

Pension Systems in Ghanaian Public Universities

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ABSTRACT

Workers think more about the future and the pension schemes they join when they are in active employment. The study considers the pension systems in the Ghanaian public universities. It assesses how university workers' pay their defined benefit and contribution plans towards their pensions. Survey design was used in the methodology and chi-square was used to test the hypothesis. It was found out that there is significant difference in the retirement packages that the Ghana University Staff Superannuation Scheme (GUSSS) and Social Security and National Insurance Trust (SSNIT) pay to their members.

Keywords: Ghana University Staff Superannuation Scheme (GUSSS), Social Security and National Insurance Trust (SSNIT), Defined Contribution Plan (DCP), Defined Benefit Plan (DBP)

INTRODUCTION

The recent restructuring of Ghana's debt portfolio has brought fear in the citizens that the processes will affect pension funds. Many people have become agitated as to how their future pensions are going to be paid. Although, the government has been given assurance that the debt restructuring will not affect the pension funds, yet many civil society organisations and trade union members have threatened to demonstrate against the government because of their future pensions.

The need for social protection, especially in old age is held in high esteem by all people. In Ghana, the traditional family system supports the idea of caring for the aged and the incapacitated ones. The family members make donations and contributions to provide shelter, clothing and feeding for them (Boakye, Addo, Awotwe and Sam, 2020).

Old age or one becoming incapacitated is inevitable and is part of inherent risks that man is bound to meet in his or her journey on earth. There are some events which are bound to happen sooner or later in life like death, sickness, old age etc. For such events, there should be reliable provisions to cater for them before they eventually become reality. In social protection literature, the term insurance is a protection for an event which may or may not happen at all, but assurance is for the events which may happen either now or at a later date.

Governments all over the world have implemented systems to support their working population when they grow old or become incapacitated to work. They provide the legal environment through which social protection institutions work. The government of Ghana has always given tax incentives to encourage the citizens to take insurance policies for their future. In the Ghanaian Income Tax Act, 2015, (Act 896), provisions have been made not to tax life assurance policies.

In Ghana, the National Pensions Act, 2008, (Act 766) introduces three (3) tier pension's scheme; the

establishment of National Pensions Regulatory Authority (NPRA) to oversee the administration of registered pension schemes and trustees of registered schemes; and the establishment of Social Security and National Insurance Trust (SSNIT) to manage the mandatory national social security scheme which caters for the first tier of the contributory tier three scheme. The first and the second tiers are compulsory whereas the third is optional, residents are also encouraged to join the third tier and also choose their own fund managers' for their tier two (2) and three (3).

In public universities of Ghana, there are two (2) main pension schemes in operation. One is operated by the Social Security and National Insurance Trust (SSNIT) (Tier 1) and a private fund manager (Tier 2), the other is by the university itself, which is the superannuation scheme. All the employees from junior staff to senior staff ranks join the SSNIT Scheme. The university pension scheme – called Ghana University Staff Superannuation Scheme (GUSSS) is available for only the senior members or professionals who join the university and their entry age is forty-five (45) or less. In other words, if a senior member is appointed as employee and at the time of his/her entry, he/she is more than 45 years of age, he/she can only join the GUSSS as a defined contribution plan (DCP) member but not a defined benefit plan (DBP) member (UMaT, 2008).

STATEMENT OF THE PROBLEM

After the promulgation of the National Pension Act, 2008, (Act 766), private sector players have been included in the management of pension funds. However, in the African market which Ghana is a part, there are no well-developed financial markets to hold or invest pension funds (Kpessa 2011). In view of this, there are at times negative returns on pension funds' investments. According to Auditor General Report (2020), Social Security and National Insurance Trust (SSNIT) registered a total loss of \$2.978 million when proceeds of \$11.79 million were realised from the liquidation of three of its investments with a total cash outlay of \$14.768 million.

A trajectory of how fund managers invest pension funds reveals they invest in fixed deposits and other banking investments. The recent banking sector clean up exercise carried out by Bank of Ghana from 2017 – 2020 to sanitise the sector, affected some banks so their operating licenses were revoked. Customers or pension fund managers who had investments and deposits with these affected institutions were later directed to deal with specified state owned financial institutions for their funds (Business & Financial Times, 2020).

