



Income Polarisation Among Undergraduate Students of University of Ibadan

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Abstract: Despite increasing interest in income polarisation among researchers in Nigeria, there is dearth of literature on its existence among undergraduate students especially with the primary data. A polarised income distribution among students has the potential of breeding social unrest, protest or demonstration. This study examined the existence of income polarization and inequality among undergraduate students. University of Ibadan was used as case study since all categories of social classes can be found among the students and the “no-cooking” policy of the University has direct effects on students’ monthly income and expenditure distribution. A two-stage sampling technique was employed. Analysis was done using descriptive statistics; Duclos-Esteban-Ray (DER) (2008) polarisation index and Generalised Entropy (GE) inequality index were used to estimate income polarisation and inequality respectively. Income polarisation and inequality decreased among students between the two observed years. Income polarisation ($\alpha_{0.5}$) decreased from 0.2287 to 0.2058 while income inequality decreased from 0.2402 to 0.1586. Highest polarisation estimate of 0.2117 was obtained between male and female. In 2011/2012, female (0.2032) was polarised than male (0.1987) while male (0.1893) was slightly polarised than female (0.1836) in 2012/2013 session. Within dimension however, the highest and least identification estimates (0.9069 and 0.7462) were from non-scholarship/bursary and female students respectively. In order to prevent a situation where students will ride on their increasing homogeneity brought about by no-cooking policy to protest against poor and unfriendly environment, good quality services in terms of food and other items that students paid for on campus are therefore advocated.

Keywords: Income Distribution, Polarisation, Inequality, Generalised Entropy, Homogenous

1. Introduction

The notion of polarisation (Schmidt, 2002) is captured by describing group formation processes in a society. Polarisation deals with building homogeneous clusters that oppose each other. Polarisation is related to the alienation that individuals and groups feel from one another fuelled by ideas of within-group identity (Ogunyemi et al., 2011). In other words, within group identity and alienation among groups increase polarisation. Income polarisation means incomes of people move towards the extremes with few in the middle and more at the polar ends. Income distribution that is more concentrated in the “tails”, that is, a high concentration of very rich and very poor with few in the middle is characterised as polarised (Awoyemi – Araar,

2009). Therefore, income distribution of students is said to be polarised, if their incomes (schooling allowance is assumed to be the students’ income) move toward the two extremes with fewer number of students in the middle and more at the lower end.

An average of 72% of the youth population in Africa lives on less than US\$2 per day and in Nigeria, the incidence of poverty among young people stands at over 80% (Africa Development Bank, 2012). Achieving equitable distribution of income and alleviation of poverty have for some time been major welfare objectives in developing nations. Such efforts have been on to improve the welfare of all the categories of people in every country including the students of higher institutions to improve their academic performance. As such, managements of higher institutions in Nigeria, one of which

is the University of Ibadan, do implement policies aimed at promoting academic standards, cost saving mechanisms, protection of physical infrastructure and students welfare. The main vision of the first and acclaimed best University in Nigeria, University of Ibadan, is to be a world class institution for academic excellence geared towards meeting societal needs. She has among other missions, to expand the frontier of knowledge through provision of excellent conditions for learning and research.

Consequently in recent time, the authorities of the Nigeria premier university, University of Ibadan banned its students from cooking on campus because of the huge electricity bill that was being incurred by the institution, which the management traced to the electrical cooking gadgets being used by the students. The students were directed as an alternative, to start patronizing cafeterias while restricting light cooking to kitchenettes provided at the various halls of residence in the University. The University's Vice Chancellor, in an exclusive interview with National Mirror on February 7, 2013 posits that the new policy is aimed at improving students' welfare and the standard of teaching and learning in all ramifications. He argued that serious students cannot afford to spend all his or her time cooking. According to him, the university "expect a serious student to dash into a cafeteria, eat for about 20 to 30 minutes and go back for his or her lecture and other important things" (Adewole, 2013). This policy generated imbroglio at different quarters within and outside the University, among students, staff, parents and guidance who are directly or indirectly affected.

