

THE EFFECT OF NATIONAL MINIMUM WAGE INCREASE ON YOUTH UNEMPLOYMENT IN NIGERIA*

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* This Study is derived from Glory Chinyere OZOEZE's Master Thesis Study "The effect of national minimum wage increase on youth unemployment in Nigeria".

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Abstract: The study aims to determine the effect of the national minimum wage increase on youth unemployment in Nigeria. Within the scope of the study, firstly, the trend analysis between youth unemployment and national minimum wage is monitored with the data that was sourced from the World Bank. In the second step, the study investigates the impact of the minimum wage increase on youth unemployment with a generalized method of moments model (GMM) for the years between 1991-2019. Last section of the study, further examines whether there is a unidirectional or bidirectional causality between youth unemployment and national minimum wage in Nigeria. The results show that youth unemployment responds to changes in national minimum wages. This implies that a low minimum wage will prompt a low unemployment rate for the Nigerian economy. This result confirms the a priori expectation that any increase in national minimum wage will lead to downsizing of labor and the inability of firms to employ new youth, thereby leading to an increase in youth unemployment. However, this level should carefully be investigated for a better standard of living for the citizens. Furthermore, the study finds a unidirectional causality between youth unemployment and national minimum wage for the Nigerian economy in which the causality mainly flows from youth unemployment to national minimum wage unless a causality flowing from national minimum wage to youth unemployment.

Keywords: Minimum wage, youth, unemployment, Nigeria.

1. INTRODUCTION

The issue of unemployment bedevils many developing countries around the world. Many factors contribute to youth unemployment around the globe, however, Brewer (2005), argued that most studies tend to focus on two main levels: 1) on the demographic composition of the young people as a whole and the dynamics of youth labor markets; 2) individual behavioral and demographic characteristics that affect their employment prospects. For this study, only the first level of analysis will be examined. At the first level of analysis certain determinants of unemployment are determined as aggregate demand, youth wages, size of the youth labor force, and lack of skills. It is important to note that among these three determinants, the wages of the youths if properly regulated and enforced are capable of ameliorating the issue of wage discrimination among marginalized groups e.g., youths and women. It has been observed that the statutory

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minimum wage legislation is important because it provides the opportunity for an economy to remain competitive in the world market (United Nations, 2002).

The Nigerian National Bureau of Statistics (2016) reported that youth unemployment in Nigeria increased from 19 % in 2015 to 24 % in 2016 for individuals aged 15- 24, while that of persons aged 24-35 increased from 11.4% in 2015 to 20.5 % in the same period. According to (Rae, 2007) graduates are increasingly beginning their careers in agency employment, doing seasonal or contract jobs, and earning wages that are just above the minimum wage. To date, research on the factors that influence unemployment in Nigeria has contributed enormously to the literature but has not reached a concrete consensus on exactly which one requires immediate and effective policy intervention. The cause of youth unemployment was explained, for instance, by the deplorable state of entrepreneurship education (Nwekeaku, 2013), the stagnation in the formal sector employment rate (NISER, 2009), population growth, and lack of employability skills (Venatus & Ikwuba, 2010) and poor management practices (Asaju, 2014). Uddin & Uddin (2013), also argued that rural-urban migration and the rapid proliferation of tertiary institutions are key factors contributing to unemployment in Nigeria. Because not many studies have examined the influence of the legislation concerning the minimum wage on youth unemployment in Nigeria, this study tends to bridge this gap.

The study aims to contribute to the literature by showing the trend of national minimum wage and youth unemployment in Nigeria for the period of 1991-2019. So many things have changed in the country since 1991. The minimum wage has increased, and at the same time, more and more unemployed graduates, the majority of who are youths, have been witnessed in Nigeria. Such an analysis will make known from where the country comes in terms of minimum wage and youth unemployment levels, where the country stands currently, and where its destination will be if things don't change in terms of minimum wage and unemployment.

The reason for choosing the topic is the high unemployment rate in Nigeria. As a result, the researcher is interested in understanding how the national minimum wage increase has contributed to this phenomenon. Because, if the impact of the increase in the minimum wage is understood, it will be easy for policymakers to make the necessary adjustments. The purpose of this study is to determine the effect of the national minimum wage increase on youth unemployment in Nigeria and provide all stakeholders with the data findings of this crucial economic, but at the same time humanitarian, issue to guide them in the best policy choice for the growth path and economic development of Nigeria.