As at now not all the locked up funds have been paid, there is evidence that the caretaker financial institutions which are supposed to pay back the lock up funds have only paid less than thirty percent (30%) of such deposits and investments (Kwafo, 2023). As of now, if many people go on retirement, can the pension fund managers raise enough financial assets to pay their clients' defined benefits and contributions?

Some studies have been made on pension funds and pension schemes in Ghana. Some focused on the mandatory Tier 1, whereas others also focused on the comparative analysis of the actuarial formulae of both SSNIT and GUSSS pension schemes (Kpessa, 2011; Boakye et al, 2020). Within the literature reviewed, few studies tend to address the concern of this study in Ghana about the two pension schemes in the public universities especially using chi-square to test the significant difference between the retirement packages that the two schemes pay. This paper therefore seeks to analyse the pension schemes and assess their gratuity and pension payments.

Objective of the Study

The main objective of the paper is to examine the gratuity and pension payments of the two pension

schemes.

Research Questions

The need for social protection is a concern for all. Workers make contributions towards their pensions with the hope of getting better returns when they retire. With the promulgation of the new Pension Act, 2008, (Act 766) which has brought the private sector to be part of the pension fund management leaves this question to be asked: Which of the schemes pay better gratuity and pensions?

Hypothesis

H_0 : There is no significant difference in the retirement packages for SSNIT and GUSSS members.

H_1 : There is significant difference in the retirement packages for SSNIT and GUSSS members.

Significance of the Study

Pension systems are so critical that every employee or employer is interested about it. When workers understand how pension systems are operated, it will help them to even increase their contributions in order to get higher pensions when they are on retirement. Also, the study will equip new staff of public universities with knowledge and insight to make informed and right decisions when they are to join any of the pension systems in the public universities. In addition, the study will also help the fund managers to be critical and do due diligence when they are investing the pension funds so that they can get better returns to pay gratuities and pensions. Policy makers will also find the study as beneficial because they can use it to formulate new guidelines that can protect the pension funds and also help build the workers' trust in the pension schemes operating in the country.

LITERATURE

History of Pension Schemes Ghana

The British introduced pension scheme in the then Gold Coast when Ghana was their colony. In many of the British colonies in Africa and Latin America, the introduction of pension schemes was sparse and depended more on economic resources in the colonies (Künzler, 2016; Schmitt, 2015). In 1950, the British through Pensions Ordinance No. 42, established a pension scheme for public servants in the then Gold Coast which later became what is now popularly known as the Cap 30 scheme (Boakye et al, 2020). This pension scheme was for both general workers and security personnel.

In the first republic after independence, Ghana enacted Social Security Act 1965, (Act 279) to provide pension scheme for its workers. In 1972 the Social Security Decree (NRCD 127) repealed Act 279 of 1965 and established the Social Security and National Insurance Trust (SSNIT) to administer a social security fund for all workers in the country.

Boakye et al (2020) report that in 1991, the Social Security Law 1991 (PNDC Law 247), was promulgated to transform the 1972 scheme from a provident fund to a full pension scheme. During this period, universities in the country as well as the Ghana Armed Forces were exempted from the SSNIT scheme. This was to allow them to manage their pension schemes. GUSSS was established in 1961/62 as a replica to the U.K based Federated Superannuation Scheme for Universities. The GUSSS scheme was revised in 1976.

In 2008, Ghana promulgated a National Pension Act, 2008, (Act 766), which introduced a three tier system and also brought the private sector to be part of the pension scheme management. The tier one which is to be received by SSNIT is the greater part of the plan contributions. The SSNIT manages the tier, whereas the

private sector comes in as fund managers for the tier two and three.

