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Economic Analysis of the Impact of Labour Unionist Activities on Educational Stability in Nigerian Universities

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Abstract
This paper analyzes the Labour Unionist activities of Academic Staff Union of Nigerian Universities (ASUU) and Senior Staff Association of Nigerian Universities (SSANU) in Nigerian Universities pre and post year 2000. It presents total number and duration of strike activities and their impact on worker productivity and educational stability in Nigerian Universities. Four null hypotheses were formulated to guide the study. Time series data are collected through archival sources. These were presented in tables and analyzed using t test statistics and regression analysis.. Results revealed that strike activities have been a frequent occurrence in the Nigerian educational milieu. Significant differences were discovered to exist in the duration and impact of strike activities by SSANU and ASUU pre and post year 2000. Principal component analysis was also done to find out which of the causative strike factors were most pressing. It was discovered that the most pressing ones were conflict between labour unions in Universities, poor implementation of agreements by governments, patronage of university consultancy services by governments and reduction of the role of JAMB in undergraduate admission. Some of the recommendations include frequent dialogue between government, University administration and employers and worker conditions of service be reviewed to match inflationary tendencies.

Keywords: Labour unionism, Strikes, Educational stability, Man hour loss

1. Theoretical issues

Labour unions have been in existence even before the industrial revolution. Their primary objectives have been to improve the working conditions of members and protect them from employers' exploitative tendencies. The attitudes of the government towards such unions usually vary from indifference or neutrality, diplomacy, tolerance, support and sometimes even direct confrontation. Negative response to worker demands sometimes results in conflicts between the government and labour unions leading to strikes with its attendant multifarious tendencies. This issue of strikes has been a cankerworm in the Nigerian educational milieu for decades. A cursory look also at the history of relations between various trade unions in tertiary institutions in Nigeria will reveal varying degrees of antagonisms. These have led to frequent disruption of academic sessions with its multifarious attendant consequences.

Various researchers have worked on issues relating to strikes and educational instability. Onyeonoru (2004) and Ogban (1997)worked on industrial conflicts in Nigerian universities. Their results in addition to the works of Obasi (1991), ASUU (2000), Asobie (1996), Nwabueze (1995), Fatunde (2008) and Jega (1994) noted that the causes of strikes in tertiary institutions include poor commitment of government in fulfilling agreements, poor salaries and working conditions, university autonomy amidst others. Ade -Ajayi (2001) attributed it to Federal Government compliance to World bank directives on tertiary institutions which led to greater funding and commitment for lower levels of education. CODESRIA (2001) and Oloropoemia (2001) in his work on underdevelopment of university education in Nigeria attributed it to poor funding. The resultant effects according to Erinosho (2001) and Ade Ajayi (2001) are loss of academic sessions,

distortions in university calendar, distraction in teaching and research, loss of professionalism, integrity and credibility of the University system. Kazeem (2009) in his work on ASUU strike and the future of education in Nigeria suggested a lasting solution to incessant strikes as the enthronement of a socialist ideals in the Nigerian government.

A synthesis of the aforementioned works will reveal a conspicuous absence of works on trends in industrial strikes in Nigerian university, its impact on educational stability and man hour loss which this work is structured to tackle. Hence in line with this, the following research objectives are formulated to guide the study:

2. Research objectives

The general research objective is to ascertain the impact of strikes on the stability of Nigerian University educational system. Specifically the study seeks to :

1. Ascertain the trend of strikes by ASUU and SSANU in Nigerian universities from 1981 to 2009
2. Compare the trends of strikes by ASUU and SSANU in Nigerian universities pre and post year 2000
3. Ascertain the impact of strikes on educational stability and total man hours lost
4. Ascertain the impact of various issues of grievances raised by both unions on frequency of strikes and loss of man hours.

