Statisical Analysis Between Government Wage Policy on Minimum Wage Saga in Nigeria

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Abstract

Some methods used to analysis between government wage policy on minimum wage saga in Nigeria were considered. Descriptive Statistics, The Ordinary Least Square technique; Correlation Analysis tools were employed to ascertain the significant difference between government wage policy on minimum wage saga in Nigeria. Data were collected for period 1974 – 2000.Our results shows that year of review is negatively and significant on government wage policy on minimum wage saga in Nigeria. Consumer Price Index is negatively and significant on government wage policy on minimum wage saga in Nigeria. Also, there is a perfect negative association on year of review between real minimum wage on government wage policy on minimum wage saga in Nigeria and it is significant, with a perfect positive association year of review between consumer price index on government wage policy on minimum wage saga in Nigeria and it is significant and there is a negative moderate association on real minimum wage between consumer price index on government wage policy on minimum wage saga in Nigeria and it is significant. This study therefore recommends that government should reduce the cost of governance and improve the living standard of workers by fixing a better wage. Finally, diversifying the Nigeria economy is necessary for states to enhance their internally generated revenue and step into creation of employment opportunities and better pay package.

Keywords: Government wage policy; Minimum wage saga; Nigeria.

1. Introduction

In most countries of the world, it is the responsibility of the government to carter for the wellbeing of its citizens. Even in the capitalist states, governments still have a role to play towards the welfare of the workers, apart from maintenance of law and order. For instance, more than 90 percent of all countries have some kinds of minimum wage legislation. Onuegbu [1], defined Minimum Wage as the rate of pay fixed either by a collective bargaining agreement or by governmental enactment as the lowest wage payable to specified categories of employees.

Adesina [2], noted that one of the means through which government improved living conditions of its citizens is through introduction of national minimum wage legislation, and the mechanism for reviewing it when necessary. This is to prevent the exploitation of workers by their employers; Nigeria therefore is not an exception.

Fashoyin [3], explained that prior to the initial attempt at fixing a national minimum wage by the former Western Regional Government, responsibility for regulating and adjusting periodically the wages of the least paid workers as distinct from sweated labour which had always been regulated in the affected industries, rested upon the provincial wages committee established in 1937. The author pointed out that requests had earlier been made in 1949 by the Government of Eastern Region under the control of NCNC (National Council of Nigeria and Cameroons) for a daily minimum wage of five (5) shillings for salaried workers in Nigeria. This attempt however failed to achieve the desired result.

Obijiofor [4], observed that industrial relations instability has gripped the nation for weeks, days, and months over non- fixing or non-payment of the National Minimum Wage and that the suspension of the strikes by the workers can only be described as a temporary solution to a continuing problem. Nigeria industrial system has recorded a lot of man-day lost over the years and national minimum wage fixing is the cause of it most times. The instability between the federal/state governments on one hand and labour representatives showed that when the minimum wage is negotiated, most often signed, one significant issue was over looked.

Olanrewaji [5], argued that developing countries too, have regularly increased their minimum wage to provide social protection to vulnerable and non-organized categories of workers. In China for example, it was introduced in 2004 to address wage inequality while it was also introduced in South Africa in 2002. Countries like Brazil, Argentina and China have been among the main drivers of this upward trend. But in Nigeria, issues relating to wage negotiation and increment dates back to the period of colonial rule and are associated with the civil service reform programmes when government enacted various labour laws seeking to regulate labour relations and promote the welfare of workers [6-8].

The federal government has always set up ad-hoc commissions to consider bonuses or wage revisions during period of labour discontent. In Nigeria, collective bargaining never played any significant role in the fixing of wage and labour relations especially in the public sector. It is observed that government influence has affected the practice of collective bargaining negatively through its control of labour unions [9].

Lawal and Oluwatoyin [10], observed that isolating a worker for reward in civil service may not be as easy as it could be in the private sector, but workers can be effectively motivated, collectively, through prompt implementation of general increase in wages and salaries such as minimum wage issue. They concluded by noting that refusal to implement minimum wage by the state governments for any reason, often elicit serious negative workplace behaviours which include absenteeism, lateness to work, general poor performance by the workers among others. More often than not, it has led also to prolonged industrial dispute between labour and government.