Table 1 Components of Pension Schemes in Ghanaian Public Universities

Characteristics	Tier 1	Tier 2	Tier 3	GUSSS
Type of Scheme	Defined benefit scheme	Defined contribution scheme	Voluntary provident fund	Defined benefit & defined contribution scheme and voluntary provident fund
Objective	Provides basic pension to all under the scheme	Provides additional income to pensioners under the scheme	Motivates employees to save additional income towards pension	Provides basic pension, additional income for members and promotes additional savings for retirees
Type of participation	Mandatory for all workers	Mandatory for all workers	Voluntary for all workers	Mandatory for all senior members who meet the entry age at the time of joining the universities and voluntary for other senior members who are denied membership because of age
Nature of contribution	Employee pays 5.5% of basic pay and employer adds 13% and out of 18.5%, 11% remains here, 2.5% goes to NHIA fund	Employee pays 5.5% of basic and adds 13% and out of 18.5%, 5% remains here.	Voluntary contribution	Employee pays 25% of basic pay and employer adds 13% and voluntary contribution
Nature of benefits	Monthly payments based on defined formula	Lump sum payment based on contributions and accrued interest	Lump sum payment based on contributions and accrued interest	Monthly pensions and lump sum payment based on defined actuarial formula. The voluntary contribution is paid as lump sum plus its accrued interest.
Life certificate	Demands a life certificate before payment of monthly pensions after the guaranteed period of 15 years	Not applicable	Not applicable	Demands a life certificate before payment of monthly pensions after the guaranteed period of 20 years
Eligibility criteria	Minimum contribution of 15 years, permanent invalidity and attainment of 60 years	Minimum contribution of 15 years, permanent invalidity and attainment of 60 years	Permanent invalidity and attainment of 60 years	Minimum contribution of 15 years, permanent invalidity and attainment of 60 years

Fund Manager	SSNIT manages 11% of the contributions and NHIA manages 2.5% of the contributions	Appointed Trustees manages 5% of the contributions	Appointed Trustees, contribution is voluntary	University Council manages all the 38% contributions
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National Pensions Act, 2008, (Act 766) and UMaT, (2008)

Contemporary Issues in Pension Schemes

All over the world, pension schemes are characterised by defined contribution and defined benefit principles. Cocco and Lopes (2011) report that many countries through the social security system, provides a defined benefit plan (DBP) state pension to retirees, which is linked to their lifetime earnings. However, they stress that it is becoming more difficult for countries alone to sustain this DBP as there are other equally important burdens sovereign countries have to bear.

A lot of debate has been going on to resolve this underfunding of the contributions which have either reduced the benefits of state pensions that retirees are entitled to receive, or through an increase in the retirement age, or are considering doing so (Cocco and Lopes, 2011). An alternative route is to move toward a privatised system, in which individual retirement accounts earn market-based rates of return. Advocates of this move point out that in such a defined contribution plan (DCP) pension system, individuals are able to allocate their retirement wealth among financial assets in a way that suits their preferences (Feldstein and Rangelova, 2001; Shiller, 2003).

The National Pension Act in Ghana 2008 (Act 766), seems to have followed the above argument. Now, the financial burden on the state's social security seems to be diluted having brought the private sector on board to also manage the funds for tier two (2) and three (3). The state social security system is responsible for the monthly pension payments after retirement whereas the tier two (2) and three (3) are for one time lump sum payments.

DBP is a post-employment benefit plan in which employees receive monthly pensions for the guaranteed period and beyond after they have made a certain minimum amount of plan contributions during their working lives. After retirement, if the retiree dies before the expiry of the guaranteed period, the remaining years of the guaranteed period is used in calculating the gratuity for the beneficiaries (International Accounting Standard (IAS) 19).

DCP is also a post-employment contribution plan by which the employee pays plan contribution into a fund. After retirement, the fund manager pays the employee a lump sum after which he/she has no obligation or dealings with the retiree (IAS 19).

Contribution to the Schemes

Section 3 of the Pension Act, 2008, (Act 766) states that employers should deduct five and half percent (5.5%) of the basic salaries of their employees and add thirteen percent (13%) from their own resources for onward payment to tier one (1) and two (2) in the proportion of thirteen and half percent (13.5%) and five (5%) respectively. The employee under the Act 766 is encouraged to make another contribution which is the tier three (3), though it is optional.