The students of the institution, however, lamented that the new policy introduced by the University management is not in favour of majority of the students, especially for those who are from poor homes that come to school with food stuff and meagre pocket money. The students believe that they cannot survive without cooking, because the N450 (US\$2.89) meal per day (in cafeteria) on food consumption is unaffordable to them. This development has the capacity of adjusting the relative welfare position of the students in terms of their positions in the distribution of income among the students of the university, if one assumes that the allowance of the students is their income. The policy has the capacity of making some students poorer and perhaps might have led to polarised income distribution among them. As all students visit the cafeteria to eat, their monetary demand from home is expected to increase and pattern of expenditure affected. Moreover, majority of the students may not be able to get the required additional monetary allowance from their sponsors, a development that would change their position on the income distribution structure. The income distribution among the students could change and lead to income polarisation. A polarised income distribution among the students has the potential of causing envy as a result of deprivation being felt by students below the mean income against those above it. If this happens, in-fighting could occur between the two groups of students.

There is no doubt that the recent policy of the University of Ibadan management might influence the students'

consumption patterns and expenditure, standard of living on campus in terms of nutritional status, income level, and also contribute to income inequality and polarization among the students. According to university's newly enforced accommodation policy, only the 30 per cent of total students' population are accommodated in the university's halls of residence, while some rent boys-quarter apartment (popularly known as BQ) within the university, while others in their large percentage have no other option than to look for accommodation outside the school area in the off-campus communities. It was also stated in one of the university's bulletin that the newly admitted students and those in their final year of studies would be given priority as far as accommodation on campus is concern. This situation might have also led to income polarization among the students' populace which consequently may result to social unrest, street protest, disruption of peace, strike, resurgence of cultism, etc. on campus if not properly addressed. The paper therefore estimates income polarization and inequality among the students to establish the consequence of the implementation of the no-cooking policy on the students' welfare. The outcome of the study serves as guide for recommending whether the policy should continue and also adds to existing literature on income distribution study in Africa.

This study is imperative for some reasons. For the last years, income disparity has been the focus of many researchers, either in developed or developing nations. Array of researchers have successfully studied the relationship among income inequality, poverty, and welfare among households both within and across nations. In Nigeria, extensive studies have been done on income inequality, some of them as noted in Ogunyemi *et al.*, (2011) include Aigbokhan (2000), Awoyemi *et al.*, (2008), Olaniyan – Awoyemi (2005), Oyekale *et al.*, (2006) and Babatunde (2008) while study on income polarisation remains minute. Ogunyemi *et al.*, (2011) submitted that the pioneer work on polarisation in Nigeria was done by Aigbokhan (2000) who showed concern and alerted the country on the danger of disappearing middle class. The study remarked that any government interested in continuity and the sustainability of its policies must show serious concern to what is happening to the middle income group. Apart from the pioneer work of Aigbokhan (2000), and the later studies by Ogunyemi *et al.*, (2011), Awoyemi – Araar (2009), Awoyemi *et al.*, (2008) and Araar (2008); it is however observed that almost no work has been done on existence of income polarization and inequality among University undergraduates in Nigeria. Perhaps, one reason for this dearth of interest is that, traditionally, undergraduate students in Nigeria do not earn income as they belong to the dependent sub-population of the economy except for few that engage in part-time work. However, studying polarization among students can help to know their welfare structure in the school. Students with high welfare status in terms of income will be meeting their students obligations appropriately as at when due. Their social status in terms of feeding and health care will also be

above average and such students will not be falling sick.

Also, the level of poverty in developing nations has deepened, and the gap between the poor and the rich has also widened (World Bank, 1998) which has negative bearing on student's welfare. The seriousness of poverty among University students in Nigeria is succinctly expressed by Dawodu in 2000, the President of the Union of Lagos State Students, who lamented that the state government has not responded to the needs of students for financial assistance which has led to increase failure rate among them. He remarked that any financial assistance would reduce the incessant examination re-sit and probably drop out among students. The scenario painted by Dawodu (2000) pervades the Nigerian tertiary education system (Ogunrombi – Ndagana, 2006); situation whereby students have to struggle in order to make ends meet. Nowadays, some students of institutions of higher learning in Nigeria engage in illicit acts such as prostitution, armed robbery, internet fraud and kidnapping as survival strategies. This experience may occur as a result of income inequality and high level of poverty. The poor welfare condition and high level of polarisation are responsible for the occasional and sometimes ceaseless demonstrations by students across various university campuses in Nigeria. This is because the poor social indicators among households in Nigeria have eaten deep into the fabric of our dear tertiary institutions.