Manadher [11], opined that there are levels to public service (civil service) wages, namely, reservation wage, efficiency wage and capitation wage. Reservation is given on opportunistic event, efficiency is fixed far and above the opportunistic wages while capitation is deliberately made very low because it is presumed that employees make extra income through corrupt practices. This presumption has not passed through any test for authentication. Therefore, it can as well be regarded as a sweeping generalization.

Agbaegbu [12], said that the Northern part of Nigeria the Northern leaders are worried over the gloomy statistics forecast for the region by the National Bureau of Statistics (NBS). Majority of people from the North lives on less than USD1.5 per day poverty line. The USD1.5 per day is the current benchmark adopted by the World Bank for measuring poverty levels in the World [12]. In both absolute and relative terms these groups of people living under the USD1.5 per day benchmark belong to the class of people whose income earning capacity makes it impossible for them to provide basic needs of live such as basic education, shelter, health facilities and good medication. They are poor and wretched. Their plight is a reflection of the level of poverty afflicting many people in Nigeria, hence the need to reflect on the adequacy of the minimum wage amount in Nigeria.

Achebe [13], was perhaps right when, he noted that the problem of Nigeria is bad leadership. Though Nigeria is blessed abundantly with human and natural resources, the missing link has been to have the right person at the helm of affairs of the nation and every other thing will fall into place. It is bad leadership that makes the government to renege on agreements reached at negotiations with labour representatives during implementation. It must be noted that workers are motivated by money more than anything else, especially in this part of the world where majority of the people are still grappling with how to meet basic needs of life.

2. Methodology

Some statistical tools used to analysis between government wage policy and minimum wage saga in Nigeria. They include: Descriptive Statistics, The Ordinary Least Square technique; Correlation analysis statistics will be employed.

2.1 Descriptive Statistics

The phase of statistics that seeks only to describe and analyse a given group without drawing any conclusions or inferences about a larger group is called Descriptive Statistics

2.2 The Ordinary Least Square Technique

The regression equation of Y on X .

The regression equation of Y on X is expressed as follows :

$$Y = \alpha + \beta x \tag{1}$$

It may be noted that in this expression $'Y'$ is a dependent variable, i.e., its value depends on X . $'X'$ is independent variable, i.e., we can take a given value of X and compute the value of Y .

$'\alpha'$ is $'Y-\text{int}ercept'$ because its value is the point at which regression the regression line crosses the $Y-axis$, that is, the vertical axis. $'\beta'$ is the slope of line. It represents change in Y variable for a unit change in X variable.

$'\alpha'$ and $'\beta'$ in the equation are called numerical constants because for any given straight line, their value does not change.

2.3. Adjusted R Square

$$R^2 = 1 - \frac{\sigma^2}{Var(Y)} \tag{2}$$

2.4. Standard Error

$$S_{y.x} = \sqrt{\frac{\sum Y^2 - a\sum Y - b\sum XY}{N}}$$

$$\tag{3}$$

where $S_{y.x}$ = the standard error of regression of Y values from Y_c

Also,
$$S_{x.y} = \sqrt{\frac{\sum X^2 - a\sum X - b\sum XY}{N}}$$

where $S_{x.y}$ = the standard error of regression of X values from X_c (4)

2.5. Correlation Analysis

Of the several mathematical methods of measuring correlation, the Karl Persons method, popularly known as Pearson's coefficient of correlation, is most widely used in practice. The Pearson's coefficient of correlation is denoted by the symbol r. It is one of the very few symbols that are used universally for describing the degree of correlation between two series. The formula for computing Pearsonian r is :

$$r = \frac{\sum xy}{N\sigma_x\sigma_y} \qquad\qquad (5)$$

$$x = (X - \bar{X}) \; ; \; y = (Y - \bar{Y})$$
$$\sigma_x = S \tan dard\, deviation\, of\, series\, X$$
$$\sigma_y = S \tan dard\, deviation\, of\, series\, Y$$
$$N = Number\, of\, pairs\, of\, observations$$
$$r = the\, (product\, moment)\, correlation\, coefficient$$

here

The above formula for computing Pearson's coefficient of correlation can be transformed to the following form which is easier to apply.