2. NATIONAL MINIMUM WAGE

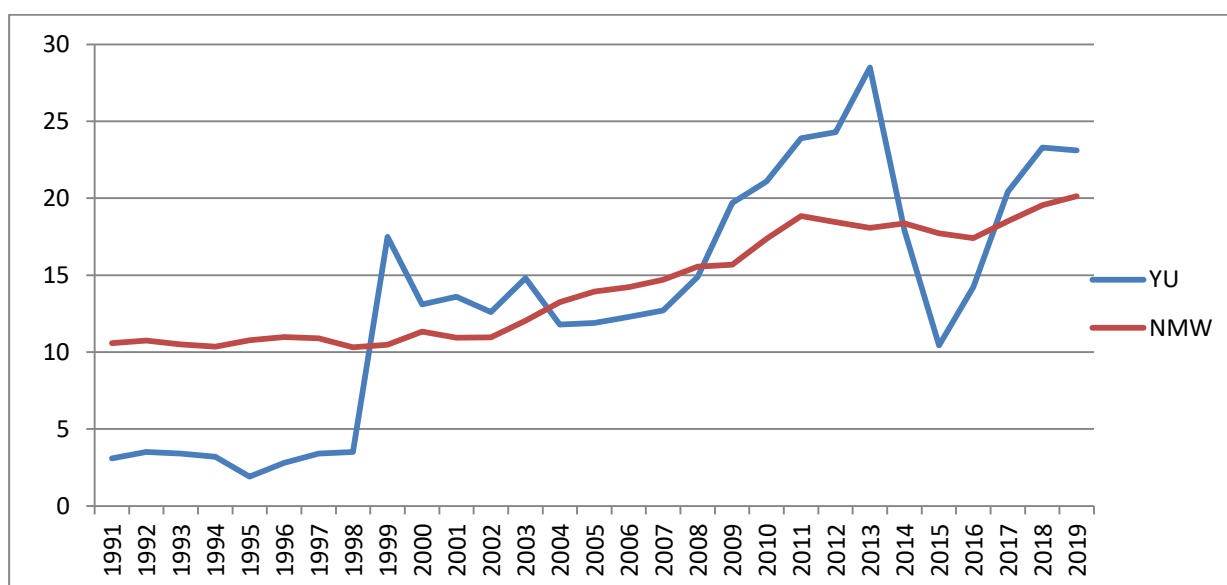
The international labour organization (2015) defined minimum wage as the minimum amount of remuneration that an employer is required to pay wage earners for the work performed during a given period, which cannot be reduced by collective agreement or an individual contract.

Unemployment, according to the OECD (2019), is persons above a specified age not being in paid employment or self-employment but currently available for work during the reference period. Unemployment is measured by the unemployment rate, which is the number of people who are unemployed as a percentage of the labour force. A minimum wage is the lowest remuneration that employers can legally pay to their workers, according to Brummund & Strain (2020). Remuneration refers to the payment and other complementary benefits that are provided in exchange for a service (Umkehrer & vom Berge, 2020). This serves as a bar, below which no professional should offer their labor. By the end of the last century, countries had begun to introduce policies in regard to the minimum wage. There are cases where companies try to skirt the minimum wage policies by moving labor to areas with lower or nonexistent minimum wage or employ contract workers or freelancers (Flaschel et al., 2012). The idea of the minimum wage arose as a response to the exploitation of workers by workshop owners. Unfair bargaining power means that employers had the power to determine the wage paid to workshop workers. Introducing the minimum wage would mean that both workshop owners and workers knew what to expect as the minimum wage. This limits the opportunity for employers to exploit workers.

It was first implemented in Australia and New Zealand (Šauer, 2018). As time passed, the perception of minimum wage changed, and it was seen as a way to help families that fall below the low-income tier (Oren, 2012). Although the minimum wage policy is becoming a common tradition in various jurisdictions, there are disparities in the advantages and shortcomings of the minimum wage (Lavecchia, 2020). Most developed countries periodically assess the minimum wage level subject to changes in inflation rate or cost of living. In some jurisdictions, states and cities are permitted to pass a different minimum wage requirement from the one stipulated by the federal government (Wang et al., 2019).

3. TREND OF YOUTH UNEMPLOYMENT AND NATIONAL MINIMUM WAGE IN NIGERIA

Between 1991 and 1998, when the average minimum wage was minimal, the youth unemployment rate was at its lowest level during this period. This implies that a low minimum wage will prompt a low unemployment rate in the economy. Rises in national minimum wage between 1999 and 2003 shoot up the unemployed youth rate during these periods, which indicates that employment of youths falls as the national minimum wage increase in Nigeria. However, a slight rise in national minimum wage between late 2004 and 2009 bring youth unemployment down, suggesting the efforts of the government to create employment opportunities for the youths despite the high minimum wage. But a sharp increase in the national minimum wage to N18,000, which pushes the average minimum wage upward, resulted in a sharp increase in the youth unemployment rate in 2011. Tough youth unemployment fell in 2015, resulting from a fall in the average minimum wage. However, as depicted in Figure 1, an increase national minimum wage to N30,000 led to a further rise in the youth unemployment rate during this period. The trend relationship between youth unemployment and national minimum wage in Nigeria is available in Figure 1.



