

Effect of Unemployment and Inflation on Wages in Nigeria

¹Auwal Abubakar Muhammad; ¹Bello Malam Sa'idu; ¹Obinna John Nwokobia &
²Kabiru Musa Yakubu

¹Department of Economics,
School of Management & Information Technology,
Modibbo Adama University of Technology, Yola, Adamawa State, Nigeria.

²Department of Management,
School of Management & Information Technology,
Modibbo Adama University of Technology, Yola, Adamawa State, Nigeria.

Corresponding Author: Auwal Abubakar Muhammad

Abstract

The twin macroeconomic variables that are significant in influencing wages in developing economy are; inflation and unemployment. Therefore, this paper examines the effect of unemployment and inflation on wages. To achieve the set objective, three models, namely; Ordinary Least Square (OLS) method, Augmented Dickey-Fuller (ADF) technique and Granger causality test were thoroughly subjected to quantitative analysis. The result of the regression revealed that the coefficient of unemployment is positive and statistically significant which implies that unemployment significantly influence wage rate whereas inflation is positive but has no significant effect on wage rate. Moreover, result of the unit root indicates that all the variables in the model are stationary while, the result of causality test suggests that unemployment Granger causes wage rate and not inflation. This work is of practical significance in terms of economic policies likely to minimize inflationary spiral and unemployment rate in the country and theoretically, it contribution to the understanding of long-run nature of the variables. Also, it will trigger future researches and re-awaken government on its social responsibilities. Thus, the major policy implication of these results is that concerted efforts should be made by policy makers to increase the level of employment opportunities by diversifying the economy. Also, payment of unemployment benefits by the government and promoting vocational education so as to minimize the rate of unemployment.

Keywords: Unemployment, Inflation, Wage rate; Granger causality, ADF

INTRODUCTION

Nigerian economy since the attainment of political independence in 1960 has undergone fundamental structural changes from a high productive economy to a weak productive economy. Unfortunately, these domestic structural shifts have not resulted into any significant, meaningful and sustainable economic growth and development of the country. Unemployment, inflation and wages are of significance in any macroeconomic decision making. These variables are subject of social and economic life of every country. Thus, Unemployment, inflation and wages are termed as continuous and unpleasant situation that describe the endemic nature of a country's economy. International statistic portrays that industrial and service workers living in developing regions of the world account for about two third of the unemployed (*Patterson et al, 2006*). Further to this, Nwaobi (2009) posited unemployment could lead to high social vices among youth and prostitution by young females which have a serious effect on the performance of the economy. More so, Friedman (1977) argued that inflation uncertainties affects both the inter-temporal (Through

its effect on interest rate) and intra-temporal (Through its effect on relative prices in the presence of nominal rigidities) allocation of resources. In a different study, Oluwole (1994) wrote that wages and prices are jointly determined and that income policies and wage policies significantly contribute to increase in frequent strikes by Nigerian workers. The wage policies of the government have a positive influence on the incidence of strikes. Nigeria as monoculture economy has experienced series of strikes as a result of wages and various commission and policies have been constituted in order to determine the acceptable wage rate and the influence of government on wage determination. The ultimate macroeconomic goals which every government strive to achieve in order to ensure sound macroeconomic policy are maintenance of relative stability in domestic prices, attainment of a high rate of employment or full employment, achievement of a high rapid and sustainable economic growth, maintenance of balance of payment equilibrium and exchange rate stability.

Many economist and scholars carried out some deep researches about the relationship of macroeconomic

variables from different angles. Such as; Contantinos and Persefoni (2009), they gave a macroscopical explanation on the sources of unemployment among 20 Organization of Economic Co-operation and Development (OECD) countries with relevance to either neoclassical, Keynesian and radical/Marxian approaches. Specifically, their study dwell on only one variable which is unemployment but their work is unique in the sense that they were able to study 20 countries of OECD and applied a dynamic panel data analysis. Similarly, a study by Bruno and Ken (2011) examined the course of unemployment in OECD countries during the recent recession. Another study conducted by Engelbert (2011); dwells on wage norms, capital accumulation and unemployment a post-Keynesian view. Specifically, his work is unique in sense that he was able to analyze three important variables wage norms, capital accumulation and unemployment. Further to this, is a study conducted by Lorenz *et al*, (2007) which focus on wage rigidity, measurement, causes and consequences. Their study is remarkable in explaining the implications for labour market and macroeconomic performance. In a different work, Huw and Hervé (2012) analyzed two variables; via wages and prices. Their study is substantial in the sense that, micro-data on wages and prices were applied directly to alternative wage and pricing model.