$$r^* = \frac{\sum xy}{\sqrt{\sum x^2 * \sum y^2}} \qquad\qquad (6)$$

where $x = (X - \bar{X}) \; and \; y = (Y - \bar{Y})$

3. Data Presentation

The data generated for this study will be analysed using both Descriptive Statistics, The Ordinary Least Square technique; Correlation Analysis Statistics will be employed. The data sets are derived from the Central Bank of Nigeria-CBN-(2000) Statistical Bulletin. Abuja: CBN. Sources of Box 1 Federal Office of Statistics (2003) Statistical News: Consumer Price Index - December 2002. The Data contains information on Nigeria's Real Minimum Wage and Consumer Price Index.

Table-1. Nigeria's Real Minimum Wage and Consumer Price Index (1974-2000)

Year	Real Minimum Wage(Naira)	Consumer Price Index
1974	387	15.5
1975	290	20.
1976	239	25.1
1977	197	30.4
1978	174	34.5
1979	156	15.5
1980	142	42.4
1981	243	51.4
1982	227	55.1
1983	184	67.9
1984	131	95.6
1985	125	100
1986	119	105.4
1987	108	116.2
1988	69	181.2
1989	46	272.7
1990	43	293.2
1991	76	330.4
1992	52	478.4
1993	48	751.9
1994	31	1180.7

1995	18	2040.9
1996	14	2638.1
1997	13	2863.2
1998	37	3149.2
1999	91	3308.5
2000	136	3421.4

Sources: (1) Central Bank of Nigeria-CBN-(2000) Statistical Bulletin. Abuja: CBN
(2) Sources of Box 1
(3) Federal Office of Statistics (2003) Statistical News: Consumer Price Index-
December 2002.

Table-2. Descriptive Statistics

	N	Minimum	Maximum	Mean	Standard. Deviation
Year of Review	27	1974.00	2000.00	1987.0000	7.93725
Real Minimum Wage	27	13.00	387.00	125.7778	94.00996
Consumer Price Index	27	15.50	3421.40	803.1667	1193.33713

Sources: (1) Central Bank of Nigeria-CBN-(2000) Statistical Bulletin. Abuja: CBN (2) Sources of Box 1
(3) Federal Office of Statistics (2003) Statistical News: Consumer Price Index- December 2002.

Table-3. The Ordinary Least Square technique; Model Summary

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
	0.824	0.679	0.666	54.34278

Source: (1) Central Bank of Nigeria-CBN-(2000) Statistical Bulletin. Abuja: CBN (2) Sources of Box 1 (3) Federal Office of Statistics (2003) Statistical News: Consumer Price Index- December 2002.

Table-4. Analysis of variance

Model	Sum of Squares	Degree of Freedom	Mean Square	F	Sig.
Regression	155956.220	1	155956.220	52.810	0.000
Residual	73828.446	25	2953.138		
Total	229784.667	26			

Source: (1) Central Bank of Nigeria-CBN-(2000) Statistical Bulletin. Abuja: CBN (2) Sources of Box 1 (3) Federal Office of Statistics (2003) Statistical News: Consumer Price Index- December 2002.

