GOVERNMENT WAGE POLICY AND THE DYNAMICS OF PUBLIC-PRIVATE SECTOR WAGE DIFFERENTIAL IN NIGERIA

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Abstract

The study investigates the impact of Nigeria's government wage review policy of 1998 on the differential in pay for public and private sector workers of the same educational qualifications and ages. Empirical analysis based on Mincerian human capital model is carried out for only urban male employees (as they constitute a homogeneous group) in the public and private sectors. The results obtained show that before the wage review of 1998, public sector workers suffered a pay disadvantage of 6.78 percent while about one year after, public sector workers enjoyed a premium of 35.07 percent. In the absence of any wage reduction in the private sector, this result suggests that the implementation of the 1998 wage review succeeded in making public sector workers to be better remunerated than their private sector counterparts and it can be concluded that the wage increase in the public sector achieved its disguised goal of redressing the age-long poor pay in the sector.

1. Introduction

The history of government wage review in Nigeria is as old as the history of the nation's minimum wages. Minimum wages, which relate to some legal restrictions on the lowest wage rates payable by employers to their workers, have been influencing wages in Nigeria since 1955, courtesy of the Wages Board Act of that year. From 1955, successive governments have been setting minimum wages for some specific occupations/trades or for all sorts of occupations/trades especially the ones that can be considered formal. Whenever minimum wages are set they more often than not affect other levels of wages/salaries in Nigeria. In the last nine years, the Federal Government (of Nigeria) has come up with two directives/legislations that sought to increase the prevailing minimum wage and other levels of pay. The first of such directives\legislations was made effective from September 1998, and this required among others that the minimum wage payable to workers in State Governments' employment (and by extension, in formal private sector employment) should be ₦3000 (about $35 then) per month while that of workers in federal employment should be ₦3500 (about $41 then).

The second directive on wages, which in fact and in law is an Act of Parliament, became effective from the 1st of May 2000. The main provision of this Act was that the least paid worker in both the private sector (formal) and State Governments' employment should go home with ₦5500 (about $55 then) every month. The least valued federal worker on the other hand was to receive a minimum pay of ₦7500 (about $75) per month. All this was supposed to lead to an increase of 83% in the nation's minimum monthly wage while other higher levels of pay in the public sector in particular were to register some increases in accordance with the existing pay structure, which in most cases led to about 300% increase in the pay of higher level officers. The 1998 wage review on the other hand was expected to lead to at least 726.45% increase in the nation's minimum monthly pay while other higher levels of pay in the public sector were to increase in line with the public sector pay structure.

The first wage review in particular can be justified on the ground of the poor pay that had prevailed for too long in the public sector. Public sector pay in Nigeria had stagnated at a point since 1993 in spite of the rapidly increasing general price level (see Box 1 and Appendix 1). This thus made public sector pay structure to be inferior to that of the private sector and such stagnation in public sector pay might have been responsible to some extent for the brain-drain that afflicted public sector before the wage review in 1998.[1] With regard to compliance with the wage review, some pieces of information indicate that a sizeable number of public sector employers (especially the State Governments) did not comply in the first few months of its supposed implementation while the reactions (in terms of improved pay structure) of formal private sector employers to the new public sector pay structure still remain unknown.[2] It should be noted that the extent to which public sector employers complied with the requirements of the wage review would definitely have implications for the supposed gap between the public and private sector pay. In the same vein, the reactions of private sector employers would also have implications for the gap between public and private sector pay. Hence the final state of the gap should be of policy interest to those involved in addressing the poor public sector pay structure before the wage review. It is the examination of the nature of the gap between the public and private sector pay in the post 1998 wage review

period that constitutes the main focus of this study. The study is also concerned with the extent of the gap that existed between the two sectors' pay before the wage review in 1998 so as to provide some base results with which to assess the pay gap after the wage review.

The methodology adopted to determine the gap in pay is comparison of predicted means of natural logarithm of earnings/pay of employees in the public and private sectors before and after the implementation of the 1998 wage review. The predicted mean of natural logarithm of earnings of employees is derived from an estimated Mincerian human capital model for urban male employees in each sector. Observed differential in the predicted means of natural logarithm of earnings is then decomposed into the one due to background characteristics of workers and the one traceable to returns to those characteristics. Attempt is also made to explain labour market participation decision and sector selection of the whole labour force, which in this study is divided into six groups, namely: private sector employees, public sector employees, self-employed, members of producer cooperative, employers of labour, and unpaid family labour and others (non-working).[3] The results obtained show that before the wage review of 1998, public sector workers were suffering a pay disadvantage of 6.78 percent while about one year after the wage review, public sector workers were already enjoying a premium of 35.07 percent. In the absence of any wage reduction in the private sector, this result suggests that the implementation of the 1998 wage review succeeded in making public sector workers to be better remunerated than their private sector counterparts and one can conclude that the wage increase in the public sector achieved its stealth goal of redressing the age-long poor pay in the sector.

The rest of this study is structured into ten sections starting from Section 2, which focuses on the justification for the study. We examine the theory of public-private sector wage differentials in Section 3. Section 4 reviews wage determination policies in Nigeria. A review of related studies is undertaken in Section 5. Discussions on the models adopted for the study are contained in Section 6 while the data on which empirical analysis is based are described in Section 7. Results of the participation and sector of employment

models are discussed in Section 8 while Section 9 is devoted to the interpretation of estimated wage equations. The differentials in public and private sector pay are analysed in Section 10. The final section summarises the study's findings and conclusion.

2. Justification for the Study

This study can be justified on a number of grounds. First, there has not been any empirical study on public-private wage differential in recent times for Nigeria. The absence of this sort of study and the lack of any reliable information on the pay differential might have been bolstering the leverage of labour unions (of mainly public sector concerns) to pressure government for increased pay even after substantial increases were effected in the workers' pay under the Wage (Minimum) Act of 2000 in Nigeria. This study can provide some evidence on the public-private pay differential and such evidence can assist government in addressing wage policy problem in the public sector.

Another justification for this study can be situated in the fact that the last two wage reviews in the public sector were not hinged on productivity increases and these could engender price increases more so as the public sector is the largest employer of non-agricultural salaried workers in Nigeria (as in other African countries [see Heller and Tait, 1984]) whose consumption expenditure has profound multiplier effects on the market for consumables. Previous wage increases in Nigeria were not accompanied by productivity increases and these had engendered upward trends in the price level (see Owoye, 1994). It is, however, pertinent to stress that before the public sector pay review in 1998, there were genuine feelings and arguments that the workers were poorly remunerated when compared to the structure of private workers' remuneration. Nevertheless, the present study can serve as a guide to future wage increases in the public sector especially by revealing whether the public sector wage review in 1998 made public

sector employees enjoy wage advantage over their private sector counterparts who are, of course, assumed to be remunerated according to their productivities.

This study can also be justified on the ground that it could be of immense use to public sector policy makers that are concerned with redressing the poor state of public sector pay (in relation to private sector pay) in the period before September 1998. The study will show how far the wage review achieved the goal of bettering the lot of public sector employees whose pay had stagnated at a point from 1993 to August 1998.[4]

3. **Theory of Public-Private Sector Wage Differentials**

A number of authors have provided explanations and reviews on why there may be a differential between public and private sector pay structures. Among such authors is Gunderson (1979:228-242). In his exposition, he observes that the central difference between the private and public sector wage determination process has to do with the argument that in the latter the neo-classical profit constraint is usually jettisoned in favour of an ultimate political constraint. He explains that under such a condition the wages of public sector employees will invariably be dictated by their ability to compete with other interest groups when it comes to taking decisions on the allocation of government fiscal resources and also by their ability to compete with tax payers on the aspect of the magnitude of government budget.

The existing political forces, according to Gunderson, influence public sector wages indirectly through institutional channels, which in the end determine the framework for the bargaining process. Among such institutional channels are matters relating to rights to organize, appropriate crisis/dispute settlement procedures, the allowable number of bargaining issues, civil service regulations, appropriate wage criteria, and comparable wage surveys. He explains further that public sector wages can also be affected by such aggregate policies like wage-price guidelines, intergovernmental transfers, deliberate and stealth attempts/decisions to contain the growth of the public sector. It is pertinent to stress that all these sorts of policy have been deployed at one time or another in the last three decades in Nigeria to determine wages across the public and private sectors.

Theoretical literature on public-private wage differential also touches on why public sector often has the tendency to absorb wage increases or to retain costlier employees.

Cousineau and Lacroix (1977) identify among such reasons/factors the taxation power and the borrowing ability of governments, which sort of make the public sector to absorb wage increases without considering or using cheaper substitutes or reducing public services/workers. In the case of a country like Nigeria, it is the increased oil-based revenue that has made government to absorb substantial wage increases since the oil boom era of the 1970s.

In his own contribution, Preston (1986) highlights three reasons why public and private sector wage rates may differ. One of these reasons is that there may be lags in the adjustment of labour market and its sub-markets. The second relates to the fact that workers in the two sectors may be non-competing groups to a certain extent. The last is that the government sector is not subject to the same pressures that are the order of the day in the private sector especially with regard to the impact of competition in bringing about some uniformity in the wage rates offered by private sector participants. He explains the latter reason further that the public sector may choose to pay above the going rate, and then goes ahead to ration the number of people it employs, and it may on the other hand decide to pay less than the going rate and accepts the consequence, which is decline in the quality of its labour.

While the foregoing theoretical literature points out some facts that are characteristic of Nigeria's wage determination process, the literature, however, fails to dwell on such issues as the roles played by poverty, populist government programmes, and cost of living. These additional issues have featured prominently in the determination of public and private sector wages in Nigeria.

4. Wage Determination Policies in Nigeria

A number of criteria for fixing or determining wages and salaries have been identified in the literature. Among these are job evaluation (which is adjudged the most valuable way of fixing wages), government order (especially with regard to minimum wage), ability to pay (on the part of the employers), cost of living, and collective bargaining (see Akinwale, 2000). Fapohunda (1979) stresses (among other factors) the impact of fluctuating labour market forces (demand and supply) in the setting of wages. Fapounda explains further that in the case of Nigeria, modern sector wages and salaries are determined and regulated by administrative decisions of government, Wage Commissions, and Prices and Income Policies. Also in Nigeria, the traditional (mainly rural and informal) and intermediate sector wages are influenced to a great extent by market forces and to a lesser extent by wage level in government establishments.