Also, Thomas (2012) applied the Phillips curve to real world phenomena. His study on Phillips curve points on the distinction between formation of inflation expectation and incorporation of inflation expectations. Hence, his work dwells on the three macroeconomic variables; inflation, unemployment and wage rate. He further explained that Phillips curve is an essential part of macroeconomic policy analysis for both developed and developing nations. Also, Chang-shuai and Zi-juan (2012) applied the VAR model of integration mechanism and co-integrating vector in their study of the relationship among Chinese unemployment rate, economic growth and inflation. Their work showed a long term stable equilibrium relationship among the variables, while in the short term, economic growth is positively correlated with unemployment rate. In addition, inflation and unemployment are negatively correlated with economic growth.

THE PROBLEM

However, contribution to the literature on the effect of unemployment and inflation on wages Nexus are numerous but more effort is still needed to re-examine how unemployment and inflation affects wage rate. Also, most studies conducted show no consensus in relation to how unemployment and inflation affects wage rate, hence the need for this kind of research. Despite, numerous studies conducted on unemployment (e.g. Bruno and Ken, 2011; Constantinos and Persefoni, 2009),

unemployment and inflation (e.g. Phillips, 1958; Tobin, 1972; Engelbert, 2011), wages (e.g. Lorenz, *et al*. 2007), Unemployment, inflation and growth (e.g. Chang-Shuai and Zi-juan, 2012), none found in the literature that really expounded and relate these three important macroeconomic variables; inflation, unemployment and wages. Therefore, these have open spaces for empirical and further theoretical research gaps that warrant a conscious research of this nature.

Furthermore, this study is of both practical and theoretical importance. At the practical level, measuring the level of unemployment and inflation as to how its affect wage rate, and identifying the factors that affect the variables. Thus, this may provide useful information of economic policies likely to minimize inflationary spiral and unemployment rate in the country. Moreover, from the macroeconomic stand-point, identifying the factors that may reduce such problems is of major significance since by using information sourced from this study, government may become more acquainted with the problems associated with these macroeconomic variables. At theoretical level, the study aims to bring some contribution to the understanding of inflation, unemployment and wage rate in Nigeria.

Accordingly, the broad objective of this paper is to examine the effect of unemployment and inflation on wages in Nigeria. Other specific objectives are to determine unit root (Augmented Dickey- Fuller); to examine the Granger causality test of the model; to assess socio-economic effects of the variables and make appropriate policy recommendations to the government base on the findings. Also, the paper among other things will trigger other researches and provide information that will re-awaken government on its social responsibilities.

Therefore, the paper is divided into five sections: The first section is the introduction; the second section is the literature review, the third section dwells on methodology; fourth section discusses the result of the study; the fifth section concludes the work and proffer policy recommendations.

LITERATURE REVIEW

Conceptual Framework

The concept Unemployment could be reduced through the informal sector which is a recent global issue Targeted at empowering people towards being self productive and independent Akintoye, (2006). Unemployment is one of the developmental problems that face every developing economy in the 21st century. International statistics portray that industrial and service worker living in developing regions account for about two-third of the unemployed (Patterson *et al*, 2006). Another study conducted by Ajibefun and Daramola (2003)

examined efficiency of micro enterprises in the Nigerian economy using a sample of 180 micro enterprises; they reported a wide variation in the technical and allocative efficiencies, both within and across industries. They also found that education of owner a business enterprise was a significant factor influencing efficiency is indicative of the need for more proactive actions to raise the levels of efficiency and employment among the firms in the sample. It is a known fact that, the informal sector is generally unorganized and has no formal registration. Thus, Ademola (2006) defined the informal sector as comprising those employment generating activities of some urban residents, undertaken for survival in the absence of formal employment. These activities are characterized by the lack of regulations by institutions of society in a social and legal environment in which similar activities are regulated.