Table-5. Coefficients

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients' (Beta)	t	Sig.
Constant	19514.191	2668.002		7.314	0.000
Year of Review	-9.758	1.343	-0.824	-7.267	0.000

Source: (1) Central Bank of Nigeria-CBN-(2000) Statistical Bulletin. Abuja: CBN (2) Sources of Box 1
(3) Federal Office of Statistics (2003) Statistical News: Consumer Price Index- December 2002.
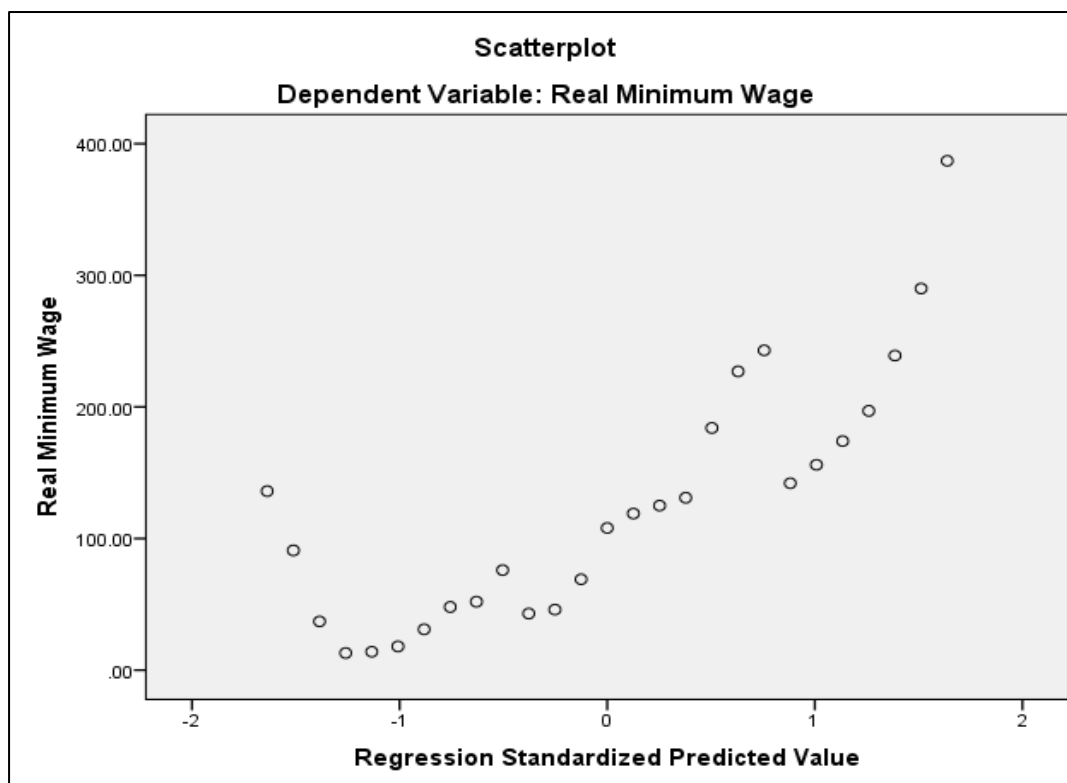

Scatterplot
Dependent Variable: Real Minimum Wage

Table-6. Model Summary

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	0.496	0.246	0.216	83.23555

Source: (1) Central Bank of Nigeria-CBN-(2000) Statistical Bulletin. Abuja: CBN (2) Sources of Box 1 (3) Federal Office of Statistics (2003) Statistical News: Consumer Price Index- December 2002.

Table-7. Analysis of variance

Model	Sum of Squares	Degree of Freedom	Mean Square	F	Sig.
Regression	56580.761	1	56580.761	8.167	0.008
Residual	173203.906	25	6928.156		
Total	229784.667	26			

Source: (1) Central Bank of Nigeria-CBN-(2000) Statistical Bulletin. Abuja: CBN (2) Sources of Box 1
(3) Federal Office of Statistics (2003) Statistical News: Consumer Price Index- December 2002.