The phenomenon of Wage Commissions in Nigeria to determine and regulate wage levels dates back to the colonial period. The colonial government gave encouragement to collective bargaining with minimal government intervention and the government accorded official recognition to trade unions as a legal institution. However, the same government never required employers to recognise or bargain collectively with unions (Trade Union Ordinance of 1938).

Government policy on minimum wage in particular (in Nigeria) can be traced to the Wages Board Act of 1955 whose philosophy was colonial government's official policy of collective bargaining. By mid-1960s, the Nigerian Government had set minimum wages on nine different occasions for such occupations as mining (Jos mine field) and commercial agriculture (Benin Rubber Industry), and also for trades in Lagos. In spite of the stress of official labour policy on collective bargaining, actual dealings of the colonial government as regards labour disregarded this policy. The government had always set up instead ad hoc commissions to consider bonuses or wage revisions during periods of labour discontent. It is interesting to note that thirteen of such commissions have been set to date.[5] These commissions/committees are as follows:

(1) Bridges Committee of Inquiry 1941
(2) Tudor Davis Commission 1945
(3) Harragin Commission 1946
(4) Miller Committee 1947
(5) Gorsuch Commission 1955
(6) Mbanefo Commission 1959/60
(7) Morgan Commission 1963/64
(8) Adebo Commission 1970/71
(9) Udoji Commission 1972/74
(10) Damachi Tripartite Committee 1990
(11) 19-Man Presidential Committee 2000
(12) Wages, Salaries and Emolument Relativity Panel 2004/2005
(13) Consolidation of Public Sector Emolument Panel 2005/2006.

Nearly all these commissions (with the exclusion of the last two)[6] employed changes in the cost of living indices rather than productivity changes for granting/recommending some wage increases. This might be due to the prevailing inflationary pressures, which often reduced the real income of workers below what could afford them the basic necessities of life. One disturbing aftermath of the Udoji Commission in particular was the official backdating and subsequent implementation of the increase in wages and salaries (which ranged from 12 to 30 percent) and this served in no small measure to boost the purchasing power of government workers in the 1970s before inflationary pressures later made nonsense of the wage awards. It is on record that the Commission's recommendation gave rise to a minimum monthly pay of ₦60 (sixty naira, which was about one hundred dollars then).[7]

In 1977, the Federal Government had to establish a Productivity, Income and Wages Analysis Agency (to collect and analyse statistics on wages, income and price changes in both the public and private sectors) as a permanent institution to substitute for the institutionalised culture of ad hoc wage commissions to resolve wage and salary problems.

Nevertheless, wage review commissions/committees still continue to feature in the government wage determination process.

During the civilian regime in 1981, the nation's minimum wage was fixed at ₦125 (one hundred and twenty-five Naira) per month by an Act of Parliament but at the onset of SAP in 1986 (late in the year), government issued the National Minimum Wage (Amendment) Order, which abridged the 1981 Minimum Wage Act by exempting persons or companies employing less than 500 workers and persons employed in agricultural projects from its provisions. This Amendment was, however, rescinded on the 24th of April 1987 owing to labour protests against it in major cities (Enugu, Ibadan, Lagos, Benin and Kaduna) across the country.[8]

When a national economic emergency (of 15-month duration) was declared on October 1st 1985 against a background of lacklustre economic performance, deductions ranging from 2 to 15 percent from all incomes including rents, dividends and wages and salaries of workers in both the private and public sectors including armed forces were effected at source and paid into a Fund (Economic Recovery Fund) at the Central Bank of Nigeria. These deductions were part of measures expected to reduce domestic absorption so that the long running macro economic imbalance (current account and fiscal deficits in particular) besetting the economy could be ameliorated. There was, however, a refund of the deductions made in respect of junior workers at the end of the 15-month economic emergency period.

There was a redefinition of minimum wage in 1991 to embrace total emolument and at the same time there was a discontinuation of universal applicability of minimum wage to all public sector departments and government levels. Each government department/level was advised to pay according to its ability. However, at the beginning of 1993 an increase of 45 percent was effected in public sector workers' salaries. The increase was ostensibly meant to cushion the inflationary effects of the rapidly depreciating naira (against the major international currencies like dollar and pound sterling) following the deregulation of the foreign exchange market on March 5, 1992.[9]

By September 1998, the Federal Government issued a directive to increase the prevailing minimum wage and other levels of wages (especially in the public sector) perhaps due to its concern for workers' welfare. The implementation of the directive resulted in the increase of the nation's minimum monthly wage from ₦363 to ₦3000 and it also led to substantial increases in take-home pay of all other categories of employees in the public sector. The extent of increase in pay in the private sector in response to what obtained in the public sector is, however, not known. Following an agitation for some increase in wage by Nigeria Labour Congress in the year 2000, the Federal Government again increased the minimum monthly wage from ₦3000 to ₦5500 in May 2000 while other levels of pay in at least the public sector were also increased. The increases in public sector pay were based on the report of a 19-man presidential committee set up to advise on the wage problem. The legal backing for the increases was the Wage (Minimum) Act of 2000. The extent to which State Governments complied with the minimum wage aspect of the Act differed from one to the other.[10] This might be due, to a very large extent, to the financial strength (of individual states), which has been recognized since 1991 as a critical factor in public sector employers' compliance with any wage directive from the Federal Government. In Nigeria, the Federal Government appears to play some sort of overriding role on labour matters.

In the Box below, we highlight some of the policies of Nigerian government in the past three decades in the area of minimum wage and other wages for workers in the country. It can be seen that the minimum wage and other wages in the public sector registered zero rate of increase from 1981 to 1990 perhaps as a result of the requirements of the economic reform programme (structural adjustment programme) that held sway during the period.[11] Also the period from 1993 to 1998 recorded no increase in public sector pay in the face of the rapidly rising price level that prevailed during the period (see Appendix 1).

Box 1. **Some Federal Government Policies on Minimum Wage and other Wages from 1974 to 2000**

	Commission/Budget/Decree /Act	Recommendations	Effective Year
1.	Udoji Commission (1972/74)	*Awards ranged from 12% to 30%. *Minimum Wage of ₦60 ($100) per month. *Maximum Wage of ₦1,025 ($1,708)	1974
2.	Minimum Wage Act of 1981	*Minimum Wage of ₦125 ($209)	1981
3.	Minimum Wage (Amendments) Decree 1990	*Minimum Wage of ₦250 ($31)	1991
4	Federal Budget (1993)	*45% across the board increase in government workers' salaries resulted in the increase of minimum wage from N250 ($11.4) per month to N363 ($16.5)	1993
4.	Government Directive on Wages (1998)	*Minimum wage of ₦3500 ($41) for Federal Worker. *Minimum wage of ₦3000 ($35) for State Government Workers.	September 1998
5.	Minimum Wage Act of 2000.	*Minimum Wage of ₦7500 ($75) for Federal Worker. *Minimum Wage of ₦5500 ($55) State Government and Private Sector Worker.	May 2000.

Sources: (1) World Bank (1994:83)
(2) Federal Government Budget,1991
(3) Central Bank of Nigeria (1998)
(4) The Presidential Address on the Workers' Day. In: The Guardian, May 1, 2000. pp.1-3
Note: The dollar value was arrived at using the naira-dollar exchange rate prevailing at the corresponding period.

5. Review of Related Literature

In a review of the literature on public-private sector wage differential in developing countries by van der Gaag, Stelcner and Vijverberg (1989), two general types of studies are discernible. One compares average wages between the two groups of workers, either on an aggregate basis or stratified by qualification levels. While the other, which is well rooted in human capital models, assesses variation in wages on the basis of individual characteristics (like education) or by job characteristics (occupation). Studies in the mould of the first type are those of Bennel (1981), Lindauer, Meesook, and Suebsaeng (1988), and Heller and Tait (1984); to name just a few. Bennel (1981) in particular investigates earnings differential between public and private sectors in Africa with special reference to Ghana, Kenya, and Nigeria. All these studies and others of that hue involve, of course, comparisons of average wages and such exercises have been faulted as they do not systematically analyse the role of

workers' background characteristics in determining relative levels of remuneration (see van der Gaag, Stelcner and Vijverberg 1989:69).

The work of Mincer (1958, 1974) and Becker (1964) on the human capital models of earnings determination constitutes the conceptual fulcrum for the other type of studies. The model often suggests that observed wage differences among individuals are brought about by a combined team of school and post school investments (education, training, and work experience) and a host of other socioeconomic factors like geographical location, marital status, and nationality which are expected to be correlated with earnings. Examples of studies that have gone along this line of approach to unravel wage differentials have been van der Gaag, Stelcner and Vijverberg (1989), Terrell (1993), Bedi (1998), Oaxaca and Ransom (1993), Filmer, Grosh, King and van de Walle (1998). The last two studies, however, focus on World Bank Staff.

In the latter set of studies, sector-wage equations are estimated and are then used to decompose the observed wage gap into two parts. One part relates to differences due to characteristics of the respective groups of workers while the other part relates to differences traceable to between group/sector differences in the returns to given individual characteristics. This second part is not attributed to productivity-enhancing background attributes and it is often taken as a priori evidence to suggest that one sector (say, public) or the other sector (private) workers are reaping economic rent or collecting a pay premium. One of the distinguishing characteristics of most of the studies is that they employ cross section data while a few in recent times have used panel data.

The findings of the various studies on developing countries have not been uniform perhaps due to the pay structure that prevailed in either the private or public sector or both. While studies such as Lindauer and Sabot (1983), House (1984), Terrell (1993), Skyt-Neilsen and Rosholm (2001), Bales and Rama (2002), Filmer and Lindauer (2002), Boudarbat (2004), and Hyder and Reilly (2005) suggest that public sector workers earn varying amount of premium, such studies like those of Corbo and Stelcner (1983), van der Gaag, Slelcner and

Vijverberg (1989), and Bedi (1998) find that private sector workers enjoy significant wage advantage over their public sector counterparts.