Moreover, Umo (2007) opined that when total demand increases more than the increase in the existing supply of output, demand pull inflation occurs. It is the stepped-up general demand which is pulling the general price level upwards. Umo (2007) further defined demand pull inflation as excessive aggregate demand facilitated by excess supply of money. Fiscal and monetary policies are eminently suitable for dealing with this type of inflation. He identifies the following policies that directly or indirectly deal with cost push inflation to include; (i) Enhancing the efficiency and social responsibility of big business's and trade unions, (ii) Wage price control, (iii) Indexing policy. In a different study, Erikson and Ichino (1995) examined the effect of inflation on wage earnings differentials over the period 1976-1990 in Italy using the wage data from metal manufacturing firms. Their findings revealed that higher inflation rate significantly reduced changes in wage earnings differentials. Inflation allows firms facing negative demand shocks to bring real wages in line with productivity. Similarly, Tobin (1972) in the case of downward nominal rigidity, inflation increases real wage dispersion by allowing firms to provide real rewards to those whose productivity is increasing, while cutting rewards to those who are becoming less productive without reducing the nominal wages.

More so, Alok (2008) considered the effect of changes in the real minimum wages on the distribution of real wage earnings, it was found that lower real minimum wage increases the dispersion of real wages and does so by affecting the entire distribution. In addition for a given real minimum wage higher inflation rate reduces the dispersion in real wages through its effects on the dispersion is smaller compared to the case in which the real minimum wage is not binding. In a study, Todaro

(2000) asserted that the downward wage inflexibility caused by various unions prevented the forces of labour supply and demand from clearing the labour market of excess labour supply, thus accelerating the problem of unemployment in the urban sector. In a different study, Yesufu (2000) discovered that a new and profound cause of unemployment also derives from attempt to manage the economy with policy instruments that are irrelevant, ill advised and/or far in advance of the stage of development. Curiously, these policy instruments are fashioned and insisted upon by some international organizations notably the International Monetary Fund (IMF) and the World Bank (IBRD).

Similarly, Lawanson (2007) opined that economic recession has significant negative implication for the utilization of country's human resources, leading to high level of unemployment. According to him, this problem has aggravated in the nation to the extent that many university graduates could not secure jobs, let alone school leavers. Furthermore, Lawanson (2007) said the problem is twofold showing both demand and supply side. On the demand side not only are there inadequate jobs for youths. But also the increasing decline in quality of education and training, thus making many youths unemployed. On the supply side, the inability of the government to adequately finance the nation's educational enterprise has led to deteriorating infrastructural facilities and discouraging personal emoluments for teachers, it was discovered that despite various government policies and programmes aimed at reducing unemployment among youths and adults, the problem of unemployment remains unabated. On this note, Lawanson (2007) concluded that Unemployment has been found to reduce national wealth, increase in crime waves and social political violence can also be attributed to the high level of unemployment especially among youths. The growing incidence of absolute and relative poverty in Nigeria can also be linked to the worsening unemployment situation in Nigeria.

THEORETICAL FRAMEWORK

The Phillips curve originated by Sir A. W. Phillips in 1958 and was named after him, thus, Phillips (1958) plotted 95 years of data of UK wage inflation against unemployment. It seemed to suggest a short-run trade-off between unemployment and inflation. The theory behind this was fairly straightforward. Falling unemployment might cause rising inflation and a fall in inflation might only be possible by allowing unemployment to rise. If the government wanted to reduce the unemployment rate, it could increase aggregate demand but, although this might temporarily increase employment, it could also have inflationary implications in labour and the product markets. In fact, Phillips conjectured that the lower

the unemployment rate, the tighter the labor market and, therefore, the faster firms must raise wages to attract scarce labour. At higher rates of unemployment, the pressure abated. Phillips's "curve" represented the average relationship between unemployment and wage behavior over the business cycle. It showed the rate of wage inflation that would result if a particular level of unemployment persisted for some time. Economists soon estimated Phillips curves for most developed economies. Most related general price inflation, rather than wage inflation, to unemployment. Of course, the prices a company charges are closely connected to the wages it pays.

