df	r-value	P-value	Decision
Causes	237					
Possible Solutions	237	77.193	4	0.82	0.000	H_0 Rejected

It is shown from the table above that the p-value is lesser than the level of significance i.e. ($p=0.00 < 0.05$) which shows the significance of the result. Therefore, the null hypothesis is said to be rejected by concluding that there is significant relationship between causes and possible solutions to insecurity in Ibadan, Oyo State, Nigeria. Hence, the test is **significant** with the correlation coefficient which gives strong positive value of 0.82 as the degree of relationship. The result shows that the suggested possible solutions are dependent of the causes of insecurity in Ibadan and Nigeria as a whole at 5% level of significance and the extent of the relationship between them is very high which implies that related relationship exists.

Table 4: Model of Order Determination for Stealing Cases

Dependent Variable: Stealing				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	1.004244	0.000834	1204.191	0.0000
MA(1)	-0.980012	0.010521	-93.14492	0.0000

The model can be written as: $X_t - 1.004244X_{t-1} = \varepsilon_t + 0.980012\varepsilon_{t-1}$, where 1.004244 and -0.980012 are the coefficients of AR(1) and MA(1) respectively.
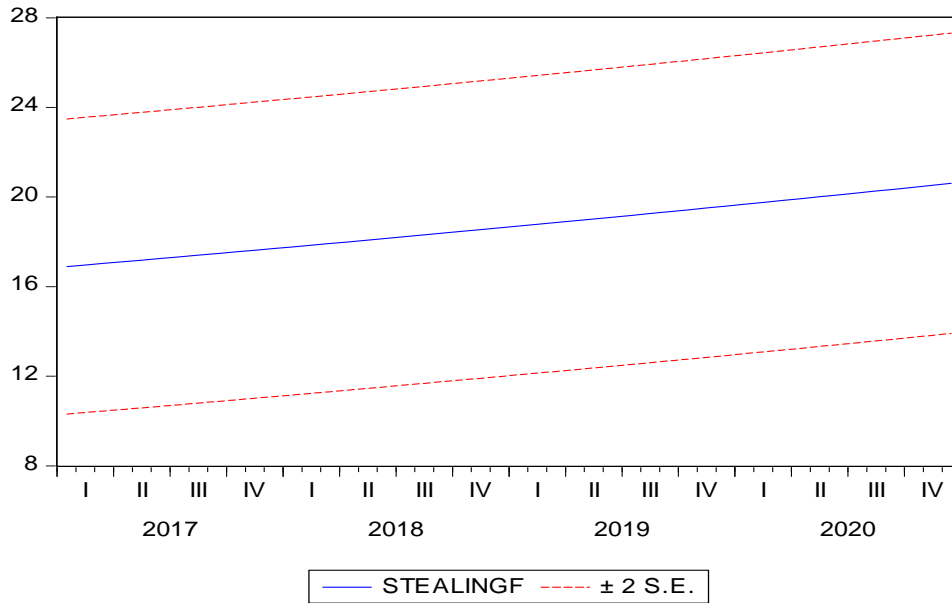
Figure 3: Forecasting Graph of Stealing Cases

Table 5: Model of Order Determination for Burglary Cases

Dependent Variable: Burglary				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	-0.457679	0.057553	-7.952380	0.0000
AR(2)	0.630324	0.024867	25.34810	0.0000
AR(3)	0.840922	0.060003	14.01475	0.0000
MA(1)	0.540743	0.028586	18.91664	0.0000
MA(2)	-0.504607	0.037098	-13.60193	0.0000
MA(3)	-0.985600	0.027329	-36.06442	0.0000

The model can be written as: $X_t + 0.457679X_{t-1} - 0.630324X_{t-2} - 0.840922X_{t-3} = \varepsilon_t - 0.540743_{t-1} + 0.504607\varepsilon_{t-2} + 0.985600\varepsilon_{t-3},$ where -0.457679, 0.630324, 0.840922, 0.540743, -0.504607 and -0.985600 are the coefficients of AR(1), AR(2), AR(3), MA(1), MA(2) and MA(3) respectively.
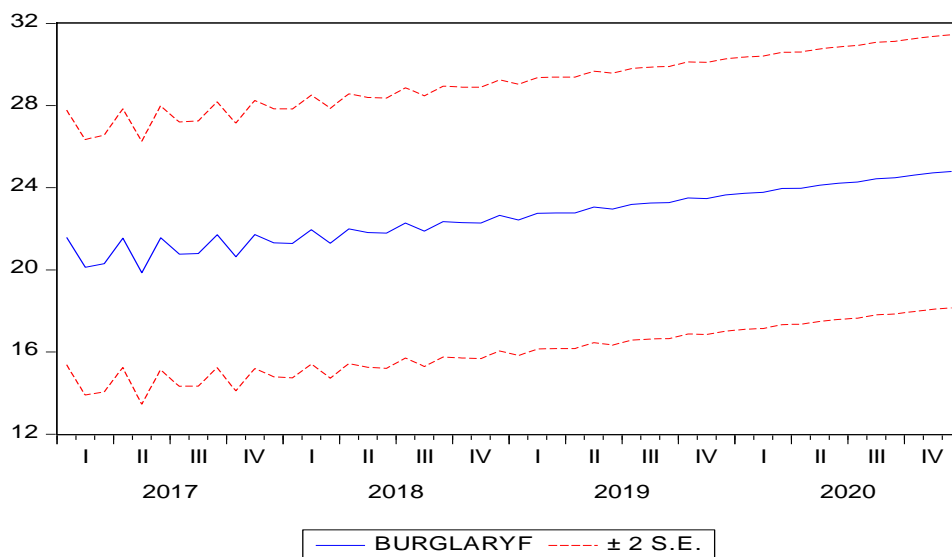