Yet studies like those of Mohan (1986), which was undertaken for Columbia and Al-Samarrai and Reilly (2005) that was conducted for Tanzania, conclude that there is no significant statistical difference in the wage structures between the public and private sector. Besides these three groups of studies (and their findings) there is yet another whose conclusions are mixed. Examples of this set of studies are those of Psacharopoulos, Arrigada and Velez (1987) and Steier (1987). Steier's study is on Venezuela, which finds that average public wages were higher than private wages at all educational levels except post-secondary in 1975, but as at 1984, public wages were found to be lower at all schooling levels. Again, in 1975 the schooling and experience were found to be higher for workers in the private sector, but in 1984, the returns were surprisingly the same in both the private and public sectors. In addition, public sectors workers enjoyed a wage advantage in the neighbourhood of 17 percent but this became wiped-off by 1984. These varying results at different points in time especially the dramatic turn of event that characterized public sector wages were perhaps due, according to Steier, to the selective freezing of government workers' wages.

6. Empirical Models

Earlier studies that investigate public-private pay differential have adopted various models and most of these models in recent times are based on Mincerian human capital model.[12] Another feature of some of these studies is the modelling of labour market participation and sector of employment determination, and two basic approaches have featured in this modelling. These approaches are based on probit and multinomial logit models. Probit model is suitable when the problem involved is that of two choices (of employment) while multinomial logit is adjudged a better alternative whenever the choices involved are more than two.

The modelling of labour market participation and sector of employment determination is usually informed in part by the need to explain the factors determining individuals' participation in the sector of employment in which they are identified. The modelling is also

meant to make possible the estimation of a sector selection variable/term, which is used to correct sector selection bias in the equation explaining individuals'/workers' earnings.

In this study we employ multinomial logit to model labour market participation and sector of employment determination. This is informed by the fact that an individual of working age in Nigeria may be found in any one of the six forms of labour market participation as obtainable in the Nigeria's General Household Surveys. These forms of labour market participation are formal private sector employment (as employee), public sector employment (as employee), self-employment, employment creation (as employer), membership of producer cooperative, and unpaid family employment and others (most probably as unemployed as no income is earned). It needs be emphasized that the focus of this study is on the first two forms of labour market participation. We take the last form (unpaid family labour and others) as the control group or base category in the multinomial logit model.

We use the Mincerian human capital model to explain individuals' earnings in each of the two formal sectors of employment (public and formal private sectors). We note that a familiar problem in this sort of model is sample selection bias. This often occurs when unobserved characteristics of an individual influence both the wage and the sector selection process. And in case these characteristics are correlated with the explanatory variables in the human capital model/equation, the estimated coefficients on the variables will be biased. To deal with this problem in case it exists, we calculate selectivity terms (lambda) from the predicted probabilities of employment for each individual in a sector.[13] These terms are then included as an explanatory variable in the human capital equation as follows:

$$LnW_{is} = \beta_0 + \beta_k H_{is} + \beta_\lambda \lambda_{is} + e_{is} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots(1)$$

Where LnWis is natural logarithm of monthly earnings/wage of individual i, in sector s,

H_{is} are human capital and other background characteristics of worker i in sector s,

λ_{is} is the selection correction term for individual i in sector s,

e_{is} is error term of zero mean and constant variance,

β_0, β_k and β_λ are parameters. Where k ranges from 1 to n (that is n H variables).

The equation above is a Mincerian human capital equation that is expressed in a compact form for the two sectors of employment (public and formal private sectors). In the equation, individual employee's wage/earnings are being explained by his/her human capital variables (education and age). If β_λ is statistically significant, it means that there is presence of selectivity bias. Again, the sign taken by β_λ is of special significance. If its sign is negative, it implies there is negative selection into the sector/form of employment in question. Positive sign denotes positive selection into the sector concerned.

In estimating a Mincerian earning function/equation that includes a selectivity term, a problem that borders on identification normally arises. To address this problem, it is advisable to exclude one or more variables that that are used to identify λ_{is} in the sector allocation/choice decision from the earnings equation. In this study, we use home ownership variable, location variable (urban/rural) and demographic characteristics of individuals to identify the selection terms (λ_{is}) while we exclude these variables from the Mincerian earning equation.[14]

7. The Data

Two data sets are used for the analysis in this study. The data sets are derived from the General Household Survey (GHS) of Nigeria. The GHS contains information on households' (and their members') background characteristics, educational attainment and employment activities, among others. The Federal Office of Statistics in Nigeria regularly conducts the GHS and it runs from April (of one year) to March (of the following year). The data gathering is divided into four quarters. The Survey is designed and executed to cover both the rural and urban areas in a nationally representative way.

In this study, we use the data for the second quarter of 1998 GHS, and the third quarter of the 1999 GHS. The second quarter data of 1998 GHS covered the months of July, August and September (1998). The third quarter 1999 GHS data were for October, November and December (1999). The GHS data on household background characteristics, educational

attainment and employment activities are for the month preceding the month of survey. The second quarter's data of the 1998 GHS thus related to the period immediately before the increase in the public sector wage in September 1998. The third quarter data of 1999 GHS were gathered more than one year after the public sector wage review in 1998.

The two data sets are restricted to individuals whose ages range from 15 to 60 years. Such individuals are assumed to constitute the nation's labour force. The retiring age in Nigeria is 60 years for most public and formal private sectors' employment. Students within this age bracket (15 to 60) are, however, excluded. The relevant data in respect of individuals in each of the Surveys are contained in two separate data files. One relates to the data on the household as a unit while the other focuses on individual members of the household. The two were merged using Stata (statistical software).[15] This permits in particular the identification of individual's location (urban/rural) and of whether the respondent/individual own's a home or not.

Next we describe how we derive the variables used in the models as follows. In the two data sets, four educational levels (without education, primary, secondary and post secondary) are identified. We represent each level with a dummy variable and identify each individual/worker with the highest level attained. We arrive at the years of schooling by assuming zero, six, and twelve years as the learning periods respectively for those without education, with primary, and with secondary education. The number of years of schooling for those with post secondary is sixteen. There are no data on workers' experience in either their current or previous jobs. We have to derive general experience for each of the employees by subtracting from his/her age, the years of schooling and six years of pre-school age. We use information on secondary job of individuals/workers as a proxy for their moonlighting activity. There are six recognisable occupational groups to which individuals can belong in the Survey and these are professional, sales, services, agriculture, production, and clerks.

The first Table presented below contains some descriptive statistics of variables that relate to the whole labour force both before and after public sector wage review in 1998. The Table

shows that that there were no significant differences in the household demographic variables, educational levels, and occupational groups during the more than one year-period in which stellar changes were registered in the public sector wage structure. These, of course, are not unexpected in view of the period involved.

Table 1: Descriptive Statistics of Nigeria's Labour Force before and after Public Sector Wage Review in 1998

	Before Wage Review (N=10891)		**After Wage Review (N=11773)**	
	Mean	Standard Dev.	Mean	Standard Dev.
Household Demographic Other Variables:				
Age	37.56	11.70	37.44	11.87
Experience	26.80	13.76	26.66	13.85
Years of Schooling	4.79	5.34	4.80	5.38
Gender (Male=1)	0.64	0.48	0.62	0.49
Marital Status (Married=1)	0.73	0.44	0.73	0.44
Household Size	1.80	1.54	1.79	1.44
Own Home	0.69	0.46	0.71	0.46
Household Head	0.61	0.49	0.59	0.49
Urban/Rural (Urban=1)	0.26	0.44	0.26	0.44
Moonlighting	0.08	0.26	0.07	0.25
Monthly Income/earnings (in 1985 prices)	₦67.39	87.40	₦102.60	350.62
Educational Levels:				
No Education	0.49	0.50	0.49	0.50
Primary Education	0.25	0.44	0.25	0.43
Secondary Education	0.21	0.41	0.21	0.40
Post-Secondary Education	0.05	0.21	0.05	0.22
Occupational Groups:				
Professional	0.06	0.24	0.06	0.24
Sales	0.22	0.41	0.21	0.41
Services	0.01	0.11	0.01	0.12
Agriculture	0.60	0.49	0.60	0.49
Production	0.06	0.24	0.08	0.27
Clerks	0.05	0.21	0.04	0.19

Source: Computations by the author from the Nigeria's General Household Survey (2nd Quarter data of 1998 and 3rd Quarter data of 1999). The Survey was conducted by the Federal Office of Statistics (now renamed the National Bureau of Statistics), Lagos, Nigeria.

At least 49 percent of Nigeria's labour force lacked the lowest educational level (primary) and this fact is corroborated by the low average years of schooling, which was less than the years of schooling at the primary education level. Another notable feature of the labour force was the dominance of male labour, accounting for between 62 percent and 64 percent of the nation's labour force. Also noteworthy was the 26 percent of the labour force that

were urban dwellers while at least 60 percent of the nation's labour force was employed in agriculture (which, of course, is rural-based). The next important occupation in Nigeria is sales, which embraces all activities that have to do with buying and selling. Between 7 and 8 percent of the labour force reported moonlighting activities. This, of course, bordered on incomplete reporting as many employed Nigerians do engage in one work or another besides their primary occupation.

Of special significance in the statistics presented in Table 1, was the dramatic change that characterised the average income of the labour force after the public sector wage review in 1998. This was, however, accompanied by a higher dispersion in income distribution (from 87.40 to 350.62 naira) thereby suggesting an increased level of income inequality in the country. There is no doubt that the wage review might have played some significant role in the stellar change (of 51.80 percent) registered in the average income (in 1985 prices) of the labour force during the period under review. This is more so as the economy was undergoing some slow-down on account of the drastic drop in the oil export revenue, which was traceable to the meltdown in the East Asian economies during the same period. Available statistical evidence shows that about 28 percent drop was registered in oil export revenue in 1998 fiscal year alone.[16] Oil exports account for more than 90 percent of Nigeria's export earnings.

Other developments in the economy during the period still allude to the fact that the public sector wage must have played some decisive role in the impressive growth recorded in the average income/earnings of the nation's labour force. According to the Central Bank of Nigeria's (1999:19) *Annual Report and Statement of Account* for the year ended 31st December 1999, there was a tight monetary policy coupled with good harvests during the year 1999, which resulted in a single-digit inflation rate of 6.6 percent. The *Report* also shows that the gross domestic output grew by 2.7 percent as against the minimum target of 3.0 percent.