With the GUSSS, the employee pays twenty-five percent (25%) of the basic salary and the employer adds the same thirteen percent (13%). The university under the supervision of its council manages its own

pensions for its senior members. It must be emphasised that the GUSSS system is a one stop shop or an all in one pension scheme that comprises all the three tiers (GUSSS Constitution, cited in Boakye et al., 2020)

Entry and Exit Age

The Pension Act 2008 (Act 766), Section 59 records that the minimum entry age for one to join the SSNIT is 15 years and Section 60 adds that the maximum age is 45 years. The GUSSS also caps the maximum age at which a new member can join at 45 years (UMaT, 2008). In all, one must contribute a minimum of 15 years to qualify for full pension at age 60 (Pension Act, 2008, (Act 766); GUSSS Constitution, cited in Boakye et al, 2020).

Benefits under the Mandatory Pension Schemes in Ghana

The DBP contributions are mandatory in the National Pension Act, 2008 (Act 766). They are the future benefits that employees enjoy after they have retired. There are some benefits that can be enjoyed depending on the contingency that will occur. They are superannuation pension or old age pension; invalidity pension; survivor's lump sum and emigration benefit (UMaT, 2008).

Old Age Pension

To qualify for the old age pension, an employee must be 60 years and must have contributed a minimum period of 180 months or 15 years under Act 766. It used to be 240 months or 20 years under PNDCL 247. A member who is 55 years but below 60 years retires voluntarily and receives reduced pension whereas the employee at 60 years receives full pension. According to Act 766 Section 70 the one retiring at age 55 must have contributed to the scheme the minimum of the 180 months or 15 years at the time of applying for the superannuation reduced pensions. The GUSSS also have the reduced and full pension conditions just like the provisions of the National Pension Act, 2008, (Act 766).

Invalidity Pension

Section 71 of Act 766 puts it that an employee can qualify for this type of pension when he has made 12 months contribution in aggregate within the last 36 months preceding the incidence of the invalidity. A key among the qualifying conditions is that the employee has to be certified by a medical board as being incapable of any gainful employment due to permanent physical or mental disability.

Lump Sum Payment Benefit

Section 72 of Act 766 records that where an employee is not able to make 180 month contribution to the pension scheme before he/she retires compulsory or voluntarily retires, that employee is entitled to a lump sum of money equal to his contribution as benefit and an interest rate of 75% of the prevailing government treasury bill rate. Under the GUSSS, when a contributor does not meet the mandatory 180 months contribution, his/her contribution is refunded with an interest calculated at the average of the treasury bill rate (UMaT, 2008).

Death and Survivor's Lump Sum

This benefit is paid to nominated or eligible beneficiaries of the deceased contributor or pensioner. The benefit is paid when an employee contributing to the scheme dies in active service or during retirement and has not attained 72 years under PNDCL 247 and 75 years under the National Pension Act 2008 (Act 766). Section 73 of the Act states that where a member of the scheme dies, a lump sum benefit is payable to the deceased's family who are dependents of the deceased; and have been validly nominated as beneficiaries of the deceased.

The same Section adds that where no nomination was made or the nomination made is found to be invalid by the scheme, the lump sum shall be distributed to the dependents in accordance with the Intestate Succession Act, 1985 (PNDCL 111).

It continues that where a deceased member failed to nominate a surviving spouse and children as beneficiaries, the spouse and children may apply to the court for a variation of the nomination to include them.

Hazardous Employment Benefit

Section 75 of the National Pension Act puts it that a member of the social security scheme who has attained the age of fifty-five (55) years and has been a worker at an underground mine; at a steel works; or in any other employment determined as hazardous employment by the National Pension Authority for an aggregate period of not less than one hundred and eighty (180) months is entitled to full retirement benefit.

Emigration Benefit

Emigration benefit is the lump sum benefit payment to non-Ghanaian employees who joins the mandatory scheme and leaves permanently after completing his/her work. Under Section 101 (3) of (Act 766), a person who is not a citizen of Ghana, who does not satisfy the qualifying conditions for a benefit of a scheme but desires to emigrate permanently from Ghana may be entitled to the entire accrued benefits in the scheme in a lump sum.