Sources: World Bank, National Bureau Statistic

Figure 1: Trend Analysis between Youth Unemployment and National Minimum Wage

4. LITERATURE REVIEW

Adam (1982) examined what would happen in the American economy if there were to be an increase in the minimum wage. The author adopted the use of a macroeconomic model to simulate what would happen if there were to be an increase in the minimum wage. The outcome of the study revealed that an increase in the minimum wage would increase the price of the commodity and also result in increased unemployment levels. Brown, Curtis, and Kohen (1982) is another researcher in the American context, however this time around, time series regression was employed by the researcher to understand what will happen to employment and if there were to be an increase in the minimum wage. Findings show that the increase in minimum wage will increase unemployment. The authors, however, sounded a note of caution on the significant role played by prevailing economic conditions. Dickens, Machin, and Manning (1999) used the British wages council as a case study to understand how wages affected employment. Data was collected over a period of seventeen years. Study findings showed that the movement of funds was affected by wages, but unemployment remained unaffected. Neumark and Wascher (2004) utilized panel data analysis to understand how an increase in minimum wage affected employment. Study findings showed that in cases where wages increase and the hours worked reduce, the employment rate decreases.

Folawewo (2007) focused on the impact of the minimum wage increase in different sectors of the Nigerian economy. Static general equilibrium was adopted while study findings showed that in the agricultural sector, increasing minimum

wage resulted in increased employment. In the service sector, the impact is insignificant, while in the manufacturing sector, there was no impact recorded. Burkhauser and Sabia (2004) and Neumark, Schweitzer, and Wascher (2005) in their study found that when the minimum wage was increased, the category of employers who suffered most are those of low skill. Majchrowska & Zólkiewski (2012) studied how an increase in minimum wage affected employment. The country of focus was Poland. The authors collected data over a ten-year period and applied regression analysis to the collected data. Study findings show that increasing the minimum wage will result in a decrease in the number of those employed. A ten percent increase in the minimum wage is responsible for a 1% decrease in the employment rate. A fifty percent increase in minimum wage will have a more significant effect on the economy resulting in the loss of many jobs. Akpansung (2014) was interested in understanding how the democratic dispensation affected employment rates. The researcher collected data from the year 1999 to 2012, which is about thirteen years. OLS and Granger causality tests were carried out with some other tests. The study outcome revealed that increasing the minimum wage resulted in an increase in unemployment rates. If minimum wage increased by one percent, it would increase the unemployment rate by 6%. The short study period might have exaggerated the impact of the increase in the minimum wage. Harasztosi and Lindner (2015) studied how an increase in the minimum wage affected employment in Hungary. The effect of the minimum wage increase on employment was insignificant. The study outcome shows that while a 10% increase resulted in a significant change in employment rates in Poland, it did not have the same effect in Hungary. Pantea (2017) wanted to know if increasing the minimum wage will lead to a reduction in employment rates or not. Data was not collected from all the territorial or administrative units in Romania, but only from 42 of them. Study findings revealed that increasing the minimum wage did not have a significant impact on employment rates. Because the data was only collected for a six-year period, this might be responsible for the insignificant impact observed. Babalola (2019) studied the national minimum wage increase and how it affects unemployment and inflation rates. The country of focus was Nigeria. Two models were used by the author, and in one model, the author used the unemployment rate as the dependent variable, and in the second model, the inflation rate was used. ARDL and ECM were used for carrying out cointegration tests which is important before actual analysis of the impact of the study variables. The study found that both in the short and long run, an increase in minimum wage will lead to an increase in unemployment. The study findings also show that increasing the minimum wage will result in an increase in inflation. An increase of the minimum wage by 50% is expected to increase the unemployment rate to about 6%. The policy recommendation is that though labor unions may prefer an increase in the minimum wage, such an increase should be planned and appropriately introduced using an intermittent strategy. None of the previous studies examined in the literature review focused on the objectives of this study which is to examine the trend analysis between youth unemployment and national minimum wage; determine the impact of the minimum wage increase on youth unemployment, and examine if there is unidirectional causality between youth unemployment and national minimum wage. Işık, Orhangazi & Tekgüç (2020) carried out a study titled heterogeneous effects of minimum wage on labor market outcomes: a case study from Turkey. The authors focused on the sharp minimum wage increase and its effect on wages, informality, and employment. Turkey was used by the researchers because it is a developing economy. One of the peculiarities of the Turkish economy according to the authors is that it has the highest minimum wage-to-average wage ratios among OECD countries. Widespread discrepancies between labor market outcomes of women and men is also a major characteristic of the Turkish economy as pointed out in the study. The authors used data from the year 2016 and found that the minimum wage increase in the year 2016 had an economically substantial and statistically significant positive impact on wages. The effect on unemployment was negative but a possible increase in the share of informal employment among workers with less than tertiary education, especially for such workers working for small firms.