Further developments during the year (1999) relate to the observed stability in the interest and exchange rates, which also contributed to the relative macroeconomic stability during

the period. Labour unemployment as measured by composite unemployment rate was at a level of 3.3 percent in June 1999 compared to 3.9 percent in the corresponding period in 1998. However, industrial relations were strained during the year 1999 as the number of trade disputes declared increased from 16 in 1998 to 52 (in 1999). Out of the 52, about 37 gave rise to work stoppages. The upsurge (in trade disputes) was in the main due to disputes between most State Governments and civil servants over the implementation of the requirements of the new public sector pay review. There is no doubt that the increase in public sector pay must have contributed to the dramatic increase in the labour force average monthly income/earnings as all these developments in the economy could not have led to such a large increase in the nation's average monthly income/earnings.

Since the analysis of public-private wage differential in this study is based on urban male employees in both the public and private sectors, we deem it necessary to present the descriptive statistics and the distribution of monthly income/earnings for this cohort of employees by decile for the two sectors in Tables 2 and 3, respectively. The focus on urban male employees is informed, in the first place, by the fact that they constitute a homogenous group. Another reason is that similar studies on developing countries have used especially samples of male employees[17] and we hope our choice of male sample (though only urban) can provide some basis for comparing our results with those of other studies that employ similar data sets.

Table 2: Descriptive Statistics of Urban Male Employees before and after Public Sector Wage Review in 1998

	Before Wage Review				After Wage Review			
	Private Sector		Public Sector		Private Sector		Public Sector	
Sample Size	234		267		153		347	
	Mean	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**
Household Demographic and Other Variables:								
Age	38.01	9.46	37.98	8.63	37.81	9.64	40.75	8.82
Experience	20.95	10.94	20.20	10.04	22.11	11.02	22.95	10.44
Years of Schooling	11.09	4.45	11.78	4.22	9.71	4.99	11.80	4.78
Marital Status (Married =1)	0.69	0.46	0.73	0.44	0.70	0.46	0.80	0.40
Household Size	1.22	0.94	1.15	0.80	1.25	0.95	1.08	0.62
Own Home	0.17	0.38	0.27	0.44	0.19	0.39	0.25	0.43
Household Head	0.92	0.27	0.94	0.23	0.90	0.29	0.97	0.17
Moonlighting	0.06	0.24	0.04	0.20	0.01	0.80	0.01	0.12
Monthly Income (in 1985 Prices)	₦142.41	185.22	₦112.95	90.57	₦175.29	103.08	₦255.36	326.84
Educational Levels:								
No Education	0.05	0.23	0.06	0.23	0.12	0.33	0.08	0.27
Primary Education	0.23	0.42	0.13	0.34	0.25	0.44	0.14	0.34
Secondary Education	0.44	0.50	0.50	0.50	0.44	0.50	0.39	0.49
Post-Secondary Education	0.28	0.45	0.31	0.46	0.18	0.39	0.39	0.49

Where Std. Dev. refers to Standard Deviation.

Source: Computations by the author from the Nigeria's General Household Survey (2nd Quarter data of 1998 and 3rd Quarter data of 1999). The Survey was conducted by the Federal Office of Statistics (now renamed the National Bureau of Statistics), Lagos, Nigeria.

Table 2 shows that the average age of private sector urban male employees ranged from 37.81 to 38.01 during the period while that of public sector urban male employees ranged from 37.98 to 40.71. The average years of experience of the two groups of employees were close to each other. This can be explained by the closeness of their average ages. However, with regard to average years of schooling, public sector employees had higher years (of schooling) than their private sector counterparts. The percentage of employees that were married was higher in the public sector than in the private sector. The percentage ranged from 73 to 80 percent in the public sector while it hovered around 70 percent in the private sector. The family size in the two sectors was less than two but it appeared the one that prevailed in the private sector was slightly higher.

The percentage of public sector employees that owned their houses ranged from 25 to 27 percent while that of private sector employees ranged from 17 to 19 percent. The higher

percentage of public sector workers that are home owners may be explained by the various housing schemes implemented for public sector employees before the demise of such schemes in recent years on account of adjustment policies. The percentage of public sector employees that were household heads was higher perhaps due to the higher percentage of public sector employees that were married. The percentages of employees that engaged in secondary job activities (moonlighting) were lower after the public sector wage review in 1998, and this may be attributed to the upward review in public sector wages with its positive spill-over effects in the private sector. Since the wage review bolstered the real income of the two sectors' employees, it is most likely that engaging in secondary job activities must have become less attractive. It then follows that some additional hours might have been allocated to leisure after the wage review.

The average monthly income (in 1985 prices) of public sector employees increased from ₦112.95 (before the wage review) to ₦255.36 (after the wage review) while that of private sector employees increased from ₦142.41 to ₦175.29. These increases were accompanied with higher variability (as measured by standard variation) in public sector wages and lower variability in private sector wages. With regard to educational qualifications, 5 and 12 percent of private sector employees never had any education while that of public sector employees ranged from 6 to 8 percent. Private sector employees that had just primary education ranged from 23 to 25 percent compared with the case of public sector employees, which ranged from 13 to 14 percent. The percentage of private sector employees that had secondary school education was around 44 percent while that of public sector employees ranged from 39 to 50 percent. With respect to post-secondary education, the percentage of public sector employees ranged from 31 to 39 percent while that of private sector employees ranged from 18 to 28 percent. If we compare the percentage of public sector employees that were with secondary and post-secondary education (which ranged from 78 to 81 percent) with that of private sector employees (which ranged from 62 to 72 percent), we can conclude that the former cohort of employees was better educated than the latter. This conclusion is further strengthened by the fact that public sector employees had a higher number of years of schooling, on average, than their private sector colleagues (see Table 2).

The next Table presented below focuses on the distribution of income (of the two cohorts of employees) by decile before and after the public sector wage review in 1998.

Table 3: Distribution of Urban Male Employees' Monthly Income (in 1985 Prices) by Decile before and after Public Sector Wage Review in 1998

	Before Wage Review		After Wage Review	
	Private Sector	Public Sector	Private Sector	Public Sector
Sample Size	234	267	153	347
Decile	₦	₦	₦	₦
10	45.97	45.97	74.54	106.93
20	61.29	55.16	91.65	128.91
30	76.61	64.35	122.20	152.75
40	91.93	76.61	137.48	177.19
50	107.25	91.93	152.75	195.52
60	122.58	107.25	183.30	229.13
70	153.22	122.58	204.69	259.68
80	183.86	153.22	229.13	324.44
90	228.30	203.16	293.28	458.25
100	1109.75	919.31	672.10	1374.76

Source: Computations by the author from the Nigeria's General Household Survey (2nd Quarter data of 1998 and 3rd Quarter data of 1999). The Survey was conducted by the Federal Office of Statistics (now renamed the National Bureau of Statistics), Lagos, Nigeria.

The table shows that before the public sector wage increase in September 1998, private sector wage profile (in 1985 prices) for urban male employees was better than that of the public sector (for virtually all the deciles). This perhaps provides some reason behind the brain-drain (of mainly highly skilled labour) from the public to private sector before 1998.[18] The poor public sector pay profile (before September 1998) can be blamed on the stagnation that characterised the pay from 1993 to August 1998 on account of the Federal Government policy to contain the growth of public sector pay. It is, however, interesting to note that more than a year after the pay review, public sector pay (in 1985 prices) for every decile was superior to that of the private sector. The pay advantage can, of course, be traced in large measure to the implementation of the requirements of the public sector pay review in at least the public sector, where the review was much publicised and fought for by the various

public sector labour unions. The case for the implementation of the pay review was pursued vigorously by the militant central labour union, Nigeria Labour Congress.

8. Participation and Sector of Employment

The results of the estimated multinomial logit models are presented in Table 4 below. The dependent variable in each of the models is represented by 1, 2, 3, 4, 5 or 0 if the individual (member of the household) concerned is respectively a private sector employee, public sector employee, own account worker, producer cooperative member, employer of labour or unemployed/unpaid family worker. Among the explanatory variables considered are marital status and household headship, which are expected to capture the responsibility associated with marriage and being a household head respectively. The responsibility is assumed to influence an individual's decision to participate in the labour market segments positively.

Another explanatory variable is household size, which could represent both obligation and resources. In case of obligation, one would expect it to influence participation positively but negatively in case the variable functions more as an indicator of resources. Yet another variable considered, which also serves as an indicator of resources is home ownership (own home), which, of course, should negatively influence participation. It is expected that the decision to participate (especially as an employee in either the private or public sector organisation) will be positively affected by the level of schooling. Being an urban dweller is expected to influence the decision to participate positively in the formal labour market sectors, which are common in the urban areas. The variable for this is named urban/rural. Also being young is expected to increase an individual's probability of participation in the various labour market sectors. This is to be explained by individual's age while participation is expected to decline with age and we measure this by age squared variable in the multinomial logit models.

In order to verify whether the sectoral decomposition of the nation's labour market adopted for the multinomial logit models is justified, we conduct Wald tests of the equality of the slope parameter vectors associated with various employment choices. The null hypothesis was rejected at 0.000 level of significance. The same level of significance and decision

characterized the null hypothesis with regard to the equality of schooling effects, which are represented in the models by primary, secondary and post secondary education. The results of these tests show that Nigeria's labour market is indeed not homogenous and so the sectoral decomposition adopted is justified, as the determinants of entry into the different sectors of the labour market are not the same. We shall now interpret the results presented in Tables 4 below, which relate to multinomial logit models for explaining the determinants of entry into the different sectors of the labour market in the periods before and after public sector wage review in 1998. The coefficients reported here are odd ratios, which are the exponentiated coefficients of the estimated multinomial logit models.