According to GUSSS Constitution cited by Boakye et al (2020) and UMaT (2008), GUSSS also has similar benefit packages as enshrined in the provisions of National Pension Act, 2008 (Act 766) especially for foreign lecturers who come for Sabbatical Leave employment so that when they finish serving the leave employment, their contributions are refunded to them with interest.

Withdrawal of Accrued Benefits

The DCP which according to the National Pension Act falls under tier two (2) and three (3) are the lump sum payments the retiree receives from the fund managers. Section 101 of Act 766 states that under the second tier, a member of the scheme who has attained retirement age is entitled to the entire accrued benefits in the scheme in a lump sum. Where the employee dies before attaining the retirement age, his/her beneficiaries can apply to the fund manager and receive the total contribution so far made before his/her demise.

Under the GUSSS, the gratuity payment is the DCP where a retired member receives a lump sum payment which is estimated to be a quarter of the entire accrued benefits. If a member dies before reaching the retirement age, his/her beneficiaries can apply to the fund manager and receive the deceased person's total contributions refund with interest.

Provident Fund and Personal Pension Scheme

The third tier describes the provident fund and the personal pension scheme. Section 106 of the Act 766 explains provident fund scheme as a scheme governed by a trust to which a contributor or the contributor's employer or both contribute to a pension scheme which provides benefits based on a defined contribution formula. Personal pension scheme as any pension scheme to which the contributor contributes personally to provide benefits based on a defined contribution formula in the form of pensions or otherwise, payable on death or retirement to or in respect of persons covered in the scheme contract.

Calculation of SSNIT Pensions

Full Pension

When an employee is 60 years and has contributed a minimum of 180 months to SSNIT or GUSSS, that employee is due for pension. Under the SSNIT, the Trust uses the average of the best three (3) years or 36 months' salary as terminal salary for the computation.

Under the mandatory scheme which in this case the SSNIT, an employee must contribute for at least 180 months at the time of retirement. A retiree can earn a pension right between 37.5% and 60%. The 180 months give the retiree the minimum threshold of 37.5% and every additional month attracts 0.09375% or 1.125% for every year (<http://www.ssnit.org.gh>). Under the Act 766, the pension right is 2.5% for each year of contribution for the first 15 years and 1.125 for every additional year up to a maximum of 60%. The summary of the years of contribution and the pension rates has been presented in the Table below.

Table 2 Full Pension Computation Percentages

Years of Contribution	15	16	17	18	19	20	21	22	23	24	25
Pension Right (%)	37.50	38.63	39.75	40.88	42.00	43.13	44.25	45.38	46.50	47.63	48.75

Years of Contribution	26	27	28	29	30	31	32	33	34	35	36 & Above
Pension Right (1%)	49.88	51.00	52.13	53.25	54.38	55.50	56.63	57.75	58.88	60.00	60.00

Source (<http://www.ssnit.org.gh>)

Reduced Pension or Early Retirement

The National Pension Act 2008, (Act 766) allows a member to retire if he/she has already contributed a minimum of 180 months and is 55 years. However, such a retiree would not enjoy a full pension as someone who retires at age 60. For such pension computations, Table 3 below highlights provisions of the percentages of full pension for the early retirement.

Table 3 Reduced Pension Computation Percentages

Age (Years)	55	56	57	58	59
Percentage (%) of Full Pension	60.00	67.50	75.00	82.50	90.00

Source (<http://www.ssnit.org.gh>)

GUSSS Pensions Calculation

The University Pension uses an actuarial formula when a retiree has met the minimum 15 years or 180 months. The formula considers the length of contribution made to the scheme, and the terminal salary.

$$\text{Full Pension} = (1/40 \times \text{Terminal Salary} \times \text{Number of Years Contributed})$$

$$\text{Where Terminal Salary} = (\text{Annual Basic Salary} \times 1.5)$$

The total sum which is the result of the full pension formula is then apportioned between defined contribution and defined benefit payments (Boakye et al, 2020; UMaT, 2008).