Moreover, Friedman (1977) took the position that there is no trade off between inflation and unemployment in the long run representing a monetarist view of Phillips curve. Friedman argued that any attempt to hold the unemployment rate at an artificially low level would cause inflation to accelerate indefinitely. His reasoning was based on neoclassical economic theory. His proposition began that there is a natural rate of unemployment where the real wage rate is in long run equilibrium for employment rate to be below the natural rate employers and potential employees must be willing to be hired. But employer will engage more employees only if there is an actual decrease in the real wage rate, potential employees on their own part will accept work only if there is an actual or perceived increase in the real wage rate, given that the real wage rate cannot actually decrease and increase at the same time, any unemployment rate below the natural rate must in the long run be a disequilibrium rate. However, to Friedman, workers are not likely to suffer from money illusion, that is, they will not ignore what happens to their real pay in the long run. An initial higher wage will force employers to raise prices in order to afford paying the higher wages, this will still leads to a higher wage demand, which in turn leads to higher prices. Therefore, there is no end to the wage price spiral at any rate of unemployment below the natural rate.

The Monetarists View

The classical quantity theory of money explain price level in this theory without linkage to unemployment or wage rate even though is a truism that his $MV=PT$ Thus, his theory is more related to quantity of money in circulation.

The Keynesian View

Keynes (1936) strongly argued that, a change in the quantity of money may or may not affect prices. In fact, the changes in supply of money and prices are seen via its impact on the rate of interest, level of investment, output, employment and income. The theory provides causal mechanism by which a change in quantity of money influences the interest rate, and

interest rate induce investment while investment will lead to a multiplier effect on income, output and employment and the multiplier effect may lead to a change in cost of production while a change in cost of production may affect the price level. In another perspective, Jhingan (2000) theoretically argued that given a technique of partial capital intensity, the growth rate of output and employment will be the same. But technical changes, which may be due to education, improved training and better management techniques, takes place over time. This tends to increase labour productivity. If labour productivity then increases, fewer workers are needed to produce the same level of output, thus causing unemployment in the economy. The apparent conflict between output and employment in the less developed countries arises from the fact that such economies have been using capital intensive techniques of production in major sectors. Since the use of imported, expensive and inappropriate capital intensive machines and equipments cannot be put to full capacity in such countries due to lack of technical personnel and infrastructural facilities like power, transport, raw materials, etc., then the average cost of production as a result of output cannot be maximized. Thus, such capital-intensive technique leads to prevalence of unemployment in the economy.

EMPIRICAL REVIEW

In a study, Umaru and Zubairu (2012) examined the effect of inflation on economic growth and development of the Nigerian economy. Their work covers the periods (1970 – 2010) and they applied econometric techniques of Augmented Dickey Fuller techniques and Granger causality test. Their findings revealed that all the variables in the model are stationary and that GDP Granger cause inflation and inflation does not Granger cause GDP. This implies that, it is the output of the economy that influences a rise in the price level and not the price level causing increases in output. In another work, Elegbede (2012) examined the causes, consequences and implication of graduate unemployment in Nigeria, his findings revealed that economic recession, government policy, employment of expatriates and trade unions wage demand are the major causes of unemployment.

Likewise, Imobighe (2007) studied and test the significance of minimum wage increase on the level of employment and productivity in Nigeria. He discovered that there is a positive relationship between minimum wage and employment, which implies that minimum wage increase employment. Accordingly, his empirical model revealed that there exist a positive relationship between minimum wage and productivity. On this note, he concluded that minimum wage increases productivity of workers, in the sense that workers tend to put in more effort on output as a result of wage inducement. Other expert went deeply to study wage and pricing models, like;

Huw and Hervé Le (2012), however their article is more of hybrid modeling and data structure on only two variables; wages and prices. The most interesting issue raised in their research was comparison of Taylors and Calvo price and wage settings and also computational issues. Furthermore, Thomas (2012) examined the theory of Phillips curve while focusing on the distinction between formation of inflation expectation and incorporation of inflation expectations, his findings revealed that Phillips curve focus largely on formation of inflation expectation.