Table 4. Estimated Multinomial Logit Models of Labour Force Participation before and after Public Sector Wage Review in 1998

	Private Sector Employees		Public Sector Employees		Own Account Workers		Producer Coop Members		Employers of Labour	
	Before	**After**	**Before**	**After**	**Before**	**After**	**Before**	**After**	**Before**	**After**
Sample Size	**546**	**340**	**636**	**827**	**7433**	**8290**	**1954**	**1201**	**80**	**69**
Percentage (%)	**5.01**	**2.89**	**5.84**	**7.02**	**68.25**	**70.42**	**17.94**	**10.20**	**0.73**	**0.59**
Variables:										
Head	5.09***	42.86***	7.88***	67.84***	8.38***	55.61***	0.02***	0.04***	1.99	11.37**
	(6.01)	(11.58)	(7.12)	(14.58)	(8.93)	(18.42)	(-11.29)	(-4.26)	(0.99)	(2.00)
Marital Status	2.23***	1.28	3.22***	1.70**	4.06***	2.01***	3.13***	1.51***	3.58***	1.75
	(3.66)	(1.34)	(5.30)	(3.24)	(7.11)	(5.74)	(5.22)	(3.24)	(3.55)	(1.50)
Gender	0.62**	1.69**	0.60**	1.08	0.24***	0.71**	0.54***	0.79**	1.35	0.74
	(-2.20)	(2.52)	(-2.18)	(0.42)	(-7.49)	(-2.90)	(-3.18)	(-2.00)	(0.62)	(-0.70)
Household size	1.15**	0.85*	1.09	0.88*	0.82***	0.84***	1.00	0.92***	0.69	0.13*
	(2.66)	(-1.83)	(1.32)	(-1.70)	(-3.80)	(-6.36)	(0.05)	(-3.59)	(-1.20)	(-1.90)
Own Home	0.53***	0.31***	0.53***	0.35***	1.16	0.76**	2.20***	1.23	0.46**	0.38***
	(-3.32)	(-6.75)	(-3.31)	(-7.00)	(0.91)	(-2.43)	(4.44)	(1.61)	(-2.49)	(-3.14)
Age	1.28***	1.31***	1.43***	1.48***	1.21***	1.25***	1.00	1.05*	1.22**	1.38***
	(5.04)	(5.75)	(6.70)	(9.34)	(4.81)	(9.19)	(0.08)	(1.85)	(2.16)	(2.88)
$(Age)^2/100$	0.75	0.75***	0.65***	0.66***	0.79***	0.79***	0.97	0.95	0.81*	0.70**
	(-4.41)	(-4.74)	(-6.17)	(-7.70)	(-4.34)	(-7.04)	(-0.46)	(-1.37)	(-1.91)	(-2.56)
Urban/Rural	0.92	6.49***	0.68**	4.98***	0.53***	3.10***	0.12***	1.03	0.85	6.18***
	(-0.50)	(10.73)	(2.15)	(10.47)	(-4.05)	(9.07)	(-12.72)	(0.19)	(-0.55)	(6.01)
Primary Education	1.21	9.46***	1.92**	14.35***	0.45***	2.71***	0.25***	1.33***	0.55	4.74***
	(0.73)	(9.95)	(2.23)	(12.66)	(-3.69)	(9.50)	(-6.44)	(2.68)	(-1.53)	(3.00)
Secon. Education	1.86**	21.48***	5.35***	66.67***	0.34***	3.71***	0.13***	1.40***	0.79	17.18***
	(2.42)	(13.20)	(5.96)	(19.74)	(-5.10)	(10.52)	(-9.22)	(2.62)	(-0.60)	(6.07)
Post-Sec. Education	2.22**	105.14***	7.57***	562.82***	0.05***	3.49***	0.02***	0.83	0.57	273.95***
	(2.41)	(10.39)	(5.81)	(14.67)	(-9.81)	(3.12)	(-7.99)	(0.35)	(1.18)	(9.76)

Sample Size: Before = 10891, After = 11,773, LR chi2 (55): Before = 8711.55, After =8685.75, Prob>chi2: Before = 0.0000, After = 0.0000,
Pseudo R^2 : Before = 0.3977, After = 0.3638, Log Likelihood: Before = -6595.8709, After = -7594.6833.

Note: The variables' coefficients are odd ratios, which are referred to as relative risk ratios (rrr) in Stata program. The figures in brackets are z-statistics.
***** 1 percent level of significance.**
**** 5 percent level of significance.**
*** 10 percent level of significance.**
"Secon." means secondary while "Post-Sec." means post-secondary.
The control group or base category is made up of unemployed and unpaid family members.

Source: Estimations based on Nigeria's General Household Survey data for second quarter (July, August and September), 1998 and for third quarter (October, November and December) 1999.

In the above Table, it can be seen that the underlying coefficients of the odd ratios attached to household head and marital status have the right signs and they are significant across the various labour market segments (except the negative but significant coefficient sign for household head in the case of producer cooperative members) in the periods before and after the increase in public sector wage.[19] The odds in favour of household heads increase across the labour market segments after the public sector wage review. The highest odds of 67.84 are registered with regard to public sector employment for household heads after the wage review. This shows that household heads are 67.84 times more likely to be employees in the public sector (relative to being unemployed or unpaid family workers) than household members that are not heads. The next labour market segment in which household heads are more likely to be found following the wage review is the one populated by own account workers. The odds in this case are as high as 55.61 times (after the wage review). Household heads are 0.04 time less likely to be engaged as producer cooperative members after the wage review. The odds (in favour) of household heads to be private sector employees increase by 5.09 times before wage review while odds increase by 42.86 times after wage review.

The levels of odds (in favour) of marital status decline across labour market segments after public sector wage review. The highest odds of 2.01 characterise own account workers' segment after the wage review. This implies that married members of households are 2.01 times more likely to be own account workers (relative to being unemployed or unpaid family workers) than household members that are not married. After the public sector wage review, married household members are 1.70 times (compared to 3.22 times before wage

review) more likely to be public sector workers (relative to being unemployed or unpaid family workers) while the same cohort of household members is 1.28 times more likely to be private sector employees (relative to being unemployed or unpaid family workers) than household members outside the cohort.

The odds in favour of male members of household to be engaged in the various labour market segments increase after the wage review perhaps due to increased returns to efforts. The only exception is the segment designated as 'Employers of Labour' whose underlying coefficient is not significant and all this may be partly traced to the small sample size that characterise the segment both before and after the wage review. The odds in favour of household male members to be private sector employees increase from 0.62 time before wage review to 1.69 times after the wage review while the case of the same genre of household members to be engaged as public sector employees increase from 0.60 time before wage review to 1.08 times after the wage review. It is interesting to note that the odds against employment prospects of household members for every increase in household size (in the various sectors of labour market) increase by a small margin (of less than 1) after the wage review.[20] The same marginal increase is noticeable in the odds against household members with own-homes getting engaged in the various segments of the labour market after the wage review. These results suggest that the public sector wage review in 1998 bolstered the income earning prospects and the effective participation of the concerned household members across the five segments of the Nigerian labour market. The results in respect of household members with own-home are particularly interesting in the sense that such an asset holding should ordinarily increase the odds against participation in

the various labour market segments substantially both before and after any public sector wage review.

The coefficients attached to age variables (age and age squared) have the right signs and they are significant in most cases. With regard to age, the levels of odds in favour of participation across the five labour market segments register some increases after wage review. For every additional year of age, the odds (in favour) of household members participating as private sector employees increase by 1.28 times before wage review while the odds increase by 1.31 times after wage review. On the other hand, the odds (in favour) of household members getting employed as public sector employees increase by 1.43 times before wage review while the odds increase by 1.48 times after wage review. For every additional year of age, the odds of household members entering the labour market as own account workers increase by 1.21 times before wage review while the odds increase by 1.25 times after wage review. Each additional year of age will result in odds of household members being employers of labour increasing by 1.22 times and 1.38 times before and after wage review respectively. The results in respect of age-squared are such that the odds against old household members getting involved in the various segments of the labour market range from 0.65 time to 0.97 time during the periods before and after wage review.

The coefficients of urban/rural variable are significant in most labour market segments with negative odds predominating in the period before wage review. The negative odds are implied by the negative sign of the underlying coefficients. This, of course, means that the odds are against household members (that are based in urban areas) in securing

employment opportunities in the various segments of the labour market before wage review. It is, however, interesting to note that the odds against are less than 1 in all the cases while the odds in favour after wage review are greater than 1 and they in fact range from 1.03 to 6.49.

The levels of odds attached to education variables across labour market segments are higher after wage review and their underlying coefficients (both before and after wage review) are significant in most cases from 5 to 10 percent (level of significance). With regard to household members having primary education, the highest odds (in favour) before and after wage review occur in the labour market segment made up of public sector employees. This suggests that the least educated are selected into that segment of Nigeria's labour market where they are better remunerated perhaps under the public sector-mandated minimum wage. Again the highest odds (in favour) of household members that have either a secondary or post-secondary education are associated with getting employed as public sector employees both before and after wage review. The lowest odds are common with the segment populated by producer cooperative members both before and after wage review. This can be explained by the fact the job involved under producer cooperative arrangement, which is rural-based and agricultural-related, does not require much education.

The increases in the levels of odds in favour and the marginal increases in the odds against household members being selected into the various segments of the nation's labour market after the wage review suggest that the review must have played some role in the absence of any other fundamental changes in the labour market. Hence it can be concluded that the

wage review had some decisive effects on the household members' participation decisions in the various segments of the Nigeria's labour market.

9. Estimated Wage Equations

The results of the estimated wage equations are presented in Tables 5 and 6 below. The explanatory variables considered are age, age squared and educational levels of urban male household members employed as private and public sector employees. The dependent variable is natural logarithm of monthly wages/salaries. In Nigeria, private and public sector employees are in most cases remunerated monthly. Age as a variable is meant to capture returns to experience while age squared is introduced to measure the often observed parabolic decline in earnings with age. Three educational variables are included in the model. These are primary education, secondary education and post-secondary education. It is expected that the coefficients attached to these levels of education will be positive and will increase according to the levels attained by the employees. The coefficients attached to age and age squared are expected to be positive and negative respectively. The first to be presented is Table 5, which specifically relates to the estimated equations of logarithm of monthly wage of urban male employees in the private and public sectors. The explanatory powers of the estimated equations (with and without selectivity correction terms) in terms of adjusted R^2 range from 11.0 to 35 percent. This range is plausible in the light of the ranges of adjusted R^2 found in similar empirical studies that use cross-sectional data. The entire slope coefficients of each of the equations are highly significant as indicated by the F Statistics and its significance levels.