2. Methodology

The study area is U. I. The university started off as the University College, Ibadan (UCI) which was founded in 1948 on a temporary site at Eleyele in Ibadan. It became an autonomous, degree-awarding institution in 1962. The University later moved to the new site, within Ibadan North Local Government, which covers over 1,033 hectares of land. The site is situated about five miles (8 kilometres) from the centre of the city of Ibadan (Student Information Handbook UI, 2012/2013 Session). U. I., started with three faculties namely, Faculties of Art, Science and Medicine which later increased to thirteen different faculties. Other Faculties are Agriculture and Forestry, Basic Medical Science, Clinical Sciences, Dentistry, Education, Law, Pharmacy, Public Health, Technology, the Social Sciences, and Veterinary Medicine, and other institutes. As at the time of this study, the University has a total enrolment of over 23,739 students (MIS, UI, 2013) spread across the faculties. The institution has thirteen Halls of Residence (ten for the undergraduate and three for postgraduate students), with total optimum capacity of over 8,000. Mellanby Hall is the first Hall of residence known as the Premier Hall. Other undergraduate halls are Tedder Hall, Ransom Kutu Hall, Sultan Bello Hall, Nnamdi Azikwe Hall, and Independent Hall which are for the males. Alexander Brown Hall (for male and female medical students) while Queen Elizabeth II Hall, Queen Idia Hall, and Obafemi Awolowo Hall are for female students. Tafawa Balewa Hall, Abubakar Abdulsalam Hall, and the newly built Adebayo Akande Hall are for the postgraduate students.

The student population has increased geometrically from 104 in 1948 to 8,586 in 1976/77, 14,000 in 1989/90 (Student Information Handbook, UI, 2012/2013 Session), and 23,739 in 2012/13 Academic Session (MIS, UI, 2013). Though the University is a residential institution, a high percentage of students are finding it difficult to get hostel accommodation on campus. This is partly due to increasing number of student population over the years. Other communities close to the University include Agbowo, Ajibode, Ojoo, Orogun, Bodija, Apete, and Sango where a good number of students have private accommodation. U. I. is specifically chosen as the study area due to the fact that students from all categories of social class can be found in the University. Moreover, the recent “no cooking in the room” policy of the University of Ibadan management may have direct effect on students' standard of living on campus.

Primary data were collected through the use of structured questionnaire in the 2012/2013 Academic Session. The study population comprised the undergraduate male and female students of the university belonging to different halls of residence in the campus and those living off-campus. According to the data received from Management Information System, University of Ibadan (MIS, UI) on July 2013, the total population of University Ibadan students is 23,739. The data gives population of the postgraduate students to be 10,425 while undergraduate is 13,314 with the male having the larger percentage of 53%. A two-stage random sampling technique was employed in selecting 300 respondents. The first stage was the selection of one block each from all the ten undergraduate halls of residence in the University. The second stage is the random selection of respondents from randomly selected rooms from each chosen block. The questionnaire was administered to the undergraduate students in their various rooms. As shown in table 1, 300 questionnaires were distributed while 277 were useful for analysis after data cleaning. The purposive selection of blocks was aimed at excluding the students in their first year of study from participating since they could not provide information with respect to the immediate previous academic session. However, students who were unwilling to participate when the questionnaire was being administered were exempted from the study and were replaced with other willing students from adjoining rooms. Descriptive statistics, generalised entropy of inequality measure, Duclos-Esteban and Ray (DER) polarisation index were used to analyse the data.

Table 1. Sampling of respondents from Halls of residence.