Also, Chang and Zi-juan (2012) applied the VAR model of integration mechanism of unemployment rate, co-integration vectors, error correction model, variance decomposition and impulse response function to examine the relationship among Chinese unemployment rate, economic growth and inflation. In order to establish a long term and a short term relationship between these variables, the study covered the period from 1978 to 2010. However, their findings revealed that there is a long term stable equilibrium relationship among the variables while in the short term, economic growth is positively correlated with unemployment rate whereas inflation and unemployment are negatively correlated.

In a similar work, Gregory and Mark (2000) studied how wage inflation causes price inflation. They found out that wages either conventionally measured by comparison or adjusted through productivity and converted to unit labour cost are helpful for forecasting inflation. Their results indicated that, inflation helps in predicting wages, thus they concluded that higher prices leads to wage growth in an economy. In addition, Engelbert and Simon (2012) studied the impact of monetary policy on unemployment hysteresis, their samples includes 40 recessions in 19 OECD countries. Thus, results of the econometric analysis revealed strong effects of monetary policy, and depending on the specification of change in terms of trade, but weak if any affects labour market institutions during recession periods. This implies that the unemployment hysteresis that occurs in a period of recessions depends on monetary policy reactions. Also, Bruno and Ken (2011) examined the course of unemployment in OECD countries during the recent recession. Their work revealed that, the recent recession had different effect on OECD countries. The research further revealed that those countries with stricter employment legislation experienced smaller increase in unemployment than those with loose employment protection. *Ceteris paribus*, those countries with higher collective bargaining coverage tend to experience lower unemployment increase than those countries with loose collective bargaining mechanism which tends to have higher unemployment rate. More so, Lorenz *et al*, (2007) pin-pointed the extent, causes and consequences of wage rigidity in order to

estimate the incidence and extent of nominal and real wage rigidity among three European countries, namely; Germany, Italy and Great Britain. Their findings revealed that in all the three countries, wage rigidities are associated with unfavorable labour market outcome. In Italy, the extent of real wage rigidity at the firm level is correlated with excess labour turnover while in UK, workers who are subject to wage rigidities are more likely to lose their jobs. While in Germany, wage rigidities leads to unemployment.

In a study, Engelbert (2011) examined the wage norms, capital accumulation and unemployment. His study points to a post- Keynesian view that unemployment is essentially driven by private investment behavior. His findings further revealed that there exit a feedback from the labour market via prices and wage inflation to the goods market. According to Engelbert (2011) without government policy the goods market reaction may even be perverse and the scope of monetary policy is limited in times of financial crises and deflation. Also, his study advocated a Keynesian view of the NAIRU, where effective demand determines unemployment in the short run and the deviation of actual unemployment from the NAIRU determines the change in inflation, while in the short run the NAIRU is endogenous and follows actual unemployment.

METHODOLOGY AND DATA

The data used for this study are basically time series data, secondary in nature, ranging from 1977 to 2007, which is thirty years period of analysis. Therefore, data were sourced from Central Bank of Nigeria's Statistical bulletin and publication of National Salaries, Income and Wages Commission.

Model Specification

Therefore, to put this paper in a proper perspective methodologically, we employed the traditional Cobb-Douglas production function; the model can be specified as follows:

$$AW = \beta_0 \text{inf}^{\alpha_1} \text{unep}^{\alpha_2} \quad (\text{i})$$

$$AW = \beta_0 + \beta_1 \text{inf} + \beta_2 \text{unep} + \text{et} \quad (\text{ii})$$

$$\text{Log AW} = \log \beta_0 + \beta_1 \log \text{Inf} + \beta_2 \log \text{Unep} + \text{et} \quad (\text{iii})$$

Hence, imposing logarithmic conversion on equation (1) will further yields a structural form of production function to equation (3). Where; *AW* is wage rate, *Inf* is defined as inflation rate, *Unep* is unemployment rate, whereas; $\beta_0, \beta_1, \beta_2$ are Parameters and *et* is the error term in the model. The expectation on a *prior* ground is that, $\beta_0, \beta_1, \beta_2 > 0$.