GUSSS Defined Contribution Plan Payment (Gratuity)

GUSSS uses actuarial formula to pay a quarter of the full pension amount as gratuity (lump sum) which is equivalent to the tier two (2) under Act 766. The guarantee period is also factored into the formula.

$$\text{Gratuity} = (1/4 \times \text{Full Pension} \times 20 \text{ Years})$$

In case, an employee who works in the public university who is also a member of SSNIT but joins the GUSSS and makes contribution to the GUSSS fund, on his retirement, he would be paid his total contribution with interest at an interest rate of 75% of the prevailing government treasury bill rate (Boakye et al, 2020).

GUSSS Defined Benefit Plan Payment (Pension)

Boakye et al, (2020) and UMaT (2008) add that GUSSS uses another actuarial formula which keeps 75% of the full pension in the University Pension Scheme and spreads it on monthly basis across the guaranteed period. On monthly basis, the retiree will receive the amount the defined benefit formula gives.

$$\text{Monthly Pension} = (3/4 \times \text{Full Pension} \times 20 \text{ Years}) / 240 \text{ Months}$$

The Guaranteed Period

This is the period after retirement that the defined benefit payments will cater for the retiree. If the retiree dies before the expiry of the guaranteed period, the remaining years of it will be paid to his/her beneficiaries. Under the Act 766, it is 15 years for SSNIT members whereas the UGUSSS has 20 years (UMaT, 2008; Boakye et al, 2020).

Though defined benefit payments are for life but when the guaranteed period expires and the retiree is still alive, he or she has to go to any of the SSNIT offices (for SSNIT members) or UGUSSS offices (for GUSSS members) to present a life certificate yearly to show that he or she is still alive (UMaT, 2008; National Pension Act, 2008, (Act 766)).

Investment of Pension Funds

The Act 766 demands prudent management of the pension contributions so that a good return can be received to cater for the current and future retirees. In view of this, SSNIT invest its funds in the Ghana Stock Exchange (GSE). SSNIT currently holds a significant number of shares listed on the GSE with twenty-two (22) out of the thirty-seven (37) listed companies. SSNIT's holdings on the Ghana Stock Exchange was GH¢2.7 billion as at June 2018 (<http://www.ssnit.org.gh>).

There is not much literature on how the tier two and three fund managers invest their funds. If nothing at all, the National Pensions Regulatory Authority (NPRA) will ensure that such funds are managed well for the future of the beneficiaries. The Act 766 empowers the NPRA to request for reports, review them and make suggestions on how best pension funds can be managed.

GUSSS has made significant investments in constructing halls of residence on campuses of universities for students and other investments like fuel service stations, sachet water production and others to generate more

funds to support the pension of retirees.

METHODOLOGY

Research Design

A survey design was used in the study. This design has the aim of investigating into the pension systems that employees of public universities enjoy. It seeks to gather data about the different types of pension schemes operating in the public universities.

Population and Sampling.

In Ghana, the public universities are 15. The universities have three categories of workers. They are senior members (lecturers, senior administrators and other professionals) who are classified as top level employees, senior staff (laboratory technicians, administrative staff, and others). These are grouped as middle level employees. The other group is the junior staff. They are the cleaners, drivers, security personnel. The population was made up of retirees of SSNIT and GUSSS schemes who had worked in any of the Ghanaian public universities and had retired from 2020 to 2023. Data from the various the Superannuation and Pensions Directorate of the public universities shows that the number stands at 256 for the period. The sub divisions are junior staff 52, senior staff 65 and senior members 139.

The sampling frame consisted of all the retirees of the 15 public universities who retired from active service from 2020 to 2023. Stratified sampling was used to get fair representation of all the three (3) working groups' retirees in the public universities. The sampling size was determined by using the rule of the thump formula: $n = \frac{(z^2 \times p(1-p) / e^2)}{(1 + (z^2 \times p(1-p) / e^2)N)}$.