Yearly returns to experience are on the low side across sectors. They are, however, within the range reported in Hofmeyr (2000) for South Africa, and Glick and Sahn (1997) for Guinea (a West African country). Age-squared has the right negative sign and it is also significant across sectors (except in the case of public sector before wage review).

Table 5: Estimated Log-Monthly Wage Equations for Urban Male Employees

	Before Wage Review		After Wage Review	
	Private Sector	Public Sector	Private Sector	Public Sector
Constant	1.2515***	1.4022***	3.3943***	3.3703***
	(4.61)	(5.65)	(6.29)	(5.62)
Age	0.0302**	0.0107	0.0671**	0.0728***
	(2.19)	(0.83)	(2.44)	(2.50)
$Age^2/100$	-0.0298*	-0.0044	-0.0740**	-0.0757**
	(-1.65)	(-0.27)	(-2.15)	(-2.15)
Primary Education	-0.0103	0.1862**	-0.0177	0.0054
	(-0.12)	(2.40)	(-0.13)	(0.04)
Secondary Education	0.0686	0.2061***	0.1292	0.1610
	(0.86)	(2.99)	(1.03)	(1.31)
Post Sec. Education	0.2122***	0.3103***	0.8177***	0.5609***
	(2.59)	(4.36)	(5.71)	(4.65)
Sample Size	234	267	153	347
F Statistic	8.51	7.55	15.84	14.92
Prob>F	0.00	0.00	0.00	0.00
Adjusted R^2	0.14	0.11	0.33	0.17

Note that the figures in brackets are t-statistics of the corresponding coefficients.

Where * implies 1 percent level of significance.**
**** implies 5 percent level of significance.**
***** implies 10 percent level of significance.**

Source: Estimations based on Nigeria's General Household Survey data for Second Quarter (July, August and September) 1998 and for third quarter (October, November and December) 1999.

The results in the above Table show that other variables have the right signs except the primary education variable in the periods before and after wage review for private sector. Some of the variables are statistically significant at reasonable levels of significance (1, 5 and 10 percent). Before the wage review in 1998, the returns to experience (age) in the private sector are more than double those registered in the public sector though the coefficient attached to the experience variable in the latter sector is not significant. This

seems to provide some explanation for the brain-drain witnessed in the public sector before the wage review in September 1998. The coefficient attached to age-squared shows that the decrease in earnings (as an employee becomes old) is higher in the private sector than what obtains in the public sector in the period before the wage review. This may be explained by the better pension and retirement benefits in the Nigerian public sector.

Before and after the wage review, the returns to schooling increase with the level of education attained by urban male employees. This finding is the same with those of van der Gaag and Vijverberg (1989), Glick and Sahn (1997) and Nielsen and Westergard-Nielsen (2001). It, however, contradicts those of Psacharapoulos (1994), whose study seeks to provide some sort of comprehensive update of the profitability of investment in education at a global scale. It needs, however, be pointed out that primary education variable in the private sector that is wrongly signed is not significant at reasonable levels (1% to 10%).[21] It is interesting to note that before the wage increase, the returns to educational levels are higher in the public sector than in the private sector in spite of the zero increase in public sector wage from 1993 to August 1998.

After the wage review, the returns to experience for urban male employees become higher in the public sector than what prevails in the private sector while the reduction in earnings as employees grow older is slightly larger in the public than in the private sector. The returns to post-secondary schooling become higher in the private sector while the returns to secondary education are higher in the public sector perhaps due to the wage review. This suggests that the wage review succeeded in bettering the lots of public sector employees

with secondary education while public sector employees with post-secondary education were still poorly remunerated when compared with their private sector counterparts.[22] There is, however, a need to stress that the coefficients attached to education variables beside post-secondary education are not significant at reasonable levels in the public sector wage equation. The next Table presented below contains results of estimating the wage equations while correcting for sector selection bias, which is captured by a variable named lambda.

Table 6: Selectivity-Corrected Log-Monthly Wage Equations for Urban Male Employees

	Before Wage Review		After Wage Review	
	Private Sector	Public Sector	Private Sector	Public Sector
Constant	1.1164*	2.2332***	2.1963***	-9.0778
	(1.94)	(3.26)	(2.53)	(-1.25)
Age	0.0297**	0.00002	0.0371	0.0514
	(2.12)	(0.00)	(1.15)	(1.63)
$Age^2/100$	-0290	-0.0086	-0.0407	-0.0544
	(-1.59)	(-0.45)	(-1.04)	(-1.46)
Primary Education	-0.0056	0.1692**	-0.0642	0.0292
	(-0.07)	(2.15)	(-0.47)	(0.21)
Secondary Education	0.0798	0.1248	0.0693	0.2202*
	(0.88)	(1.34)	(0.54)	(1.73)
Post Sec. Education	0.2397*	0.1027	0.7794***	0.6840***
	(1.82)	(0.59)	(5.41)	(4.89)
Lambda	0.1905	-0.7986	2.3699*	31.7805*
	(0.27)	(-1.30)	(1.75)	(1.72)
Sample Size	234	267	153	347
F-Statistic	7.08	6.59	13.90	13.00
Prob>F	0.00	0.00	0.00	0.00
Adjusted R^2	0.14	0.11	0.34	0.17

Note that the figures in brackets are t-statistics of the corresponding coefficients.

Where * implies 1 percent level of significance.**
**** implies 5 percent level of significance.**
***** implies 10 percent level of significance.**

Source: Estimations based on Nigeria's General Household Survey data for Second Quarter (July, August and September) 1998 and for third quarter (October, November and December) 1999.

The results in Table 6 show that the sector selection variable (lambda) is only significant in determining wages in the two sectors in the period after the wage review. Of particular interest is the higher size of the coefficient attached to the selection variable in the public sector wage

equation (after the wage review), which sort of corroborates the higher relative risk ratios attached to participation of household members with any of the educational levels following the wage review. The negative sign of lambda (though not significant) in the public sector wage before the wage review suggests that there was negative selection of employees into the public sector and this seems to confirm what really happened in the sector during the period (of stagnation in public sector pay) as the phenomenon of brain drain from the public sector assumed a topical and disturbing dimension. The positive sign (though not statistically significant) of the sector selection variable in the case of private sector wage equation before the wage review implies that there was some sort of positive selection of employees into the private sector, which may, of course, be expected as there is evidence of brain-drain from the public sector to the private sector. The positive sign assumed by the selectivity term in the period after the wage review suggests that there is positive selection into the two sectors perhaps due to the better public sector pay profiles and the spill-over effects of the pay review in the public sector.

Following the introduction of selectivity term, the returns to educational levels are moderated upward in the private sector wage equation while the returns to educational levels are moderated downward in the case of public sector wage equation in the period before the wage review. However, in the period after wage review, it is the opposite results that hold sway. While age variables have the right signs, it is only in one of the eight cases that there is statistical significance. On the whole, the sector selection term can only be said to be relevant for our analysis (of pay differentials) in the period after the wage review in 1998 as the statistical significance of the term confers some measure of unbiasedness on the estimated coefficients of the equations.

10. Public-Private Wage Differentials and their Decompositions

Analyses of the pay differentials are contained in Table 7. Two sets of estimated wage equations feature in the analyses of the pay differential. These are the ones with and without the selectivity term. We use estimated wage equations without the selectivity term in the period before the wage review while we employ wage equations with selectivity term in the period after the wage review to decompose wage differentials between the two segments of

the labour market. As shown in the Table, there are differences in the predicted means of natural logarithm of earnings of employees in the two sectors.

Table 7: Public-Private Wage Differential for the Periods before and after the Wage Review in 1998

	Before Wage Review	After Wage Review
Mean ln monthly wage-Private Sector	2.0316	5.0076
Mean ln monthly wage-Public Sector	1.9660	5.3082
Overall ln wage differential	0.0656	0.3006
Antilog of (ln) wage differential	1.0678	1.3507
Contribution of Employees' Characteristics	-0.01648	-0.0308
Contribution of Returns to Characteristics[23]	0.08208	0.3314
Percentage Contribution of Characteristics	-25%	-10.25%
Percentage Contribution of Returns	125%	110.25%

Source: Computations from descriptive statistics of urban male employees and estimated wage equations

It can be seen that the predicted mean of natural logarithm of earnings of employees in the private sector is higher than that of the employees in the public sector before the wage review in 1998. It is, however, the opposite situation that holds after the wage review. In the period before the wage review, the means are 2.0316 and 1.9660 for the private and public sectors respectively. The predicted means of natural logarithm of earnings stand at 5.0076 and 5.3082 for the private and public sectors respectively in the period after the wage review in 1998. It is of interest to note that the predicted means of natural logarithm of earnings in the sectors for the two periods are in line with the descriptive statistics (mean of monthly income) and the distribution of monthly income of urban male employees by decile presented previously.

A much more meaningful description of the differential in the means of natural log earnings can be obtained by taking the antilog of the differential and this has been done for each period in the Table. For the period before the wage review in 1998, the antilog shows that public sector urban male employees suffered a pay disadvantage of 6.78 percent while the same cohort of employees was already enjoying a pay advantage of 35.07 after the wage

review in 1998. The pay disadvantage in the public sector before the wage review can be traced to a great extent to the stagnation that characterised public sector pay structure from 1993 to August 1998. The pay disadvantage might have been responsible to a great extent for the brain-drain observed by Ojo (1998) in the public sector before 1998.

The differential in predicted means of logarithm of earnings in similar studies is usually decomposed into two parts. One part is the differential traceable to differences in mean employee's characteristics while the other part is taken to be due to differences in the returns to those characteristics. The latter differential is taken as an evidence of economic rent. Empirically, the first part is due to differences in the average levels of education, experience, and other covariates (that is, other explanatory variables). The second part of the differential is derivable from the differences in the coefficients (both intercept and slopes) in the earnings equations.[24] In the table, it can be seen that the entire differential in pay in the periods before and after the wage review in 1998 is due to differences in returns to characteristics with returns to characteristics of employees in the private sector leading in the period before the wage review while the returns to characteristics of public sector are higher than those of their private sector counterparts in the period after the wage review (see the Tables 5 and 6).