RESULTS AND DISCUSSIONS

Table 1, in the Appendix contains regression result of the model specified above. The result indicates that the null hypothesis is rejected going by the rule of thumb, when t-calculated is greater the t-tabulated

then the null hypothesis is rejected. In line with the above statement the null hypothesis reveals that ($\beta_1, \beta_2 > 0$) which implies that β_1 is statistically significant while β_2 is insignificant. Thus, Unemployment significantly affects wage rate because the t-statistics is greater than 2 and the null hypothesis is rejected at 1% level of significance. On the other hand, inflation has no significant effect on wage rate at any level of significance (48.39%).

Furthermore, the F- statistics is 24.2 which shows the joint significance of the explanatory variables, is found to be statistically significant at 1% level of significance. The R-square of 0.63 illustrates that 63% variation in wage rate is explained by unemployment and inflation. Also, the adjusted R-square is similar to R-square with a value of 0.61 and 0.63 respectively. The Durbin-Watson statistics of 0.75 signifies that there is autocorrelation between the disturbance terms which implies a presence of multi-collinearity value less than the D-W statistics which shows that the model is not spurious.

Also, the unit root test become important to make the data to be stationary. The results of the unit root test are contained in Table 2 and 3. The result reveals that all the variables in the model are stationary at all level of significance; 1%, 5%, and 10% which is indicated by the ADF result at all levels less than the critical values depicting negative direction. The ADF value is -5.31 and the critical values are -3.68, -2.97 and -2.62 at 1%, 5%, and 10% respectively.

The causality results are contained in Table 4 in the Appendix. This result reveals that unemployment does not granger causes wage rate, the null hypothesis is accepted at 29% with a probability value of 1%. The result also revealed that wage rate does not granger cause unemployment, the null hypothesis is rejected at 57% with a probability value of 0.578. The result further reveals that inflation does not granger cause wage rate and the null hypothesis is accepted at 17% with a probability value of 0.84, it further discovers that wage rate does not granger cause unemployment and the null hypothesis is rejected at 54% with a probability level of 0.59. The result further reveals that inflation does not granger cause unemployment and the null hypothesis is accepted at 66% with a probability value of 0.52. It then also shows that unemployment does not granger causes inflation and the null hypothesis is rejected at 71% with a probability value of 0.5. This result therefore indicates one-way causation flowing from unemployment to wage rate not inflation to wage rate.

Our finding in the paper is similar to Bruno and Ken (2011) on unemployment variable to some extent. Also, Engelbert (2011) work is also to some extent consistent with our work by pin-pointing that there

exists a feed-back or relationship between wage inflation and unemployment. Besides, Chang-Shuai and Zi-juan (2012) related inflation and unemployment with growth while this paper relates inflation and unemployment with wage rate. Thus, the two papers are consistent in affirming the relationship between inflation and unemployment. On the other hand, Huw and Hervé Le (2012) took a different direction of argument and stand point of discussion.

CONCLUSION AND POLICY RECOMMENDATIONS

The twin macroeconomic variables, unemployment and inflation are the major problems confronting Nigerian economy which have the propensity to be among the complex economic and social dimensions. The inability of government to find a lasting solution to these problems has affected the economic life, economic activities and political system of the country as a whole. Therefore, this paper attempted to investigate the effect of unemployment and inflation on wages in Nigeria through the application of Ordinary Least Square, Augmented Dickey-fuller technique in testing the unit root property of the series and Granger causality test of causation between unemployment, inflation and wages. The results of the unit root revealed that all variables in the model are stationary and the causality test suggests that unemployment causes wage rate and not inflation causing wage rate. It also shows that unemployment has a positive effect on wage rate in the economy. Therefore, there is a need for strong institutional collaboration for dealing with these triple macroeconomic variables; unemployment, inflation and wages in Nigeria. Consequently, policy options suggested by this study includes: (1) the payment of unemployment benefits by the government to control social problems; (2) the curbing of inflationary trends so as to enhance the real wage of workers; (3) the vocational education and skill acquisitions to improve productivity and reduce high dependency rate in the economy; (4) the introduction of sustainable wage on the job that will meet the need of workers; and (5) the need for diversification of the economy to other productive sectors in tune with modern technology and globalization.