In line with the objectives the following null hypotheses are formulated to guide the study ($p<0.05$)

3. Research hypotheses

HO1: ASS-SSANU strikes have no significant impact on educational stability and loss of man hours in Nigerian universities from 1981 to 2009

HO2: ASUU-SSANU strikes have no significant impact on educational stability in Nigerian universities pre and post year 2000

HO3: Purported causative factors leading to strikes such as poor conditions of service, university autonomy etc have no significant impact on frequency of strikes and man hour loss

4. Delimitation of the study

The scope of the study was limited to studying the impact of strikes from 1981 to year 2009.The variables of interest are frequency and duration of strikes, total man hour loss, purported causative agents of strikes such as conflict between ASUU and SSANU, poor implementation of agreement by the federal government, review of salaries and allowances, university autonomy, appointment of governing councils and Vice Chancellors, accreditation standards, restructuring of NUC, funding, transfer of landed properties to universities, government patronage to university consultancy and reduction of the role of JAMB in undergraduate admission. Impact of strikes on man hour loss studied was with respect to eight hours of work from 8am to 4pm. This scope is chosen because it is the period that maximum contact with students and administrative duties are performed and also the period labour union officials monitor their members to ensure strict compliance to strike conditions.

5. Methodology

Time series data was collected through archival sources from ASUU and SSANU striking circulars and bulletins from 1981 to 2009. These provided information on frequency and duration of strikes, causes and consequences of strikes in Nigerian universities. Data collected are presented in tables and analysed using

inferential statistics with the aid of statistical soft-wares such as EXCEL, STATA and E-views. Data for research questions one and two were analysed using graphs to show the trend in strikes in Nigerian universities. The impact of strikes on educational stability, man hour loss which relate to research questions three and four and all the hypotheses were analysed using regression analysis. The relative impact of purported causative agents on frequency of strikes and loss of man hours was done using principal component analysis. Data was lagged to one to improve the value of Durbin Watson statistics. Comparisons done pre and post year 2000 were done using t test and analysis of variance. Unit root test was also done using Augmented Dickey Fuller test to check the stationarity of data. Hence the purported causative factors on strikes are modelled as

FS= f(CSS, PA, RS, RBA, UA,AGC,AVC,MNUC,MAS,RNUC,IF, TLP, GUC, RJA)
MHL =f(CSS, PA, RS, RBA, UA,AGC,AVC,MNUC,MAS,RNUC,IF, TLP, GUC, RJA)

where :
FS = frequency of strikes
MHL= Man hour loss
CSS=conflict between ASUU and SSANU
PA=Poor implementation of agreement by the federal government
RS= review of salaries
RBA= Review of benefits and allowances
UA= university autonomy
AGC= appointment of governing councils
AVC= Appointment of Vice Chancellors
MNUC= Minimum accreditation standards by NUC
RNUC= restructuring of NUC
IF= Improved funding
TLP= transfer of landed properties to universities
GUC= government patronage to university consultancy
RJA= reduction of the role of JAMB in undergraduate admission.

6. Data presentation and analysis

Data collected are presented in the following tables:
Data from table 3 shows that the Durbin Watson statistics is up to 2.0 hence the data is not spurious. Results show that the t statistics is up to 2 and the probability value is 0.0000 which shows that the individual parameter frequency of strikes is quite significant. The value of R squared is quite high at 0.99 which shows that frequency of strikes explains up to 99 percent of total man hour loss in the University system. Hence this leads to the rejection of the first null hypothesis of the study that the strikes have no significant impact on educational stability.

Data from table 4 shows that the variable of interest is significant. The Schwarz criterion value is more than 0.5 and the Akaike info criterion is more than 0.8 showing the adequacy of the model. Hence judging from the probability value of 0.0000 and the value of the t statistics is high showing that the null hypothesis of the study which states that there is no significant difference in the impact of strikes on educational stability pre 2000 is rejected. 99 percent of instability and man hour loss pre 2000 can be attributed to frequent strikes with the result of R squared which is 0.99 from table 4. With respect to data in table 5, the Durbin Watson statistic value had to be improved through lagging. The probability value is 1.0000 hence the null hypothesis which states that there is no significant difference in the impact of strikes on educational stability is accepted. T-test and analysis of variances were done to confirm whether differences existed

between values obtained pre and post year 2000. The values obtained for the t test is 0.297 and variance is 4.751 for Frequency of Strikes and for man hour loss, the t test result is 0.29 while the variance is 284236.5.The t table value for two tailed test at the probability level of 0.05 is 2.70 which is higher than the calculated value of t hence it confirms the acceptance of the null hypothesis that significant differences occurred pre and post year 2000. Strikes and man hour loss were more frequent pre 2000 than post 2000.