Table-8. Coefficients

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients' (Beta)	t	Sig.
Constant	157.175	2668.002		8.092	0.000
Consumer Price Index	-0.039	0.014	-0.496	-2.858	0.008

Source: (1) Central Bank of Nigeria-CBN-(2000) Statistical Bulletin. Abuja: CBN (2) Sources of Box 1
(3) Federal Office of Statistics (2003) Statistical News: Consumer Price Index- December 2002.
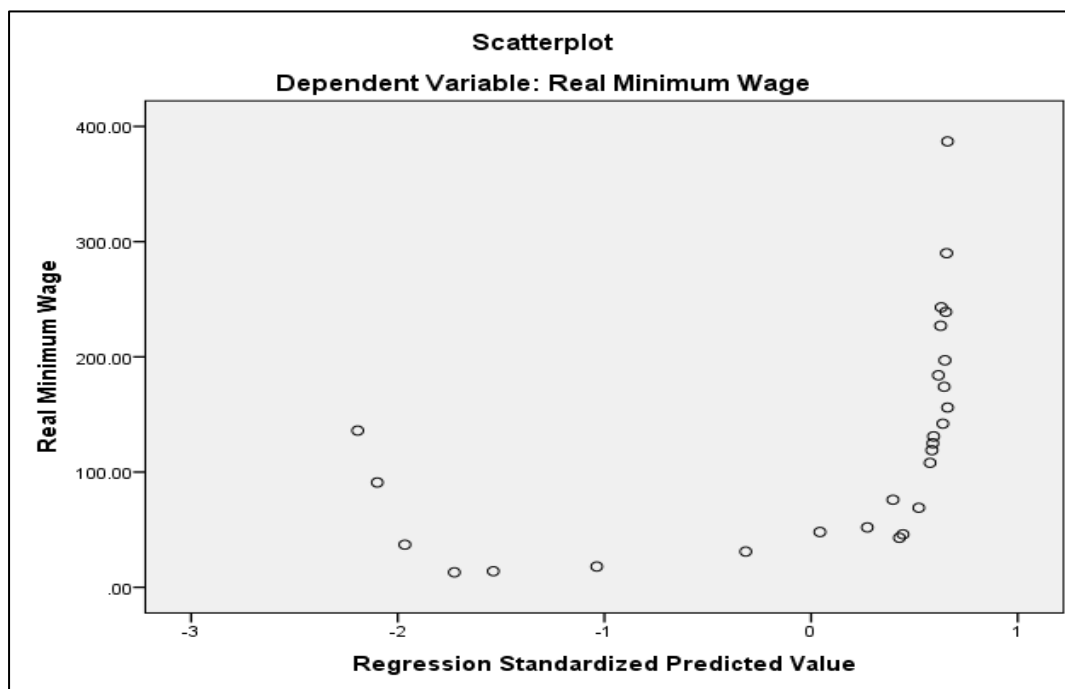
Table-9. Correlation analysis

	Year of Review	Real Minimum Wage	Consumer Price Index
Year of Review Pearson Correlation Sig. (2 - tailed)	1	-0.824	0.822
		0.000	0.000
N	27	27	27
Real Minimum Wage Pearson Correlation Sig. (2 - tailed)	-0.824	1	-0.496
	0.000		0.008
N	27	27	27
Real Minimum Wage Pearson Correlation Sig. (2 - tailed)	0.822	-0.496	1
	0.000	0.008	
N	27	27	27

Source: (1) Central Bank of Nigeria-CBN-(2000) Statistical Bulletin. Abuja: CBN (2) Sources of Box 1
(3) Federal Office of Statistics (2003) Statistical News: Consumer Price Index- December 2002.

4. Results and Discussion

The descriptive statistics presented in Table 2 above shows the results of the mean, minimum, maximum and standard deviation of all the variables under consideration. The Table shows the mean for year of review, real minimum wage, and consumer price index as a value of N1987.0000 billion, N125.7778 billion, N803.1667 billion respectively, with minimum value of N1974.00 billion, N13.00 billion, N15.50 billion respectively. This show a clear clue of the activities of government wage policy and minimum wage saga in Nigeria under the period of investigation. However, with a maximum value of N2000.00 billion, N387.00 billion, N3421.40 billion respectively show that government wage policy and minimum wage saga in Nigeria failed to achieve the desired result. This gives a clue of the non-performance of government wage policy and minimum wage saga in Nigeria for the years under examination.