LIMITATIONS OF THE STUDY AND FUTURE RESEARCH

The methodology is limited to OLS; ADF and Granger causality test; the work did not attempt the VAR model or Co-integration. It has not study the long-run dynamic nature of the variables. Therefore, future research should use panel data to test for the effect of unemployment and inflation on wages. Also, VAR model can be applied to study the long-run dynamic nature of these variables that are of major significance in any macroeconomic decision making.

REFERENCES

- Ademu, W. A. (2006). "The Informal Sector and Employment Generation in Nigeria: The Role of credit". Proceedings of Nigerian Economic Society 2006 Annual Conference held at Abuja.
- Ajibefun, I. A. and Daramola, A. G. (2003). "Efficiency of Microenterprises in the Nigerian Economy", African Economic Research Consortium (AERC), Nairobi. Research Paper, 134. ISBN: 9966-944-214.
- Akinboyo, G. B. (1987). "Job Creation as a Productivity Measure for Employment Problems in Developing Countries: The Nigeria and Holland Experience", Conference Organized by National Productivity Centre, Lagos, pp. 404 - 411.
- Akintoye, I. R. (2006). "Enhancing the Performance of the Informal Sector for the Development of Nigeria: A Case Study of Lagos state" International Journal of Social Sciences, Vol. 5 No. 1.
- Alok , K. (2008). "Inflation and Dispersion of real Wages", International Economic Review **49** (2): 377-399.
- Bruno, A. and Ken, M. (2011). "Unemployment in the OECD", Oxford Review of Economics Policy, **27** (2): 207-220.
- Chang-Shuai, L and Zi-juan, L. (2012). Study on the Relationship among Chinese Unemployment Rate, Economic Growth and Inflation, Advances in Applied Economics and Finance, 1(1): 1- 6.
- Constantinos, A. and Persefoni, T. (2009). Unemployment Revisited; Empirical Evidence from 20 OECD Countries, Contribution to Political Economy, **28**, 23-34.
- Elegbede, S.T. (2012). "Graduate Unemployment in Nigeria, Causes and Remedies", British Journal of Arts and Social Sciences, 7 (6).
- Engelbert, S. (2011). "Wage Norms, Capital Accumulation and Unemployment a post-Keynesian View" Oxford Review of Economic Policy, **27** (2): 295-311.
- Engelbert, S. and Simon, S. (2012). The Impact of Monetary Policy on Unemployment Hysteresis, Applied Economics, **44** (21): 2743-2756.
- Erikson, C. L and Ichino, k. (1995). "Wage Differentials in Italy: Market Forces institutions " in R. B. Freeman and L. Katz led Differences and Changes in Wage Structures, University of Chicago press, IL, 265-305.
- Friedman, M. (1977). Nobel lecture, Inflation and Unemployment. Journal of Political Economies, **85**: 451-472.
- Gregory, D. H. and Mark, H. S. (2000). Does Wage Inflation Causes Price Inflation? Federal Reserve Bank of Cleveland, Policy Discussion Paper No. 10. ISSN: 1528-4344.
- Huw, D. and Hervé Le B. (2012). Generalized Taylor and Generalized Calvo Price and Wage Setting: Micro-evidence with Macro Implications, The Economic Journal, **122**(May): 532-554
- Imobighe, M. D. (2007). "The Impact of Minimum Wage on Employment Level and Productivity in Nigeria" Journal of Research in National Development, **5** (21): 1-17.
- Jhingan, M. L. (2000). Macroeconomic Theory, 30th Ed., Vrinda Publication (P) Ltd.
- Keynes, J. M. (1936). The General Theory of Employment, Interest, and Money, Harvest Brace Jovanovich, New York and London (reprinted in 1964 edition).
- Lawanson, O. I. (2003). High Rate of Unemployment in Nigeria: The Consequences on Human Resource Management, 7th Global Conference on Business and Economics held at Rome, Italy on October, 13th – 14th.
- Lorenz, G.; Uwe, S. and Thomas, B. (2007). "Wage Rigidity: Measurement, Causes and Consequences" The Economic Journal, **117** (Nov): F469- F477.
- Nwaobi, G. C. (2009). "Inflation, Unemployment and Nigeria Families: An Empirical Investigation", Publication of Quantitative Economic Research Bureau Nigeria, MPR paper No.14596.
- Oluwole, O. (1994). "Wage Determination and Strike Activity in Nigeria", Journal of Africa Economics, **3** (3): 447-480.
- Patterson, N.; Okafor, O. and Williams, D. (2006). "Globalization and Employment Generation: Evaluating the Impact of Trade on Aggregate Employment in Nigeria's Industrial Sector", Proceedings of Nigerian Economic Society 2006 Annual Conference held at Abuja.
- Phillips, A. W. (1958). "The Relationship between Unemployment and the Rate of Change of Money Wage in the United Kingdom, 1861-1957". Economica, **25** (100): 283-299.