5. METHODOLOGY

5.1 Sources of Data Collection, Population, and Sample Size

Secondary data were collected and adopted from the World Bank Data Set on the study variables of minimum wage, youth unemployment, GDP, and exchange rates. The study population is Nigeria, and the study period is 1991 to 2019. The study intended to collect data from the year 1975, but data could not be found for some of the study variables, such as minimum wage, which dates back to the year 1975. Therefore, a sample size of 29 observations was settled from a period spanning 29 years.

5.2 Model Specification and Data Analysis Technique

The study aims to examine the trend analysis between youth unemployment and national minimum wage in the first order, and then to determine the impact of the minimum wage increase on youth unemployment. Lastly, the study aims to examine if there is unidirectional causality between youth unemployment and national minimum wage.

To determine the impact of minimum wage increase on youth unemployment, the model is in line with Acemoglu et al. (2008), estimate the following model:

$$d_{it} = \alpha d_{it-1} + \gamma y_{it-1} X_{it-1} \beta + \mu_t + d_i + \mu_{ut} \quad (1)$$

δ_i 's denote a full set of country dummies and the μ_t 's denote a full set of time effects that capture common shocks to (common trends in) the democracy score of all countries; U_{it} is an error term, capturing all other omitted factors.

Acemoglu et al. (2008) used the difference GMM estimator as proposed by Arellano and Bond (1991) to estimate equation (1). The estimator is based upon the following orthogonality conditions:2. This estimator makes use of the following moment conditions:

$$E(Y_{it-s} \Delta U_{it}) = 0: \text{ for } t = 3, \dots, T \text{ and } 2 \leq s \leq T - 1 \quad (2)$$

Where Y_{it-s} are lags that are suitable for the dependent variable (Y). In other words, the 2nd and further lags of the dependent variable are used as instruments for the residual of equation (1) in differences. In this study, generalized method of moments estimation GMM is used to analyze study data because it helps with endogeneity problems. The study employed Pairwise Granger Causality for the purpose of establishing the direction of causality among between youth employment and national minimum wages was used to achieve the last objective formulated in the study. The model capturing the objective three in a reduce form is given as (Δ = Differencing, v = Error Term, YU = Youth Unemployment, NMW = National Minimum Wage, $ESIZE$ = Size of the Economy, EXR = Exchange Rate, $INFR$ = Inflation Rate):

$$\Delta LYU_t = \beta_0 + \gamma_1 \Delta LYU_{t-1} + \gamma_2 \Delta LNMW_{t-1} + \gamma_3 \Delta LESIZE_{t-1} + \gamma_4 \Delta LEXR_{t-1} + \gamma_5 \Delta LINFR_{t-1} + v_t$$

The a priori expectation of the model is that any increase in the national minimum wage will lead to downsizing of labor and the inability of firms to employ new youth, thereby leading to an increase in youth unemployment.

5.3 Descriptive Statistics

The descriptive statistics provide a historical background for the behavior of data series concerning the youth unemployment, national minimum wage, size of the economy, exchange rate, and inflation rate. The data is presented in Table 1.

Table 1: Descriptive statistics (Log Transformed)

	LYU	LNMW	LESIZE	LEXR	LINFR
Mean	2.338768	2.626391	9.718113	4.470769	2.579732
Std. Dev.	0.815035	0.244647	1.634672	1.006160	1.018407
Skewness	-0.748296	0.139012	-0.425597	-0.761764	-2.064237
Kurtosis	2.086638	1.362070	1.993794	2.209980	11.35494
Jarque-Bera	3.714437	3.335137	2.098854	3.558868	104.9430
Probability	0.156106	0.188705	0.350138	0.168734	0.000000
Observations	29	29	29	29	29

Source: Researcher's Computation (2021)

Table 1 shows that the data series have low mean values with low dispersion from the mean values as revealed by the standard deviations of the series. In addition, it is found that the data series are normally distributed as revealed by the Jarque-Bera probability values, which are greater than the 0.05 acceptance region except inflation rate. Besides, all data series were found to be positively skewed to the right.

5.4 Testing Validity and Reliability of Data

This study employed Augmented Dickey-Fuller (ADF) to test the stationarity of the time-series data. It is expected that the series does not contain unit root in order to avoid spurious results and find the meaningful relationships among the variables. The test is conducted at level, first difference and second difference. The Mackinnon Critical value is used to make a decision at a 5% significant level. The summary of unit root results at both level, first difference and second difference, are presented in Table 2.