A sample size of 60 was determined at 10% confidence level with 5% error of margin. However, 50 out of the 60 respondents returned their questionnaires. They returned questionnaires were 30 from SSNIT pensioners and 20 from GUSSS retirees.

Data was analysed according to the strata of the respondents and Pearson Chi-Square was used to test the hypothesis. The formula is given as:

$$X^2 = \frac{\text{Sum of (Observed - Expected)}^2}{\text{Expected}}$$

RESULTS AND DISCUSSIONS

Respondents' Characteristics

The study considered the particular pension scheme the retirees joined whilst working at the public universities. Table 4 presents the background of the pension schemes of the pensioners.

Table 4 Retirees Pension Schemes Background

Retirees	SSNIT	GUSSS	Total
Junior Staff	12	0	12
Senior Staff	10	0	10

Senior Members	8	20	28
Total	30	20	50

Source: field work

From the above Table 4, the retirees were classified into their working categories before they went on retirement. Three (3) groupings were found and they were junior and senior staff as well as senior members. It was only the senior member category where some retirees joined the SSNIT as mandatory scheme and others joined the GUSSS as their mandatory or tier three (3) fund manager, the rest of the staff groupings joined only the SSNIT and tier two (2).

Difference in Retirement Packages of SSNIT and GUSSS Members

For the purpose of this study, only retirees who went on pension from 2020 to 2023 were considered in the sampling selection. These retirees had received their defined contributions and are enjoying their defined benefits.

Pearson Chi-Square was used to test the hypothesis. It starts with the observed frequency obtained from the responses from the retirees, then the data from the observed frequency is processed to get the expected frequency. The next Table presents responses on whether there is difference in retirement packages of the employees of universities. The observed frequency figures are:

Table 5 Observed Frequency

Retirees	Yes	No	Total
Junior Staff	10	2	12
Senior Staff	10	0	10
Senior Members	28	0	28
Total	48	2	50

Source field work

The responses from the above Table 5 show that greater number of the responses 96% believe that there are differences in the retirement packages in terms of defined benefits and defined contributions the retirees receive from SSNIT and GUSSS pension schemes.

Table 6 Expected Frequency

Retirees	Yes	No
Junior Staff	11.52	0.48
Senior Staff	9.60	0.40
Senior Members	26.88	1.12

The observed frequency data was used to process the expected frequency Table. The expected frequency is given by a formula; row total multiplied by column total divided by grand total of the expected frequency Table.

Having obtained all the variables of the Pearson Chi-Square formula, the researchers then used the data from Tables 5 and 6 to prepare Table 7

Table 7 Pearson Chi-Square

Retirees	Yes	No	Total
Junior Staff	0.20	4.81	5.01
Senior Staff	0.02	0.40	0.42
Senior Members	0.05	1.12	1.17
Total	0.27	6.33	6.60

Degree of freedom (df) = (Number of rows – 1) x (Number of columns – 1)

$$= (3 - 1) \times (2 - 1)$$

$$= (2 \times 1)$$

$$= 2$$

DECISION

At the $p = 0.05$ significance level, with 2 df, the critical value can be established as 5.99 from the Chi-Square Table. Therefore, in order to accept the null hypothesis, the final answer to the Chi Square must be smaller than or equal to 5.99. However, the Chi-Square figure 6.60 from Table 7, is more than the critical value of 5.99 so the null hypothesis can be rejected. In other words, there is significant difference in retirement packages of GUSSS and SSNIT members.

RECOMMENDATIONS

Fund managers should explore the market and invest the pension's funds into projects which can have reliable and better returns.

There should be proper education to sensitize the university worker about the operations and activities of the two pension schemes so that workers can make informed decisions.

CONCLUSION

Social protection after retirement is one of the major concerns of today's working population. Countries all over the world have made some legal provisions to protect their citizens when they retire. NPRA should supervise the fund managers when they are investing the pension funds in order to get better returns for the workers when they retire. It is therefore important that employers and employees should pay their contributions on time so that the employees can get better defined contribution and benefit packages when they become old and go on pension.

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