Halls of residence	No. of questionnaire Distributed	No. of questionnaire retrieved
Alexander Brown	15	15
Independence	35	30
Mellanby	25	23
Nnamdi Azikwe	20	20
Obafemi Awolowo	55	50
Ransom Kutu	40	40
Sultan Bello	20	19
Tedder	25	21

Halls of residence	No. of questionnaire Distributed	No. of questionnaire retrieved
Queen Elizabeth II	30	27
Queen Idia	35	32
Total	300	277

Source: Author's field survey, 2014

2.1. Generalised Entropy Inequality Index

The generalised entropy (GE) index is a general formula for measuring redundancy in data. The redundancy can be viewed as inequality, lack of diversity, non-randomness, compressibility, or segregation in the data. The primary function of generalised entropy index is a measure of inequality. According to Cowell (2006) and Ogunyemi (2013), generalised entropy index of inequality can be defined as follows:

$$GE = \sum_{i=1}^k f(y_i) \left[\left(\frac{y_i}{\mu} \right)^c - 1 \right] \text{ if } c \neq 0, 1 \quad (1)$$

$$= \sum_{i=1}^k f(y_i) \left(\frac{y_i}{\mu} \right) \log \left(\frac{y_i}{\mu} \right) \text{ if } c = 1 \quad (2)$$

$$= \sum_{i=1}^k f(y_i) \log \left(\frac{y_i}{\mu} \right) \text{ if } c = 0 \quad (3)$$

Where,

c = Theil index

y_i = value of the welfare index in the given dimension i (i.e. within or between group).

μ = the average value for the whole population.

$f(y_i)$ = the population share of the dimension i in the total population.

k = the number of dimensions.

y_j = value of the welfare index in the given dimension j (i.e. within or between group).

When $C = 0$, the equation is sensitive to incomes at the bottom of the distribution, while the index would be responsive across all ranges of the distribution if $c = 1$. But if $c \neq 0$ or 1 , it is sensitive to changes that occur at the middle part of the distribution. The study used $C = 0.5$ to establish GE inequality to indicate what happens at the middle income group.

2.2. Duclos-Esteban-Ray (DER) Polarisation Index

Equation (4) was used as the basis for the analysis of polarisation in the study. It is assumed that groups are determined by characteristics which their members share; not only on income but also on the basis of other relevant attributes like socio economic characteristics such as expenditure. The main focus of this study is to present how these characteristics explain polarisation among undergraduate students in University of Ibadan. Duclos, Esteban and Ray (2004) polarisation index allows for individuals not to be clustered around discrete income intervals. The area of identification influence is determined

by non-parametric kernel techniques and avoid arbitrary choices of income ranges (Awoyemi – Araar, 2009). Duclos *et. al.*, (2004) establish that a general polarisation measure that respects a basic set of axioms is stated as:

$$P(F) = \iint T[f(x), x - y] f(x) f(y) dy dx \quad (4)$$

$$P^*(F) = \sum_{j=1}^G \sum_{k \neq j}^G \int \int f_j(x)^\alpha |x - y| dF_j(x) dF_k(y) \quad (5)$$

Where G is the number of groups, F denotes income distribution in the population, α is the degree of alienation between groups x and y , $f(x)^\alpha$ is the identification term. Also, F represents the density, while $P(F)$ denotes polarization of F (where $G = 1 =$ undimensional polarisation). x is income group or level of income x , while y is income group or level of income y , x_i represents individual i , located at x and y_j denotes individual j located at y , $|x - y|$ is the monotonic distance between x and y (Duclos *et al.*, 2008). However, ($\alpha = 0.5$) was used since we expect high degree of affinity among the students with a population density that is low.

The DER index approach and Generalise entropy were chosen as the analytical tools for this study because of their accuracy in describing income distribution. Polarisation measure provides the necessary information about what is happening to individuals incomes within and across various groups in the society. Moreover, the DER index is not affected by group overlapping while GE can be used to capture the changes in the middle level of the income distribution. Since inequality and polarisation are correlated, they can move in the same or different directions. Therefore, to compare income polarisation with inequality among various group of students, DER index and generalise entropy are useful tools for this study.

2.3. Research Assumptions

Majority of undergraduate students in Nigeria are not in working class, they belong to the dependent sub-population of the economy, hence they do not earn income. It is therefore pertinent to state the following assumptions in the course of this study;

- That the undergraduate students do not earn income, including those working.
- That the amount received by students as allowances or stipends from their benefactors is regarded as their income.