Table 2: Summary of the Unit Root Test (Log Transformed)

Series	ADF (Level)	Prob. Value	ADF (1st Diff.)	Prob. Value	ADF (2nd Diff.)	Prob. Value	Stationary at...
LYU	-1.521583	-2.971853	-5.617504	0.0001	-	-	1 st Difference
LNMW	0.188925	0.9669	-4.384923	0.0020	-	-	1 st Difference
LESIZE	-2.272910	0.1878	-2.212348	0.2069	-7.183191	0.0000	2 nd Difference
LEXR	-1.943359	0.3087	-5.148406	0.0003	-	-	1 st Difference
LINFR	-3.787001	0.0079	-	-	-	-	Level

Source: Researcher's Computation (2021)

The unit root result reported in Table 2 shows that data series of youth unemployment, national minimum wage, the size of the economy, exchange rate, and inflation rate are not stationary when tested at a level as indicated by their respective probability values which are statistically insignificant at 5%. Thus, the null hypothesis of unit root is accepted for the entire variables at the level. However, at first difference as revealed in Table 2, youth unemployment, national minimum wage, exchange rate, and inflation rate becomes stationary at first difference as indicated by their respective probability values, which are statistically significant at 5% while the size of the economy remains non-stationary at first difference. Consequently, the size of the economy was tested at the second difference, and it is found to be stationary at the second difference as indicated by the probability value of the data series at the second difference in Table 2.

5.5 Modelling

5.5.1 Generalized Method of Moments

This study employed the Generalized Method of Moments model. This method is to take care of any endogeneity issue that may arise due to the close relationship that exists between the dependent and pre-determined variables leading to a simultaneous equation. Hence an adequate instrument is provided for it.

Table 3: Generalized Method of Moments

Dependent Variable: LYU				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LYU(-1)	0.473226	0.077133	6.135186	0.0000
LNLMW(-1)	1.488571	0.393209	3.785700	0.0010
LESIZE	-0.379967	0.091917	-4.133818	0.0004
LEXR	0.615062	0.107501	5.721451	0.0000
LINFR	-0.215522	0.030096	-7.161237	0.0000
C	-1.109130	0.430716	-2.575085	0.0173

Source: Researcher's Computation (2021)

The GMM result reported in Table 3 shows the effects of national minimum wage on youth unemployment by controlling for the size of the economy, exchange rate, and inflation rate in Nigeria. National minimum wage was taken in lag one because changes in national minimum wage will only influence national employment in the second year of its adoption. From the result, it found that the log of the national minimum wage has a positive and significant effect on national youth unemployment with a coefficient of 1.488571. Holding all other independent variables constant, it denotes how much a one percent increase in the independent variable increases (or decreases) the dependent variable. Thus, 1 percent increase

in national minimum wage causes % 1.48 increase in youth unemployment. This result conforms with a priori expectation as any increase in national minimum wage will lead to downsizing of labor and the inability of firms to employ new youth, thereby leading to an increase in youth unemployment.

Furthermore, concerning the control variables, gross domestic product shows a negative and significant effect on youth unemployment which suggests that the size of the economy is a determinant of youth unemployment, and the larger the size of the economy in terms of productivity, the lower the rate of youth unemployment in the economy. As opposed to GDP, the exchange rates show a positive and significant effect on youth unemployment. The implication of this result is that an unstable and appreciated national currency may impose constraints on youth employment. On the other hand, devaluing the exchange rate will lead to an increase in the cost of importing materials, especially for countries that rely on foreign capital goods like Nigeria. Lastly, inflation rate is revealed to have a negative and significant effect on youth unemployment. What this suggests is that when inflation is high due to high demand for goods and services, companies will need to meet with the demand by increasing productivity and employing more youth, thereby leading to a fall in youth unemployment.

Table 4: Statistical Properties and Post Diagnostic Results of Equation One

Statistical Properties of Results		Post Diagnostic Tests Result	
R-squared	0.933192	Weak Instrument Diagnostics: Cragg-Donald F-Stat	47.60230
Adj R-squared	0.918008	Endogeneity Test: Difference in J-stats	1.002094
Durbin-Watson stat	1.582172	Difference in J-stats Probability	0.0168
Instrument Rank	6	Jarque-Bera Statistics	6.9169
		Jarque-Bera Prob	0.0315

Source: Researcher's Computation (2021)

Considering the statistical results of the GMM reported in Table 3, the R-squared value of 0.933192 indicates that about 93.1% variation in youth employment is explained in the model by the explanatory variables. This implies that there is a significant relationship between the explanatory variables and youth unemployment. The Durbin-Watson statistic of 1.58 indicates that there is no autocorrelation correlation associated with the regression result as this can be approximated as 2.

The Weak Instrument Diagnostics view provides diagnostic information on the instruments used during estimation. This information includes the Cragg-Donald statistic. The Cragg-Donald statistic and its critical values are available for equations estimated by TSLS, GMM, or LIML. The Cragg-Donald statistic is proposed by Stock and Yugo as a measure of the validity of the instruments in an IV regression. Instruments that are only marginally valid, known as weak instruments, can lead to biased inferences based on the IV estimates. Thus, testing for the presence of weak instruments is important. Even the statistic does not follow a standard distribution, Stock and Yugo provide a table of critical values for certain combinations of instruments and endogenous variable numbers. Given that the instruments are 7, hence the Stock and Yugo K_2 is 6, and the 5% critical value is 19.79, comparing this with the Cragg-Donald statistic of 47.60230, we, therefore, reject the null hypothesis of weak instrument diagnostics and accept the alternative meaning that the instruments used are strong and sufficient for the model.