Data from table 6 shows that the model is significant as the Probability is 0.0000 and the Prob(F statistics is less than 0.5 and the Durbin Watson is up to 2.0. Hence stationarity of data is assured.
Egarch was used to check the volatility of data. The values obtained show that the the study can be modelled after garch 1 and 2 as their probability values are 0.0000 .The values obtained are presented as follows in table 7

7. Trend analysis of strikes in Nigerian universities
The trends in strikes pre and post 2000 are presented in the following graphs

Data from Fig. 1 shows that the series is not evenly distributed as the Jaque Bera and Kurtosis values are high hence the series is skewed. All the graphs also portray that strikes and man hour loss as a result have been occurring frequently in Nigerian universities

Multiple regression analysis was done to know the relationship between the factors claimed to be causing strikes using man hour loss as the dependent variable. The values obtained showed that the factors were all significant in explaining the reason for the frequency of strikes and man hour loss. The probability value obtained was 0.000 and the R squared value is 0.91 while the adjusted R squared value is 0.85 signifying that the variables are responsible for explaining 91 percent of the reason for strikes in Nigerian universities.

Principal component analysis was further done to find out the factors that were more prominent in ASUU - SSANU struggles which gave rise to various strikes over the years. Out of the factors studied which were conflict between ASUU and SSANU over salary parity, Poor implementation of agreement by the federal government, review of salaries, Review of benefits and allowances, university autonomy, appointment of governing councils, Appointment of Vice Chancellors, Minimum accreditation standards by NUC, restructuring of NUC, Improved funding, transfer of landed properties to universities, government patronage to university consultancy and reduction of the role of JAMB in undergraduate admission only four factors were discovered to have significant values. These factors are conflict between labour unions in Universities, poor implementation of agreements by governments, patronage of university consultancy services by governments and reduction of the role of JAMB in undergraduate admission.

8. Conclusion and Policy implications
This paper has tried to review the impact of ASUU and SSANU strikes on educational stability and man hour loss in Nigerian Universities. Four null hypotheses guided the study and data was analysed using t test and regression analysis etc. Results revealed that strike activities have been a frequent occurrence in the Nigerian universities. Significant differences were discovered to exist in the duration and impact of strike activities by SANU and ASUU pre and post year 2000. The most prominent factors causing strikes and loss of man hours in Nigerian universities were conflict between labour unions in Universities, poor implementation of agreements by governments, patronage of university consultancy services by governments and reduction of the role of JAMB in undergraduate admission. Some of the recommendations to combat strikes by labour unions include frequent dialogue between government, University administration and employers, improved commitment of government to abide by its agreements with labour unions, improved funding and greater autonomy to universities, and worker conditions of

service to be reviewed regularly to match inflationary tendencies.

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Table One: Strikes in Nigerian Tertiary Institutions from 1981 to 2009

Year	Duration (in months)	Man hour lost
1981	2	480
1988	2	480
1992	3	720
1993	4	1060
1996	6	1440
1999	3	720
2001	6	1440
2003	6	1440
2007	4	1060
2009	5	1200

Table Two: Causes of Strikes in Nigerian Universities from 1981 to 2009

No	Causes	Response(%)
1	Conflict between ASUU, SSANU on salary parity	50
2	Poor implementation of agreement by federal government	81

3	Review of salaries	90
4	Review of fringe benefits and allowances	71
5	Increased university autonomy	82
6	Appointment of governing councils	61
7	Appointment of Vice-Chancellors	57
8	Modification of NUC roles in universities	72
9	Minimum standards of accreditation to be handled by universities	84
10	Restructuring of NUC	79
11	Improved level of funding	85
12	Transfer of landed properties to universities	66
13	Government patronage to university consultancy	83
14	Reduction of JAMB's role in admission	53

Table 3: Regression results on impact of strikes on educational stability(man hour loss)

Dependent Variable: MHL
Method: Least Squares
Date: 08/09/10 Time: 13:40
Sample: 1981 2009
Included observations: 29

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FS	244.6073	1.950469	125.4095	0.0000

R-squared	0.997444	Mean dependent var	346.8966
Adjusted R-squared	0.997444	S.D. dependent var	533.1383
S.E. of regression	26.95602	Akaike info criterion	9.460164
Sum squared resid	20345.55	Schwarz criterion	9.507312
Log likelihood	-136.1724	Durbin-Watson stat	2.080575

Table 4: Regression results for impact of strikes on educational stability pre 2000