3. Result and Discussion

3.1. Socio-economic Features of Respondents

As shown in table 2, more than half of the respondents were male while the rest (40.0%) were female. The mean age and standard deviation of students are 23.3 and 3.4 years respectively. Nearly all (95.0%) of the students are single with very few married. The average household size is 7.6 while 92.1% of the respondents' household head are educated with more than half having tertiary (formal) education. The students' average monthly income was

₦12,449.28 and ₦16,172.10 in the 2011/2012 and 2012/2013 academic sessions respectively. This may be unexpected in the 21st century and is an indication that some students may be poor in line with high incidence of poverty among university's students in Nigeria as reported by Dawodu (2000) and quite alarming. The increase in average monthly income between the two academic sessions shows that the students have responded to the no-cooking policy by obtaining more monthly income. The policy demands from

the students to be spending more money on food as vendor, eatery and cafeteria foods are more expensive than self-prepared food. Similarly, the average expenditure per month was ₦16,077.26 and ₦22,205.96 in 2011/12 and 2012/13 sessions respectively. The increase in monthly expenditure between the two sessions is related to the increase in income between the two sessions. The expenditures of the students have increased because they now spend more on food.

Table 2. Socio-economic feature of respondents.

Variables	2011/2012	Average for 2011/2012	2012/2013 (Percentage)	Average for 2012/2013
Income	₦ 12,449.28			₦ 16,172.10
Expenditure	₦ 16,077.26			₦ 22,205.96
Age				23.30 SD (3.4)
Gender			M(60), F(40)	
Household size				7.64
Marital status			S(95), MA(5)	
Head of Household education			E(92.10), NE(7.90), TE(54.20)	

M = Male, F = Female, MA = Married, S = Single, E = Education, NE = No-Education, TE = Tertiary Education, SD = Standard deviation

Source: Author's estimates from field data, 2014

3.2. Income Polarisation and Inequality Among the Students over the Two Sessions

According to the results given in table 3, income inequality decreased from 0.2402 to 0.1762 between 2011/2012 and 2012/2013 academic session sessions. Also, inequality by expenditure declined between the same period but the estimates of income inequality is higher than that of expenditure inequality. This may due to the fact that it is common in Africa for individuals to over report their expenditure and under report their income during survey as shown in table 2. The decrease in inequality among the students may be as result of the increase in the overall average monthly allowance between 2011/2012 and 2012/2013 sessions that was ₦12,449.28 and ₦16,172.10 respectively as shown in table 2. These also explain why income polarisation and inequality among the students as shown in table 4 are higher than those estimates of expenditure variable in the two academic sessions under consideration.

In table 4, income polarisation (0.2287) was higher in 2011/2012 session than (0.2058) in 2012/2013 session. It is also evident that identification component (0.7516) is higher than alienation component (0.3760) in 2011/2012. In 2012/2013 session, identification component increases to 0.7872 with slight margin of 0.0356, while alienation decreases to 0.3187 with a margin of 0.0573. This shows that the higher proportional decrease in alienation which is more than the proportional increase in identification made polarisation to reduce between the two sessions. This implies that the students are increasingly becoming homogeneous in terms of income with increase in identification force and decrease in polarisation over the two sessions with the implementation of the no-cooking policy.

With respect to expenditure in 2011/2012 session,

identification component (0.8044) is higher than alienation component (0.3078) as shown in table 4. For 2012/2013 session, the identification component (0.8447) is also higher than alienation component (0.2713). Here, the unit increase in identification component (0.0403) is higher than the unit decrease in alienation (0.0365). This may explain why income polarisation decreases as the estimate was 0.2044 in 2011/2012 and 0.1919 in 2012/2013 session. It is also noted that as alienation component of polarisation dropped the income and expenditure inequalities reduced from 0.2401 to 0.1761 and 0.1586 to 0.1246 respectively. This also implies that students' income and expenditure have become more equalised due to the newly introduced no-cooking policy by the University management.