The Endogeneity Test questions whether a subset of the endogenous variables are actually exogenous or not. This is calculated by running a secondary estimation where the test variables are treated as exogenous rather than endogenous, and compared with the J-statistic between this secondary estimation and the original estimation. The test statistic is distributed as a Chi-squared random variable with degrees of freedom equal to the number of regressors tested for endogeneity. From the analysis, the result tests the null hypothesis that variables are exogenous, and the J-stats Probability is 0.0168, which is less than 5%, thereby rejecting the null hypothesis that the variables are endogenous in the model. This result implies that GMM is suitable to use.

5.5.2 Granger Causality Test

To test the unidirectional relationship between the variables, the study employs the Pairwise Granger causality technique, which is reported in Table 5. The results show that there is unidirectional causality between youth unemployment and national minimum wage. However, it is found that causality mainly flows from youth unemployment to national minimum wage unless a reverse causality flowing from national minimum wage to youth unemployment. In conclusion, it is found that the set of control variables employed in the study have independent causality with youth unemployment.

Table 5: Pairwise Granger Causality Test

Null Hypothesis	Obs	F-Statistic	Prob.
LNMW does not Granger Cause LYU	26	0.39881	0.7554
LYU does not Granger Cause LNMW		3.96030	0.0238
LESIZE does not Granger Cause LYU	26	3.06093	0.0532
LYU does not Granger Cause LESIZE		2.56726	0.0848
LEXR does not Granger Cause LYU	26	0.78059	0.5193
LYU does not Granger Cause LEXR		0.18691	0.9040
LINFR does not Granger Cause LYU	26	0.69943	0.5639
LYU does not Granger Cause LINFR		0.32147	0.8098

Source: Researcher's Computation (2021)

6. CONCLUSION AND RECOMMENDATIONS

In relation to objective one, the results show that youth unemployment responds to changes in national minimum wages. Between 1991 and 1998, when the average minimum wage was minimal, the youth unemployment rate was at its lowest level. This implies that a low minimum wage will prompt a low unemployment rate in the economy. Raises in national minimum wage between 1999 and 2003 were hiked the youth unemployment rate which indicates that employment of youths falls as the national minimum wage increases in Nigeria.

In relation to objective two, it was found that the log of the national minimum wage has a positive and significant effect on national youth unemployment with a coefficient of 1.488571. This indicates a 1 percent increase in the national minimum wage in the previous year will lead to a 1.47% increase in youth unemployment in the current year. This result confirms the a priori expectation as any increase in national minimum wage will lead to downsizing of labor and the inability of firms to employ new youth, thereby leading to an increase in youth unemployment. Study findings are in line with findings from studies such as Adam (1982); Brown, Curtis, and Kohen (1982); Majchrowska & Zókiwski (2012); Akpansung (2014); Babalola (2019). The authors found that an increase in minimum wage will lead to an increase in unemployment rates. Adam (1982) found that an increase in the minimum wage would increase the price of the commodity and also result in increased unemployment levels. Brown, Curtis, and Kohen (1982) found that the increase in minimum wage will reduce employment and increase unemployment. Majchrowska & Zókiwski (2012) found that increasing the minimum wage will result in a decrease in the number of those employed.

In relation to objective three, the results show that there is unidirectional causality between youth unemployment and national minimum wage. It was found that causality mainly flows from youth unemployment to national minimum wage unless a reverse causality flowing from national minimum wage to youth unemployment. The set of control variables employed in the study all have independent causalities with youth unemployment.

It is recommended that an increase in the minimum wage should be planned and appropriately introduced using an intermittent strategy. This approach will ensure that increase in minimum wage does not lead to an inflation rate that is unmanageable. Unemployment rates can also be better controlled if the increase in the minimum wage is well-timed and controlled according to a policy plan. Another policy recommendation is that the increase in the minimum wage should not be too much so that it does not have a negative effect on the economy. The increase can also be gradual instead of

instantaneous, which is what is desired by labor unions in Nigeria because they do not understand how the increase in minimum wage affects unemployment and inflation. Therefore, studies focusing on labor market movements and integrating labor market with structural and macroeconomic conditions are crucial for the Nigerian economy to enlighten policymakers and stakeholders at all levels.