Dependent Variable: MHL
Method: Least Squares
Date: 08/09/10 Time: 13:54
Sample: 1981 2000
Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FS	245.1282	2.315925	105.8446	0.0000

R-squared	0.997725	Mean dependent var	245.0000
Adjusted R-squared	0.997725	S.D. dependent var	428.8479
S.E. of regression	20.45369	Akaike info criterion	8.922911
Sum squared resid	7948.718	Schwarz criterion	8.972697
Log likelihood	-88.22911	Durbin-Watson stat	2.294458

Table 5: Regression results for impact of strikes on educational stability post 2000

Dependent Variable: MHL
Method: Least Squares
Date: 08/09/10 Time: 13:59
Sample(adjusted): 2000 2008
Included observations: 9 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FS(1)	0.000000	76.66731	0.000000	1.0000

R-squared	-0.487903	Mean dependent var	440.0000
Adjusted R-squared	-0.487903	S.D. dependent var	668.1317
S.E. of regression	814.9847	Akaike info criterion	16.34865
Sum squared resid	5313600.	Schwarz criterion	16.37057
Log likelihood	-72.56895	Durbin-Watson stat	2.000000

Table 6: Results of Unit root test

ADF Test Statistic	-6.524982	1% Critical Value*	-3.7076
		5% Critical Value	-2.9798
		10% Critical Value	-2.6290

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(MHL,2)
Method: Least Squares
Date: 08/09/10 Time: 14:19
Sample(adjusted): 1984 2009
Included observations: 26 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(MHL(-1))	-2.328892	0.356919	-6.524982	0.0000
D(MHL(-1),2)	0.384511	0.199285	1.929455	0.0661
C	55.02717	123.1790	0.446725	0.6593

R-squared	0.855627	Mean dependent var	46.15385
Adjusted R-squared	0.843072	S.D. dependent var	1584.422
S.E. of regression	627.6543	Akaike info criterion	15.83002
Sum squared resid	9060847.	Schwarz criterion	15.97519
Log likelihood	-202.7903	F-statistic	68.15457
Durbin-Watson stat	2.253037	Prob(F-statistic)	0.000000

Table 7: Results of EGARCH
Dependent Variable: MHL
Method: ML – ARCH
Date: 08/09/10 Time: 14:31
Sample: 1981 2009
Included observations: 29
Convergence achieved after 13 iterations

	Coefficient	Std. Error	z-Statistic	Prob.
FS	240.6993	0.141129	1705.524	0.0000
Variance Equation				
C	4.421482	0.156839	28.19117	0.0000
|RES|/SQR[GARCH](1)	-3.081939	0.395082	-7.800763	0.0000
RES/SQR[GARCH](1)	0.550851	0.378062	1.457036	0.1451

|RES|/SQR[GARCH](2)	-3.847014	0.628742	-6.118589	0.0000
RES/SQR[GARCH](2)	3.163235	0.402845	7.852248	0.0000
EGARCH(1)	0.719191	0.072469	9.924064	0.0000
EGARCH(2)	-0.399615	0.061174	-6.532435	0.0000

R-squared	0.997077	Mean dependent var	346.8966
Adjusted R-squared	0.996103	S.D. dependent var	533.1383
S.E. of regression	33.28282	Akaike info criterion	5.592889
Sum squared resid	23262.67	Schwarz criterion	5.970074
Log likelihood	-73.09689	Durbin-Watson stat	2.016922