The students have become more homogeneous in their expenditure pattern. This is because it was observable and as gathered during the interview that the rate at which students visit cafeterias on daily basis for food consumption has significantly increased as a result of the new policy which allows the lower income students to join their colleagues who often spend their money to eat in cafeterias. The new policy might have also encouraged increase in students' monetary demand from their parents or sponsors which should have resulted to increase in their monthly income in 2012/2013 session. The low income earning students may have got more proportionate increase in their income than the higher income earning students, thus the equalizing effect that result in reduced polarisation. Hence, the no-cooking policy has minimised income disparity among students. The pattern of these results shows that as alienation decreased, inequality decreased whereas identification increased while polarisation decreased with decreased in inequality measured both in terms of income and expenditure.

Table 3. Inequality with respect to income and expenditure over the two sessions.

Total		Generalise Entropy Inequality	
Variables	Population	(c = 0.5) (sessions)	
		2011/2012	2012/2013
Income	277	0.2402	0.1762
Expenditure	277	0.1586	0.1246

Source: Author's estimates from Field Data, 2014

Table 4. Duclos, Esteban and Ray (DER) polarisation ($\alpha = 0.5$) for the sample.

Features	Variables (session)	Polarisation	Alienation	Identification	Inequality
	Income (2011/12)	0.2287	0.3760	0.7516	0.2402
	Income (2012/13)	0.2058	0.3187	0.7872	0.1761
	Expenditure (2011/12)	0.2044	0.3078	0.8044	0.1586
	Expenditure (2012/13)	0.1919	0.2713	0.8447	0.1246

Source: Author's estimates from Field Data, 2014

3.3. Between Groups Polarisation of Students

For 2011/2012 session, as presented in table 5, gender difference gives highest polarisation estimate of 0.2117 while identification force (0.7803) between male and female is higher than the alienation component (0.3213). In 2012/2013, identification force between male and female increased to 0.8338 while alienation decreased to 0.2714. This shows that male and female are increasingly identified and the gap between them decreased over the two periods; the sum effect of which led to decreased polarisation.

As shown in table 5, polarisation estimates were not generated between the students that said they were affected by “no cooking” policy of the University management and those that said they were not affected. This was because majority of the students (66.4%) mentioned that they were affected by no-cooking policy while few said they were not affected, the size of which is not significant to constitute opposition force to the former group. The “NR” in table 4 represents No Result as noted in DAD 4.5; the software that was used to estimate polarisation. Polarisation between students on scholarship/bursary and those on non-scholarship in 2011/2012 of 0.1685 is slightly higher than 0.1652 for 2012/2013. Identification component (0.8904) of polarisation is higher than its alienation (0.2142) in 2011/2012 while for 2012/2013, identification and alienation components are 0.9804 and 0.1887 respectively. This shows that identification increases while polarisation and alienation decreases between the two periods. This indicates that the gap between students on higher income and those on low income closed up between the two sessions as a result of the no-cooking policy.

Table 5. Between groups polarisation (DER; $\alpha = 0.5$).

		Sessions	
Dimension		2011/2012	2012/2013
Gender (Male and Female)	Alienation	0.3213	0.2714
	Identification	0.7803	0.8338
	Estimate (DER)	0.2117	0.1910
	Standard Error	0.0130	0.0127
Policy affect – Policy don't affect	Alienation	NR	NR
	Identification	NR	NR
	Estimate (DER)	NR	NR

		Sessions	
Dimension		2011/2012	2012/2013
Scholarship – Non-scholarship	Standard Error	**	**
	Alienation	0.2142	0.1887
	Identification	0.8904	0.9804
	Estimate (DER)	0.1685	0.1652
	Standard Error	0.0064	0.0069

NR = No Result

Source: Author's estimates from field data, 2014

3.4. Within Group Polarisation of Students

Table 6 reveals that in 2011/2012 session, polarisation is higher among female students (0.2032) than the male students (0.1987). For 2012/2013 academic session, polarisation among male group (0.1893) is slightly higher than that of the female group (0.1836). Polarisation decreased among the female and male student groups over the two sessions. The higher polarization estimates of 0.1893 for male that is higher than 0.1836 for female in 2012/2013 session somehow implies that the “no cooking” policy has relatively affected the male more than the female students sub-population since male students population is slightly more polarised after the introduction of the new policy. Identification components of 0.8372 and 0.9069 within non-scholarship/bursary is the highest, while the least is 0.7462 and 0.7961 from the female students for 2011/2012 and 2012/2013 academic sessions respectively.