6.1 Limitations of The Study

This study is limited by the use of secondary data. One of the limitations of secondary data is the inability to get all the needed information from external sources. In certain situations, such needed information may not be available in both public and private domains. Instead of manipulating data or assuming what the figure for a particular year should be, the researcher limited the study period to 1991 to 2019 instead of 1975 to 2020. Contacts at the World Bank and the Nigerian Bureau of Statistics were only able to provide data for all the study variables starting from the year 1990. While some of the study variables like exchange rate had data going back to the year 1975, data was not found for other variables such as minimum wage. After exhausting all possible sources of getting data and after ascertaining that there was no serial correlation between the available data set, it is decided to proceed with the data analysis. The study achieved all the pre-set objectives, and the study results performed in line with a priori expectations. Therefore, there is a strong possibility that the outcome would not have been different even if the data had been sourced from the year 1975.

REFERENCES

- [1] Acemoglu, D., Johnson, S., Robinson, J. A. & Yared, P.(2008) Income and Democracy. *The American Economic Review*, 98(3), 808-842. <http://www.jstor.org/stable/29730096>
- [2] Adams, G. (1987). Increasing the Minimum Wage: The Macroeconomic Impacts (Brief Paper No.4). Retrieved from https://www.epi.org/publication/epi_virlib_briefingpapers_1987_increasingt/
- [3] Akpansung, A.O. (2014). An Empirical Assessment of the Effects of Minimum Wage Increases on Unemployment during Democratic Governance in Nigeria. *International Journal of Humanities and Social Science*, 4(13), 87-98.
- [4] Asaju, K. (2014). The Rising Rate of Unemployment in Nigeria: The Socio-Economic and Political Implications. *Global Business and Economic Research*, 3(2), 12–32.
- [5] Babalola, A. (2019). Impact of national minimum wage increase on unemployment and inflation rates in Nigeria: an empirical analysis. *Amity Journal of Economics* 4(1), 17-34.
- [6] Brecher, R. A., & Gross, T. (2019). A minimum-wage model of unemployment and growth: The case of a backward-bending demand curve for labor. *International Journal of Economic Theory*, 15(3), 297–309. <https://doi-org.ezproxy.umgc.edu/10.1111/ijet.12168>
- [7] Brewer, L. (2005). Youth at risk: The role of skills development in facilitating the transition to work (Issue 19).
- [8] Brown, C., Curtis G. & Kohen, A. (1982). The Effect of the Minimum Wage on Employment and Unemployment. *Journal of Economic Literature*, 20(2),482-528.
- [9] Brummund, P., & Strain, M. R. (2020). Does Employment Respond Differently to Minimum Wage Increases in the Presence of Inflation Indexing? *Journal of Human Resources*, 55(3), 999–1024. <https://doi-org.ezproxy.umgc.edu/10.3368/jhr.55.2.1216.8404r2>
- [10] Burkhauser, R. V. & Sabia, J. J. (2004). Why Raising the Minimum Wage Is a Poor Way to Help the Working Poor, Employment Policies Institute. Retrieved from https://www.epionline.org/wp-content/studies/burkhauser_07-2004.pdf
- [11] Dickens, R., Machin, S. & Manning, A. (1999). The Effects of Minimum Wages on Employment: Theory and Evidence from Britain. *Journal of Labor Economics*, 17 (1), 1 – 22.
- [12] Flaschel, P., Greiner, A., Logeay, C., & Proano, C. (2012). Employment cycles, low income work and the dynamic impact of wage regulations. A macro perspective. *Journal of Evolutionary Economics*, 22(2), 235–250. <https://doi-org.ezproxy.umgc.edu/10.1007/s00191-011-0236-2>