If we assume that there was not much difference between the public and private sector pay shortly after the increase in public sector pay in January 1993, then one basic conclusion that can be drawn from the small size of the differential in public-private sector pay before the wage review in 1998 is that private sector pay must have registered a paltry rate of increase given the fact that public sector pay recorded zero increase during the period. The general lull in business activity during the period in Nigeria may provide some explanation for the small rate of increase in private sector pay. Another probable factor for the state of private sector pay during the period is that the public sector pay structure seems to dictate to a certain extent what happens to comparable private sector pay structure or any other pay structures for that matter in the Nigerian labour market. This can be deduced from the descriptive statistics (which relate to the periods before and after wage review) presented earlier in respect of the entire labour force.

11. Summary of Findings and Conclusion

This study contains efforts at investigating the impact, which government wage review in 1998 had on pubic-private sector wage differential in Nigeria. The investigation is based on urban male employees in the public and private sectors. The study finds that before the wage review in 1998, public sector employees were suffering a pay disadvantage of 6.78 percent. This meagre differential in public-private sector pay in the face of the stagnation that permeated the public sector pay levels for a long period before the wage review may be explained in the first instance by the down-turn in business activity, which could have limited private sector pay increases, and may in the second instance be explained by the seemingly effective impact of the current state of public sector pay on the private sector pay and on any other pay in the Nigerian labour market. The study equally finds that after the wage review, public sector employees were better remunerated (to the tune of 35.07 percent) than their private sector counterparts. While the whole gamut of the pay disadvantage in the public sector before the wage review is mainly due to returns to employees' human capital characteristics, the pay advantage that characterises public sector pay structure after the wage review is equally traceable (in its entirety) to the returns to human capital characteristics of public sector workers. The government pay review can be said to have addressed to some extent the ostensibly poor public sector pay that prevailed during the period before September 1998. There is still much to be done to redress at least the real public sector pay after the 1998 wage review as its level (when measured by the state of real minimum wage) is still below what obtained in 1982 when the nation's economy started to register profound declines in key macroeconomic indicators following the collapse in the prices of crude oil exports (see Appendix 2). Nigeria's dependence on oil export revenue hovers around 90 percent.

References

Akinwale, E.J (2000), "Human Resources Management: An Overview (5)," in *Nigerian Tribune,* June 27 (Ibadan: The African Newspaper of Nigeria Plc)

Al-Samarrai, S. and B. Reilly (2005), "Education, Employment and Earnings of Secondary School Leavers in Tanzania: Evidence from a Tracer Study," *Poverty Research Unit at Sussex (PRUS),* Working Paper No. 31.

Anyanwu, J.C, A. Oyefusi, H. Oaikhenam and F.A. Dimowo (1997), *The Structure of the Nigerian Economy (1960-1997),* (Onitsha-Nigeria: Joan Publication Ltd).

Appleton, Simon; John Hoddinott and Pramila Krishnan (1999), "The Gender Wage Gap in Three African Countries," *Economic Development and Cultural Change,* Vol. 47, No.2: 289-312.

Bales, Sarah and Martin Rama (2002), "Are Public Sector Workers Underpaid? Appropriate Comparators in a Developing Country," *World Bank Working Paper Series 2747.*

Becker, Gary (1964), *Human Capital,* (New York: Columbia University Press)

Bedi, Arjun S. (1998), "Sector Choice, Multiple Job Holding and Wage Differentials: Evidence from Poland," *The Journal of Development Studies,* Vol. 35, No.1: 162-179

Bennel, P.S. (1983), "Earnings Differentials between Public and Private Sectors in Africa: The Cases of Ghana, Kenya, and Nigeria," *Labour and Society,* Vol. 6, No: 223-241.

Blinder, Alan S. (1973), "Wage Discrimination: Reduced Form and Structural Estimates," *The Journal of Human Resources,* 8: 436-455.

Boudarbat, B. (2004), "Employment Sector Choice in a Developing Labour Market," *Mimeo,* Department of Economics, University of British Columbia.

Central Bank of Nigeria (CBN) (1998), *Annual Report and Statement and Account for The Year Ended 31st December*

Corbo, Vittorio, and Morton Stelcner (1983), "Earnings Determination and Labour Markets: San Diego," *Journal of Development Economics,* Vol.12, No. 3:251-266

Cousineau, . J.M and R. Lacroix (1977), *Wage Determination in Major Collective Agreements in the Private and Public Sectors,* (Ottawa: Economic Council of Canada)

Fapohunda, E.R (1979), “Population, Labour Utilisation and Manpower Development,” In F.A Olalokun, F.O Fajana, S. Tomori and I.I Ukpong, eds. *Structure of the Nigerian Economy*. (London: Macmillan) pp. 100-130.

Filmer, Deon and David L. Lindauer (2002) “Does Indonesia Have a Low Pay Civil Service?” World Bank Working Paper Series 2621.

Filmer, Deon, Margaret Grosh, Elizabeth King and Dominique van de Walle (1998), "Pay and Grade Differential at the World Bank", *Policy Research Working Paper 1912*, April.

Gunderson, M. (1979), "Earning Differentials between the Public and Private Sectors," *Canadian Journal of Economics,* Vol.XII, No.2: 228-242

Heller, P.S., and A.A. Tait (1984), “Government Employment and Pay: Some International Comparisons,” *International Monetary Fund Occasional Paper 24* (Washington, D.C: IMF).

Hofmeyr, J.F (2000), “The Importance of Segmentation in the South African Labour Market,” Centre for the Study of African Economies (CSAE), Website on Conference.

House, W.J. (1984), "Labour Market Segmentation: Evidence from Cyprus," *World Development,* Vol. 12, No. 4: 403-418.

Hyder, Asma and Barry Reilly (2005), “The Public Sector Pay Gap in Pakistan: A Quantile Regression Analysis,” *Poverty Research Unit at Sussex (PRUS),* Working Paper No. 33.

Lee, L. F. (1983), “Generalised Econometric Models with Selectivity,” *Econometrica* 51:507-512.

Lindauer, D.L; O.A Meesook, and Parita Suebsaeng (1988), "Government Wage Policy in Africa: Some Findings and Policy Issues," *World Bank Research Observer,* Vol.3, No.1: 1-23.

Lindauer, D.L. and R.H Sabot (1983), "The Public -Private Wage Differential in a Poor Urban Economy," *Journal of Development Economics,* Vol.12, No.3:137-152

Mazmumdar, Dipak (1981), *The Urban Labour Market and Income Distribution: A Study of Malaysia,* (New York: Oxford University and The World Bank).

Mincer, Jacob (1974), *Schooling, Experience, and Earnings,* (New York: National Bureau of Economic Research and Columbia University Press).

Mincer, Jacob (1958), "Investment in Human Capital and Personal Income Distribution",

Journal of Political Economy, Vol. 56, No. 4: 281-302

Mohan, Rakesh (1986), *Work, Wages, and Welfare in a Developing Metropolis Consequences of Growth in Bogota, Columbia,* (New York: Oxford University Press).

Neumark, David (1988), "Employers' Discriminatory Behaviour and the Estimation of Wage Discrimination," *The Journal of Human Resources*, 23(3): 279-295.

Nielsen, Helena Skyt and Niels Westergard-Nielsen (2001), "Returns to Schooling in Less Developed Countries: New Evidence from Zambia," *Economic Development and Cultural Change,* Vol. 49, No.2:365-393.

Oaxaca, Rolald L (1973), "Male-Female Wage Differentials in Urban Labour Markets," *International Economic Review* 14:693-709

Oaxaca, Ronald L. and Michael Ransom. (1993), "Salary and Promotion Differences Between Gender and Nationality Groups for Specific Grade Levels," prepared for the World Bank.(April)

Ojo, Folayan. (1998), *Sectoral Brain Drain in Nigeria,* Diagnostic Studies Series 5. (Abuja: National Manpower Board).

Owoye, Oluwole. (1994), "Wage Determination and Strike Activity in Nigeria," *Journal of African Economies*, Vol.3, No. 3:447-480.

1999 Constitution of the Federal Republic of Nigeria, (Lagos: Federal Government Press),

Psacharopoulos, George (1994), "Returns to Investment in Education: A Global Update," *World Development,* Vol.22, No.9, pp. 1325-1343

Psacharopoulos, George; Ana-Maria Arrigada, and Eduardo Velez (1987), "Earnings and Education Among the Self-Employed in Columbia," *World Bank Education Training Department Discussion Paper* 70, (Washington, D.C: World Bank).

Preston, M.H (1986), "The Elementary Macroeconomic Consequences of Differing Public and Private Sector Wages," *Public Finance,* Vol.XXXXI, No.2:173-181

Skyt-Neeilsen, H. and M. Rosholm (2001), "The Public Sector Wage Gap in Zambia in the 1990s: A Quantile Regression Approach," *Empirical Economics,* Vol. 26, pp 169-182.

Steier, Francis (1987), "Schooling, Experience, and Earnings: Issues in Venezuelan Development, 1975-84," Ph.D. diss. Columbia University

Terrell, Katherine (1993), "Public-Private Wage Differentials in Haiti: Do Public Servants Earn a Rent?," *Journal of Development Economics*, Vol.42, No.2: 293-314

van der Gaag, Jacques; Morton Stelcner; and Wim Vijverberg (1989), "Wage Differentials and Moonlighting by Civil Servants: Evidence from Cote d'Ivoire and Peru," *The World Bank Economic Review*, Vol.3, No.1: 67-95.

World Bank (1994) *Nigeria's Structural Adjustment Program: Policies, Implementation, Impact*, West African Department Country Operations Division Report No. 13053-UNI, (Washington, D.C.: World Bank).

Daily/Weekly Newspapers:

(a) *The Guardian*. Lagos: Guardian Newspapers Ltd
(b) *Vanguard*. Lagos: Vanguard Media Ltd.
(c) *The Comet*. Lagos: Turning-Point Newspapers Ltd.
(d) *The Punch.* Lagos: Punch Nigeria Ltd.
(e) *Tribune.* Ibadan: The African Newspapers of Nigeria PLC.
(f) *The Post Express.* Lagos: The Post Publishing Company Ltd.
(g) Sunday Monitor. Ibadan: Monitor Newspapers Ltd.