Thomas, P. (2012) "The Economics of Phillips Curve: Formation of Inflation Expectation Versus Incorporation of Inflation Expectations", *Structural Change and Economic Dynamics*, **23**: 221-230.

Tobin, J. (1972). "Inflation and Unemployment", *American Economic Review*, **62**: 1- 18.

Todaro, M. P. (1997). "A Model of Labour Countries" *American Economic Review*, **59**.

Umaru, A and Zubairu, A. A. (2012). Effect of inflation on the Economic Growth and Development of the Nigerian Economy" *An Empirical Evidence. International Journal of Business and Social Science*, **3** (10): 183-191.

Umo. U. J. (2007). *Economics: An African Perspective*, 2nd Ed., Millennium Text Publishers Ltd. Lagos.

Yesufu, T. M. (2000). *The Human Factor in National Development: Business and Economics*, Nigerian Spectrum Books Ltd, Ibadan.

APPENDIX

Table 1: Regression Results

Dependent Variable: WR				
Method: Least Squares				
Date: 07/13/12 Time: 11:07				
Sample: 1977 2007				
Included observations: 31				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-68817.86	30337.83	-2.268384	0.0312
UNEMP	21221.25	3174.164	6.685618	0.0000
INF	459.1452	647.1778	0.709458	0.4839
R-squared	0.633461	Mean dependent var		72091.69
Adjusted R-squared	0.607279	S.D. dependent var		100394.7
S.E. of regression	62914.76	Akaike info criterion		25.02871
Sum squared resid	1.11E+11	Schwarz criterion		25.16749
Log likelihood	-384.9451	F-statistic		24.19510
Durbin-Watson stat	0.751399	Prob(F-statistic)		0.000001

Source: Authors' Results from the Computer Output

Table 2: Unit Root Test Results

Null Hypothesis: D(WR) has a unit root		
Exogenous: Constant		
Lag Length: 0 (Automatic based on SIC, MAXLAG=1)		
	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.313054	0.0002
Test critical values:	1% level	-3.679322
	5% level	-2.967767
	10% level	-2.622989

*MacKinnon (1996) one-sided p-values

Source: Authors' Results from the Computer Output

Table 3: Unit Root Test Results

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(WR,2)

Method: Least Squares

Date: 07/13/12 Time: 11:41

Sample(adjusted): 1979 2007

Included observations: 29 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(WR(-1))	-1.056421	0.198835	-5.313054	0.0000
C	12202.49	8611.522	1.416996	0.1679
R-squared	0.511122	Mean dependent var		2479.617
Adjusted R-squared	0.493016	S.D. dependent var		63642.51
S.E. of regression	45315.27	Akaike info criterion		24.34715
Sum squared resid	5.54E+10	Schwarz criterion		24.44144
Log likelihood	-351.0336	F-statistic		28.22854
Durbin-Watson stat	1.948541	Prob(F-statistic)		0.000013

Source: Authors' Results from the Computer Output

Table 4: Causality Test Result

Pairwise Granger Causality Tests

Date: 07/13/12 Time: 11:19

Sample: 1977 2007

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Probability
UNEMP does not Granger Cause WR	29	28.4697	4.6E-07
WR does not Granger Cause UNEMP		0.56539	0.57552
INF does not Granger Cause WR	29	0.17635	0.83940
WR does not Granger Cause INF		0.53503	0.59247
INF does not Granger Cause UNEMP	29	0.66357	0.52421
UNEMP does not Granger Cause INF		0.70616	0.50350

Source: Authors' Results from the Computer Output