- [13] Folawewo, A. O. (2007). Macroeconomic Effects of Minimum Wage in Nigeria: A General Equilibrium Analysis. Paper presented at the CSEA Conference 2007: Economic Development in Africa. Retrieved from https://www.academia.edu/38901009/Macroeconomic_Effects_of_Minimum_Wage_in_Nigeria_A_General_Equilibrium_Analysis
- [14] Gavrel, F., Lebon, I., & Rebière, T. (2010). Wages, selectivity, and vacancies: Evaluating the short-term and long-term impact of the minimum wage on unemployment. *Economic Modelling*, 27(5), 1274–1281. <https://doi-org.ezproxy.umgc.edu/10.1016/j.econmod.2010.02.001>
- [15] Gorry, A. (2013). Minimum wages and youth unemployment. *European Economic Review*, 64, 57–75. <https://doi-org.ezproxy.umgc.edu/10.1016/j.eurocorev.2013.08.004>
- [16] Gorry, A., & Jackson, J. J. (2017). A Note on the Nonlinear Effect of Minimum Wage Increases. *Contemporary Economic Policy*, 35(1), 53–61. <https://doi-org.ezproxy.umgc.edu/10.1111/coep.12175>
- [17] Harasztosi, P. & Lindner, A. (2015). Who Pays for the Minimum Wage? *American Economic Review*, 109(8), 2693–2727.
- [18] ILO (2015) What is a minimum wage https://www.ilo.org/global/topics/wages/minimum-wages/definition/WCMS_439072/lang--en/index.htm
- [19] Işık, E., Orhangazi, Ö. & Tekgüç, H. (2020). Heterogeneous effects of minimum wage on labor market outcomes: A case study from Turkey. *IZA Journal of Labor Policy*, 10(1) -. <https://doi.org/10.2478/izajolp-2020-0016>.
- [20] Lavecchia, A. M. (2020). Minimum wage policy with optimal taxes and unemployment. *Journal of Public Economics*, 190. <https://doi-org.ezproxy.umgc.edu/10.1016/j.jpubeco.2020.104228>
- [21] Lopresti, J. W., & Mumford, K. J. (2016). Who Benefits from a Minimum Wage Increase? *ILR Review*, 69(5), 1171–1190. <https://doi-org.ezproxy.umgc.edu/10.1177/0019793916653595>
- [22] Majchrowska, A. & Zólkiewski, Z. (2012). The Impact of Minimum Wage on Employment in Poland. *Journal of Regional Research*, 24(1), 211-239
- [23] Millea, M., Rezek, J., Shoup, B., & Pitts, J. (2017). Minimum Wages in a Segmented Labor Market: Evidence from South Africa. *Journal of Labor Research*, 38(3), 335–359. <https://doi-org.ezproxy.umgc.edu/10.1007/s12122-017-9241-z>
- [24] National Bureau of Statistics. (2016). Unemployment/Under-Employment Report Q2 2016. August.
- [25] Neumark, D. & Wascher, W. (2004). Minimum Wages, Labor Market Institutions, and Youth Employment: A Cross-National Analysis, *ILR Review*, 57(2), 223-248.
- [26] Neumark, D., Schweitzer, M. & Wascher, W. (2005). The Effects of Minimum Wages on the Distribution of Family Incomes: A Nonparametric Analysis. *Journal of Human Resource*, 40(4), 897-910.
- [27] NISER. (2009). Study on Skills Development for the Informal Sector of the Nigerian Economy. 29(04), 423. http://www.journals.cambridge.org/abstract_S0001972000060666
- [28] Nwekeaku, C. (2013). Entrepreneurship education and challenges to Nigerian Universities. *Journal of Education and Practice*, 4(3), 51–56.
- [29] OECD (2019) Unemployment https://www.oecd-ilibrary.org/unemployment_e85b161d-en.pdf?itemId=%2Fcontent%2Fcomponent%2Fe85b161d-en&mimeType=pdf#:~:text=The%20unemployment%20rate%20is%20the,force%20surveys%20of%20member%20countries.&text=For%20more%20information%2C%20see%20www.,org%2Femployment%2F%20database.
- [30] Oren, L. (2012). Wage Policy as an Essential Ingredient in Job Creation. *Challenge*, 55(6), 26–52. <https://doi-org.ezproxy.umgc.edu/10.2753/0577-5132550602>

- [31] Pantea, S. (2017). Did minimum wage increases reduce employment? Panel data evidence from Romania (MPRA Paper No. 79863). Retrieved from <https://mpra.ub.uni-muenchen.de/79863/>MPRA Paper No. 79863, Accessed on 4th February, 2019
- [32] Paraschiv, C. I. (2018). How do unemployment benefits and minimum wage affect poverty? *Theoretical & Applied Economics*, 91–112.
- [33] Rae, D. (2007). Connecting enterprise and graduate employability: Challenges to the higher education culture and curriculum? *Education + Training*, 49(8/9), 605–619. <https://doi.org/10.1108/00400910710834049>
- [34] Šauer, R. (2018). The macroeconomics of the minimum wage. *Journal of Macroeconomics*, 56, 89–112. <https://doi-org.ezproxy.umgc.edu/10.1016/j.jmacro.2018.01.003>
- [35] Uddin, P. S. O., & Uddin, O. O. (2013). Causes, effects and solutions to youth unemployment problems in Nigeria. *Journal of Emerging Trends in Economics and Management Sciences*, 4(4), 397–402. http://reference.sabinet.co.za/webx/access/electronic_journals/sl_jetems/sl_jetems_v4_n4_a4.pdf
- [36] Umkehrer, M., & vom Berge, P. (2020). Evaluating the Minimum-Wage Exemption of the Long-Term Unemployed in Germany. *ILR Review*, 73(5), 1095–1118. <https://doi-org.ezproxy.umgc.edu/10.1177/0019793920907036>
- [37] United Nations. (2002). Youth in Malaysia: A Review of the Youth Situation and National Policies and Programmes. In *Economic and Social Commission for Asia and the Pacific*.
- [38] Venatus V, K., & Ikwuba, A. (2010). Youth Unemployment in Nigeria : Causes and Related Issues. *Canadian Social Science*, 6(4), 231–237.
- [39] Wang, C., Chung, C., & Hwang, J. (2019). The impact of minimum wages and foreign domestic workers in Taiwan. *Australian Economic Papers*, 58(2), 168–193.