The students who felt the new policy of the University affect them financially are slightly polarised by 0.1869 and 0.1777 in 2011/2012 and 2012/2013 respectively. It is also noted that students who are not on scholarship/bursary are slightly polarised in 2011/2012 and 2012/2013 session with the polarisation estimates of 0.1748 and 0.1706 in that order. These estimates indicate that polarisation decreased between the two sessions within the two groups. However, there is no polarisation among students who are not affected by the new policy and those on scholarship/bursary; two results that were expected. The financial benefits, the students on scholarship/bursary enjoy, make them to be better off, of higher average and equalising income and therefore less polarised than other students who are not on scholarship or

bursary.

At the University of Ibadan and most tertiary institutions in Nigeria, students are homogeneous in terms of income (allowance) which explains the relatively low polarisation among the students population. But in terms of gender, the students are becoming distinctively heterogeneous which could be the reason for the relatively high income polarisation in this dimension. It is also noted that in 2011/2012 and 2012/2013 academic sessions, identification is higher than alienation for both within and between groups' dimensions of polarization. Moreover, identification further increased and higher than alienation in 2012/2013 session. The increase in identification component of polarization index implies that students are increasingly identified in terms of income which occurred as a result of the new policy. It is quite interesting that as identification increases alienation component decreases, this makes income to be more equalised among students population.

Table 6. Between groups polarisation (DER; $\alpha = 0.5$).

Dimension		Sessions	
		2011/2012	2012/2013
Gender (Male and Female)	Alienation	0.3213	0.2714
	Identification	0.7803	0.8338
	Estimate (DER)	0.2117	0.1910
	Standard Error	0.0130	0.0127
Policy affect – Policy don't affect	Alienation	NR	NR
	Identification	NR	NR
	Estimate (DER)	NR	NR
	Standard Error	**	**
Scholarship – Non-scholarship	Alienation	0.2142	0.1887
	Identification	0.8904	0.9804
	Estimate (DER)	0.1685	0.1652
	Standard Error	0.0064	0.0069

NR = No Result

Source: Author's estimates from field data, 2014

3.5. Disappearing Middle Group

Middle class, herein refers to middle group, are the students who fall between the median income ranges. The cases of disappearing middle group have been extensively discussed by some authors (William, 1999; Kharas, 2010; Kharas and Gertz, 2010) in several articles, journals and literatures. The aim is to indicate the extent of the disappearing middle group among the students in their expenditure distribution using the study of Holzner as the basis for this analysis. According to Thurow (1984) and Holzner (2012), middle group is defined as those with incomes between 75 and 125 per cent of the median income.

According to the results given in table 7, 38.37% of the respondents fall in middle group, 31.77% are in lower group while 29.96% belong to upper income group in 2011/2012 session,. In 2012/2013 session, 31.77% of respondents belong to the lower income group, 44.76% fall in the middle group while 23.47% belong to the upper income group as shown in table 8. It is evident from table 7 and 8 that the middle income group increases in 2013 session because some students have moved from the upper income groups to the

middle group. The population proportions of the middle group are 38.37 and 44.76 which are slightly lower than the combine population proportions of those in the upper and lower groups of 61.73 and 55.24 in 2011/2012 and 2012/2013 sessions respectively. In the two sessions, middle group constituted the largest group and scaled up in 2012/2013. However, the upper group shrunk while lower group remains unchanged between the two sessions. The proportional increase in middle group as against disappearance explained the overall decrease in polarization between the two academic sessions.

Table 7. Classification of respondents by their expenditure in 2011/2012.

Year	< ₦9,862.5 (Lower class)	₦9,862.5–16,437.5 (Middle class)	> ₦16,437.5 (Upper class)	Total percentage
2011/2012	31.77	38.37	29.96	100

Source: Author's estimates from field data, 2014

Table 8. Classification of respondents by their expenditure in 2012/2013.