The Ordinary Least Square technique; presented in Table 3 above shows the results of all the explanatory variables significantly affect government wage policy and minimum wage saga in Nigeria. It could be also observed that year of review on government wage policy on minimum wage saga in Nigeria contributes -9.758 Meaning that for every unit change of year of review there is a corresponding unit change of -9.758, showing a significant relationship between year of review and government wage policy on minimum wage saga in Nigeria since the p – value is less than 0.05. Therefore, we reject the null hypothesis while, accepting alternate hypothesis. The result revealed that there is a significant difference between government wage policy on minimum wage saga in Nigeria.

The scatter plot shows a replication of the regression tables as well as showing the movement of the graph. The result of consumer price index also shows that consumer price index of government wage policy on minimum wage saga in Nigeria contributes -.039. This means that for every unit change in consumer price index there is a corresponding unit change of -.039, showing a significant relationship between consumer price index and government wage policy on minimum wage saga in Nigeria since the p – value is less than 0.05. Therefore, we reject the null hypothesis while, accepting alternate hypothesis. The result revealed that there is a significant difference between government wage policy on minimum wage saga in Nigeria. Also, the scatter plot shows a replication of the regression tables as well as showing the movement of the graph.

The result shows that the predictor variables (i.e. year of review and consumer price index) were significantly joint predictors of real minimum wage [(F= 42.439; R^2 = .679 and F = 8.167; R^2 = .246)] at 5% level. The predictor variables jointly explained 67.9% and 24.6% of government wage policy on minimum wage saga in Nigeria, while the remaining 32.1%, 99.754% could be due to the effect of extraneous variables. And this shows that the line of best fit is highly fitted and as well as the line of best fit is low. Looking at the p-value of year of review and consumer price index is < 0.05 at 5% degree of freedom. The overall result of year of review, and consumer price index indicates negative and a significant relationship with government wage policy on minimum wage saga in Nigeria. Finally, since the p – value is less than 0.05. Therefore, we reject the null hypothesis while, accepting alternate hypothesis. The result revealed that there is a significant difference between overall government wage policy on minimum wage saga in Nigeria.

The results of the correlation analysis presented in Table 9, showed that there is a perfect negative association on year of review between real minimum wage on government wage policy on minimum wage saga in Nigeria with a correlation coefficient measure of -82.4% and with significant value of 0.000. Also, with a perfect positive association on year of review between consumer price index on government wage policy on minimum wage saga in Nigeria with a correlation coefficient measure of 82.2% and a significant value of 0.000. Finally, there is a negative moderate association on real minimum wage between consumer price index on government wage policy on minimum wage saga in Nigeria with a correlation coefficient measure of -49.6%, and with a significant value of 0.008. The overall result of year of review, real minimum wage, and consumer price index indicates a positive and a negative significant relationship with government wage policy on minimum wage saga in Nigeria. Finally, since the p – value is less than 0.05. Therefore, we reject the null hypothesis while, accepting alternate hypothesis. The result revealed that there is a significant difference between overall government wage policy on minimum wage saga in Nigeria.

5. Conclusion

The Paper Investigates the Statistical Analysis between Government Wage Policy on Minimum Wage Saga in Nigeria for the period 1974 – 2000. The Descriptive Statistics, The Ordinary Least Square technique; Correlation Analysis is used. The results from the simple regression indicate that year of review is negatively and statistically significant on government wage policy on minimum wage saga in Nigeria. Although it implies that year of review increases government wage policy on minimum wage saga in Nigeria. As well as consumer price Index is negatively and statistically significant on government wage policy on minimum wage saga in Nigeria. Therefore, implies that consumer price Index decreases government wage policy on minimum wage saga in Nigeria. However, the results of correlation analysis indicate year of review, real minimum wage, and consumer price index is positive and negative significant relationship with government wage policy on minimum wage saga in Nigeria. In addition, the year of review, real minimum wage, and consumer price index increases and decreases government wage policy on minimum wage saga in Nigeria.

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