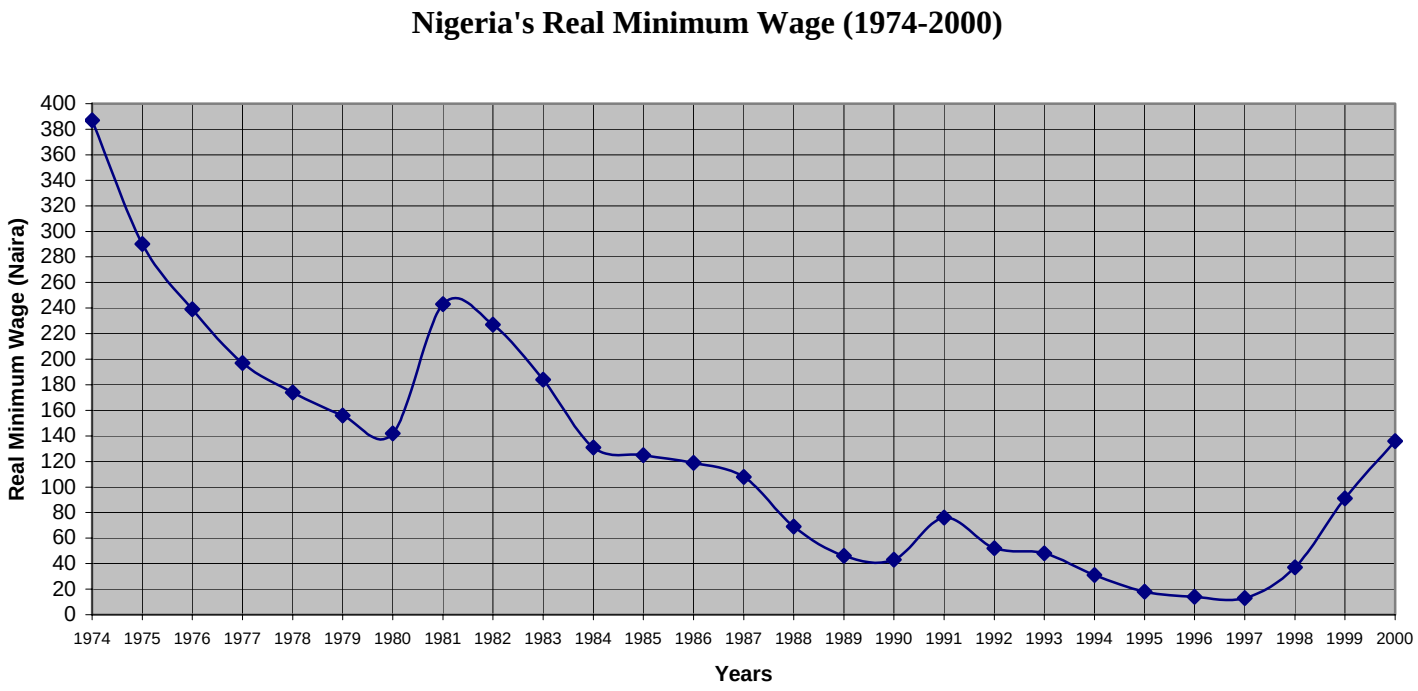
Appendix 1.

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	20.7
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.

Appendix 2.


Nigeria's Real Minimum Wage (1974-2000)
Real Minimum Wage (Naira)
400
380
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000
Years

ENDNOTES

[1] See Ojo (1998) for the evidence of brain drain from the public to private sector during period prior to 1998.

[2] Newspapers' reports indicate that there were some running crises between most State Governments and their workers' unions over the non-implementation of the wage review in its entirety in the last months of 1998 and in the early part of 1999 (see The Punch, October 6, 1998,pp.1-2; Business Times, October 12, 1998; Nigerian Tribune, November 10, 1998; The Punch, January 27, 1999; The Guardian, February 23, 1999, pp.1-2; Nigerian Tribune April 26, 1999). The State Government complained of lack of fund to implement fully the requirements of the 1998 wage review/directive. With regard to the formal private sector employers, there has not been any study, to the best of this author's knowledge, on the compliance level of formal private sector employers to any public sector-mandated wage review/directive in Nigeria.

[3] The classifications adopted here are based on the Survey instrument used by the Federal Office of Statistics (in Nigeria) to collect households' data under its General Household Survey. In Part B of the instrument, the six categories of respondents are identified.

[4] The real minimum wage rose dramatically during the periods of wage reviews (see Appendix 2) and this implies that all other levels of pay (in real terms) in the public sector might have registered some increases.

[5] See Fapohunda (1979:100-130), Anyanwu, Oyefusi, Oaikhenan and Dimowo (1997: 311) and The Guardian, May 1, 2000, Presidential Broadcast on Workers' Day, pp.1-2.

[6] The second to the last Commission was set up to provide information on pay disparities within the public, private and between the private and public sectors. The Panel/Commission report was submitted in February 2006. The last Panel was set up in December 2005 and as at the time of writing this study, the Panel was still conducting nation-wide tour to collate people's views on the consolidation of benefits in the public service.

[7] Federal government discontinued this policy of backdating wage increases in the last two decades perhaps on account of its fiscal and inflationary implications.

[8]See New Nigerian (daily newspaper) of April 25, 1987.

[9] Other policy measures taken during the year 1992 in particular included a waiver of import duty on transport vehicles and their spare parts, which could help to bring down the cost of transportation for the people.

[10] Among the States are Ogun-₦6,500 (see The Punch, August 17,2000), Imo-₦6000 (see The Punch, August 18, 2000), Ondo-₦6,500 (see The Guardian, August 11, 2000), Ebonyi-₦6,500 (see The Punch, August 11, 2000), Oyo-₦6,500 (The Punch, August 14, 2000), Taraba-₦6,500 (see The Punch, August 15, 2000), Ekiti-₦6,000 (see The Guardian, August 4, 2000), Edo-₦6,500 (see The Comet, September 4, 2000), Enugu-₦6,000 (see The Punch, August 3, 2000), Bayelsa-₦7,500 (see The Guardian, May 30, 2000), Rivers-₦7,500 (see The Guardian, June 6, 2000), Abia-₦6,000 (see The Guardian, July 3, 2000), Kaduna-₦5,600 (see The Guardian, June 29, 2000). These sources are daily newspapers and the relevant sections are the ones on minimum wage. There are 36 States in Nigeria.

[11] This was to some extent due to the structural adjustment policies introduced in Nigeria in the second half of the period. The policies sought (among others) to hold down public sector wage bill (which was operationalised by freezing public sector workers' pay) to achieve fiscal viability (see World Bank, 1994:17).

[12] The Mincerian approach/equation is based on the assumption that wages are set equal to the marginal productivity of the wage earners.

[13] The derivation of the lambda variable (λ), which is referred to as inverse Mill's ratio, follows the Lee's (1983) two-step procedure. The formula for lambda is: $\lambda_{ij} = \varphi\ (\Theta^{-1}[P_{ij}])/P_{ij}$. Where φ (.) refers to the standard normal density function while Θ(.) relates to the cumulative distribution function. P_{ij} is the predicted probability of observing individual i in sector j as obtained in the multinomial logit model (which in this study is the estimated multinomial logit model before we obtain the relative risk ratios [exponentiated multinomial logit model's coefficients]).

[14] In similar studies (such as Glick and Sahn (1997)) a variable that is often used together with demographic characteristics of household\individual is non-labour income. In the four data sets used in this study there is, however, no information on non-labour income of households/individuals. We have, therefore, used home ownership variable in its stead.

[15] Intercooled Stata 8 is the version of Stata used to carry out all the regression analyses and some aspects of the data preparation in this study. Other aspects of the data preparation were executed with SPSS 7.5.
[16] See Central Bank of Nigeria's Annual Report and Statement of Account for the year 1998. The section on fiscal matters contains the information on the 28 percent drop recorded in oil export revenue.
[17] See van der Gaag, Stelcner and Vijverberg (1989:72-73) for a review of similar studies on developing countries that used samples of male employees.
[18] See Ojo (1998) for the evidence of brain drain from the public to private sector during period prior to 1998.
[19] This is determined by the signs assumed by the z-scores attached to the odd ratios. The figures in brackets below the odd ratios are z-scores.
[20] Of special significance is the negative sign that characterizes the underlying coefficients of household size variable in seven of the ten equations, which makes the variable to serve well as an indicator of resources. This has been described as a reflection of the endogeneity of household formation in which some unemployed family members are attracted to households where they can be taken care of from the resources (income) of other household members that are working (see Hofmeyr, 2000). This seems to reflect what obtains in reality as virtually every household in Nigeria has one or more unemployed members to cater for.
[21]Glick and Sahn (1997) encounter the same problem of wrong signs on education variables in a similar study on Guinean data. They explain that such a problem reflects collinearity of the education covariates with the selectivity term and this, they argue further, suggests that the equation concerned is not properly identified. Similar results of negative coefficients for education variables were obtained by Appleton, Hoddinott and Krishnan (1999) in their study on gender wage gap in three African countries (Cote D'Ivoire, Ethiopia and Uganda).

[22] This finding indeed fully portrays what happened in reality as the September 1998 wage review in the public sector resulted in lager increases in lower cadre workers than in the case of higher cadre workers.
[23] This is arrived at by adding the second term in the right hand side of the Oaxaca's (1973) decomposition with the differential in constant/intercept terms of the estimated wage equations.
[24] The following Oaxaca decomposition (see Oaxaca, 1973) is used in this study:

$$\ln W_h - \ln W_L = \beta_h(H_h - H_L) + H_L(\beta_h - \beta_L)$$

Where $\ln W_h$ and $\ln W_L$ are the predicted means of log earnings. The subscript h refers to the higher predicted mean of log earnings while the subscript L relates to the lower predicted mean of log earnings. Parameters β_h and β_L are the estimated parameters for the sectors with the higher and lower predicted means of log earnings respectively. H_h and H_L represent the means of the human capital and other variables in the sectors with the higher and lower predicted means of log earnings respectively.