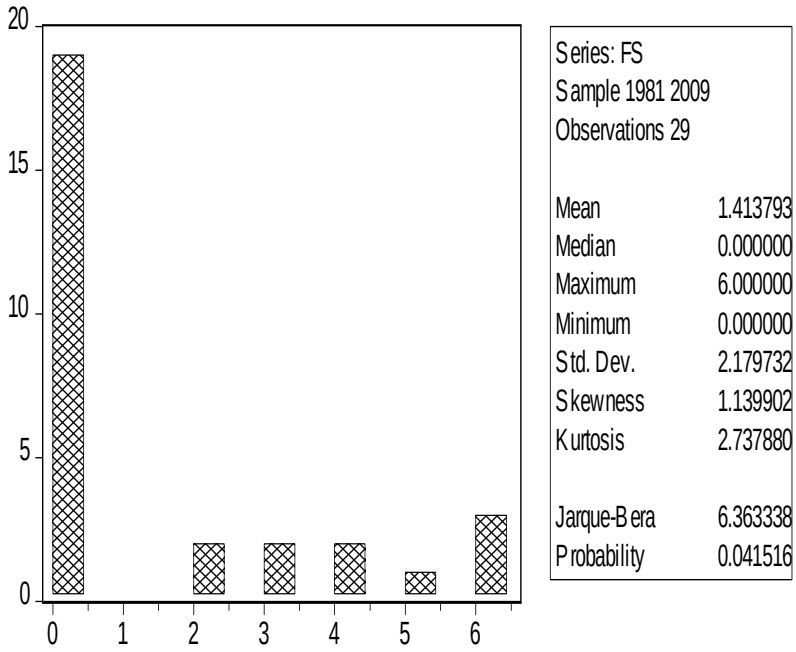

Fig. 1: Trends in frequency of strikes from 1981 t0 2009

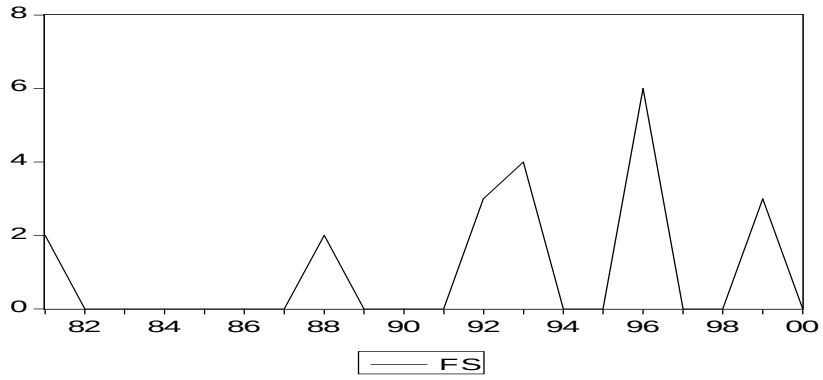

Fig.2: Trends in frequency of strikes before year 2000

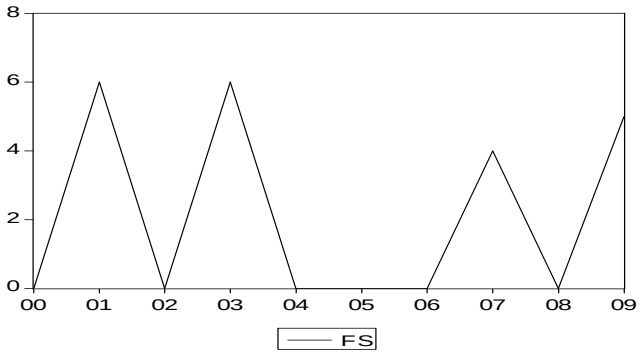

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Fig.2: Trends in frequency of strikes after year 2000

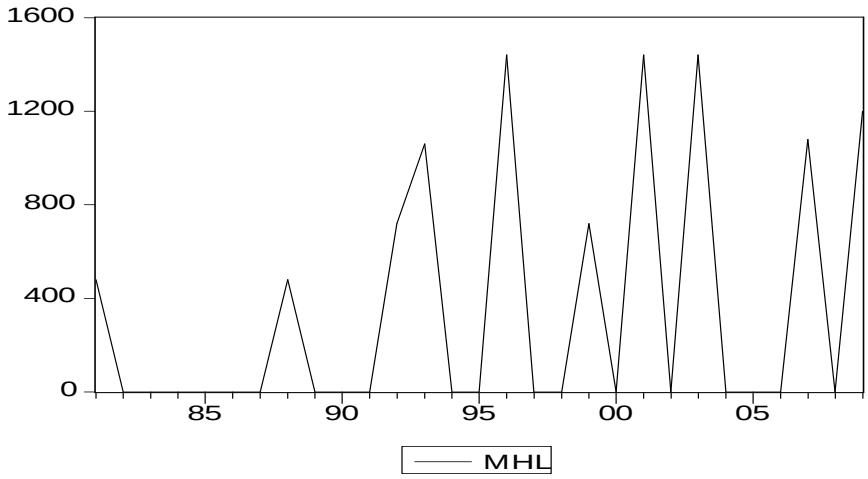

Fig.2: Trends in man hour loss due to strikes from 1981 to 2009