Year	< ₦15,000 (Lower class)	₦15,000–25,000 (Middle class)	> ₦25,000 (Upper class)	Total percentage
2012/2013	31.77	44.76	23.47	100

Source; Author's estimates from field data, 2014

4. Conclusion

Polarisation which is disappearing of middle class is of two components; the alienation and identification forces. Alienation indicates the degree of income differences among groups, whereas identification presents the degree of equality within each group. Polarisation has the tendency of breeding social unrest and demonstration or protest among individuals in any social system. The individuals may be students in their campuses if not prevented. Policy implementations that affect people's income and expenditure may lead to polarisation. Recently, the University of Ibadan introduced and implemented "no-cooking" policy in the students' hostels. The development affected the students that they had to adjust their feeding habits, expenditure patterns and their income levels were affected. The primary data were analysed using descriptive statistics, Duclos-Esteban-Ray (DER) polarisation index and Generalised Entropy (GE) inequality index. More than half of the respondents were male while the rest (40.0%) were female. The average age and standard deviation of students are 23.3 and 3.4 years respectively. The students' average monthly income was ₦12,449.28 and ₦16,172.10 in the order of 2011/2012 and 2012/2013 academic sessions.

Polarisation and inequality by income and expenditure decreased between 2011/12 and 2012/13 sessions among all the students. Income polarisation decreased from 0.2287 to 0.2058 while income inequality decreased from 0.2402 to 0.1586. Also, polarisation by expenditure approaches decreased from 0.2044 to 0.1919 within the two academic sessions. There is high level of identification (0.8044) and

(0.8447) than alienation (0.2713) and (0.3078) components of polarization for 2011/2012 and 2012/2013 academic sessions respectively. This shows that income has been better distributed among the students as the students have become more similar in terms of income. The no-cooking policy appears to have had income equalising effect among the students. All the students now face similar pattern of expenditure. Those previously on low income may have got higher proportional increase in their income than those on high income in the previous session. Moreover, polarisation was highest (0.2117) between male and female and least (0.1685) between students that are on scholarship and those that are not on scholarship. Highest identification component of polarisation of 0.9804 was obtained between students on scholarship or bursary and those not on scholarships. Identification component of polarisation was higher than alienation parameter between these categories. There is no polarisation between the students that said that the no-cooking policy affects them and those that said it did not affect them. This is because 66.4% of the students belong to the former group. The students are becoming increasingly homogenous in expenditure and income.

Within groups, identification force was higher than alienation force. The highest identification (0.8372) and (0.9069) force was from within the group of students that are neither on scholarship nor bursary and least identification component (0.7462) and (0.7961) was from the female students in 2011/12 and 2012/13 sessions respectively. Also, the highest alienation estimates of 0.3213 and 0.2714 were obtained among female and lowest estimates of 0.2344 and 0.2078 among the students without scholarships were obtained in the 2011/12 and 2012/13 sessions respectively. The highest alienation estimates among the female may be due to the fact that female students of tertiary institutions in Nigeria tend to associate themselves often with those who belong to their social classes with increasing gap between the classes. Though polarisation reduced within all the groups between the two sessions, there was no polarisation within the students on scholarship and those that said they were not affected by the no-cooking policy of the university.

This study suggests that introduction of “no cooking” policy tends to be in positive direction as students’ incomes are now becoming more equalised and less polarised. However, this is not an assertion that the policy has significantly benefited the students. It should be noted that decline polarisation may not imply improved standard of living of students. Therefore, caution must be taken in interpreting these results for decision making. Although, polarisation decreases within the two academic sessions covered in this study, high identification estimates recorded cannot be jettisoned. The students can easily come together on the basis of their increasing homogeneity in terms of income and expenditure to collectively protest against any action or development that may or reduce their welfare. It is therefore suggested that the school authority ensures that the students get at all times good quality services that they pay for in terms of food and other items on campus. In this

connection the environment where they eat, study, sleep and play must be friendly at all times. This will prevent a situation where the students will ride on their increasing homogeneity brought about by no-cooking policy to protest against poor and unfriendly environment. This study has contributed to the polarisation studies in Nigeria. Further studies on income polarisation among university undergraduate students in Nigeria should be carried out to establish if student groups could be potential source of conflict in Nigeria.

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