Figure 4: Forecasting Graph of Burglary Cases

Table 6: Model of Order Determination for Drug Cases

Dependent Variable: Drug				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	0.435812	0.321835	1.354146	0.1784
AR(2)	0.034899	0.360287	0.096866	0.9230
AR(3)	0.537979	0.275155	1.955189	0.0531
MA(1)	-0.388262	0.348700	-1.113457	0.2679
MA(2)	-0.120584	0.369285	-0.326533	0.7446
MA(3)	-0.450843	0.295952	-1.523366	0.1305

The above drug cases model can now be written as: $X_t - 0.435812X_{t-1} - 0.034899X_{t-2} - 0.537979X_{t-3} = \mathcal{E}_t + 0.388262\mathcal{E}_{t-1} + 0.120584\mathcal{E}_{t-2} + 0.450843\mathcal{E}_{t-3}$, where 0.435812, 0.034899, 0.537979, -0.388262, -0.120584 and -0.450843 are the coefficients of AR(1), AR(2), AR(3), MA(1), MA(2) and MA(3) respectively.
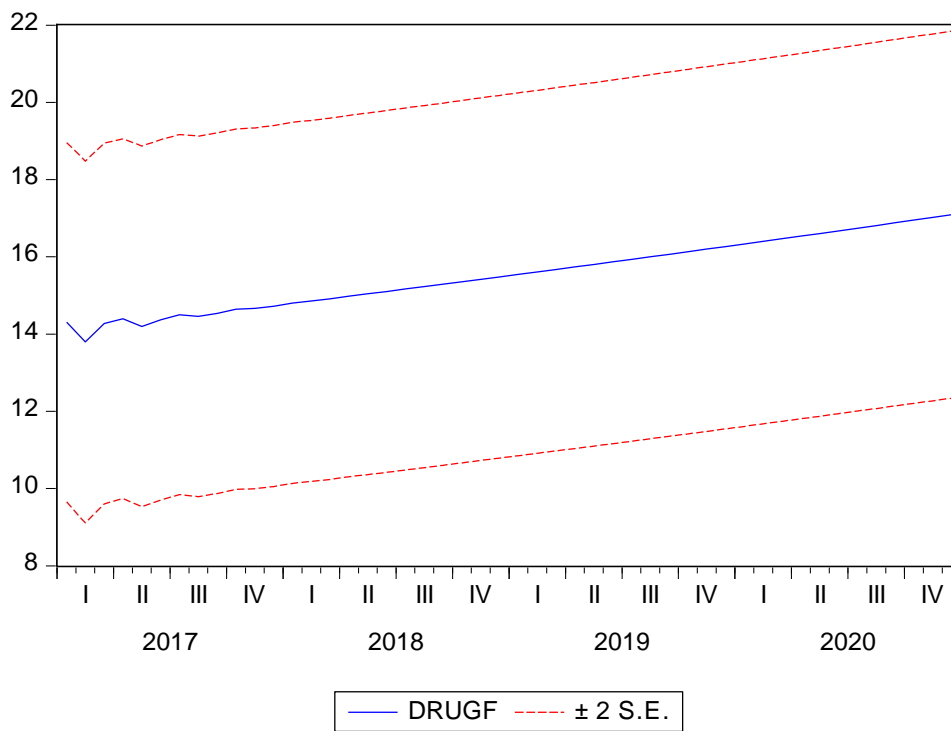

Figure 5: Forecasting Graph of Drug Cases

V. CONCLUDING REMARKS

In this study, we established that majority of the respondents believe that there is insecurity and existence of criminal cases in Ibadan, Oyo State, Nigeria with the percentage 215(90.8%) while 80.0% of the students on the University campus felt safe. From the result of the analysis, it is recommended that Government and school management should establish improvement on: the welfare of security agencies in Ibadan, Oyo State and Nigeria at large for effectiveness, so that any kind of petty stealing will be eradicated and to avoid the effect of criminal acts; the youth empowerment in Ibadan to reduce criminal activities and provision of employment immediately after graduation.

REFERENCES

[1]. Albert (2007): Concept of Insecurity in Nigeria.
[2]. Anyadike, N. O., (2013). Boko Haram and National Security Challenges in Nigeria; Causes and Solutions. *Journal of Economics and Sustainable Development www.iiste.org ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online) Vol.4, No.5, 2013.*
[3]. Box and Jekins, (1970): Time Series Analysis: Forecasting and Control.
[4]. Carrington W. (2013): Public lecture, 22nd October 2013.
[5]. Ebenuwa-Okoh, E. E., Akpochafo G. O. and Onoyase A. (2014). Undergraduates' Perception of Causes of Youth Restiveness in Delta State of Nigeria. *Journal of Education and Practice ISSN 2222-1735 (Paper) ISSN 2222-288X (Online) Vol.5, No.2, 2014*
[6]. Maslow (1999): Description of Insecure Person in Nigeria as a whole.
[7]. Nnonyelu AU Nkemdili (2013): No light at the end of the Tunnel: Corruption and Insecurity in Nigeria. *Arabian Journal of Business*

and Management Review (OMAN Chapter) Vol:2 No 6, January 2013.

[8]. Pelumi, E. O., Oluwadare O. O., Hilary I. O. and Omoleye A. O. (2018). Analysis of Selected Crime Data in Nigeria. *Elsevier Inc. www.elsevier.com/locate/dib.*

[9]. Shittu O. I. and Yaya O. S. (2013): Quick Summary to Time Series Analysis (Questions and Answers Approach).

[10]. Tenibiaje (2000): The delinquency and criminal behaviours in our society.