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**SUSTAINABILITY OF THE SSNIT PENSION SCHEME: CURRENT ACTUARIAL STATUS, IMPLICATIONS, AND PROPOSED POLICY RESPONSES**



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**The Africa Centre for Retirement Research (ACRR)** is a non-profit policy research organization that is devoted to independent research and policy solutions. The Centre's mission is to advance the public legitimate good by providing useful inputs to the National Policy Dialogue on the subject of "Social Protection, Retirement and Pensions" through high-quality research and, through its activities aims to affect policy in a manner that translates into increased economic growth, improved social and economic wellbeing for the vulnerable and, create a well-informed public.

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The values of the Research Centre, which are built on innovation, independence, objectivity, accuracy, humility, and transparency, coupled with an experienced Advisory Board are indispensable to the mission and success of the Centre.



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## **SUSTAINABILITY OF THE SSNIT PENSION SCHEME: CURRENT ACTUARIAL STATUS, IMPLICATIONS, AND PROPOSED POLICY RESPONSES**

### **EXECUTIVE SUMMARY**

Social security proves to be the primary source of income for many Ghanaian retirees and their families. Many people of all ages have some connection to the program, including over 230,000 Old-age and Invalidity Pensioners, and 1.7 million covered workers.

The sustainability of the SSNIT Scheme (both short-term and long-term) has come under threat, considering an assessment in 2018 that indicated that the Trust's fund reserves are set to deplete by 2037 (that is, in less than 19 years, the Trust's fund reserves will not be able to support the payment of scheduled benefits in full and on time).

The increased financial pressure on the Basic National Social Security Scheme has been attributed to rapid aging Ghanaian population, improved life expectancy, declining fertility rates and, somewhat high cost in the administration of the scheme.

Accordingly, there have been legitimate concerns and reforms proposals by individuals, organizations, including multilaterals (GIZ cited) over the long-term financial sustainability of the SSNIT scheme. One of the most suggested reform options is the extension of the normal retirement age beyond 60.

The Africa Centre for Retirement Research (ACRR), in our effort to provide better information on the financial and demographic development and the status of the SSNIT Scheme, examined and compared the last two Actuarial Valuation Reports of the Scheme as at December 31, 2014 and, as at December 31, 2017, whilst hinting on the likely outlook of the next valuation report.

The aim is to communicate to the policymakers (including Parliament) the financial and actuarial status of the Basic National Social Security Scheme, and to guide the public debate on restoring the long-term actuarial balance of the Scheme, as well as show the urgency of stakeholders' intervention to restore the imbalance.

It is time that Parliament of Ghana and other relevant stakeholders are informed of the exact magnitude of the problem. In particular, the Legislative Body should examine the actuarial recommendations and commence discussion on addressing financing shortfalls of the Basic National Social Security Scheme.



## KEY HIGHLIGHTS

### 1.0 ACTUARIAL OPINION

The last two Actuarial Valuation Reports of SSNIT carried the same opinion in similar wording as follows:

**“Based on the results of this valuation, we hereby certify that the SSNIT scheme is not financially sustainable over the period covered by the projections in this report. This means that in considering applicable financing rules and the future demographic and economic environment in which it will operate, the current assets of the SSNIT scheme, together with future contributions, will not be sufficient to pay all future benefits and administrative and operational expenses over the period covered by the projections in this report”.**

Based on income-expenditure analysis among other factors, both valuation regimes in 2014 and 2017 have stated that **“This actuarial valuation clearly demonstrates that an increase in contribution is necessary to make the scheme more sustainable for future generations, and that it should be planned now”.**

### 2.0 COST RATE (PAYG)

The cost of the Scheme is projected to increase faster than the income primarily due to continuous decline in the number of workers paying into the system to support each beneficiary (dependency ratio), increasing operational and administrative cost. The cost rises year-on-year and therefore indicates that to sustain the scheme for future generations, the present contribution rate will have to increase significantly over the next three decades. The increasing gap between the income rate (11%) and the cost rate (PAYG rate) indicates the scheme is facing financing shortfalls.

### 3.0 RECOMMENDED CONTRIBUTION RATE

The recommended contribution rate necessary to absorb total expenditure (benefits plus operational and administrative cost) of the scheme as at 2018 **is 12.8%** of insurable earnings (and not the present 11%).

### 4.0 INDEBTEDNESS TO THE TRUST

Government indebtedness to the Trust continues to hurt the schemes compliance rates and scheme’s long-term sustainability. As at end of 2017, the total indebtedness to the Trust stood at GHS908.03 million with over 75% of the indebtedness due by the government. Indebtedness to the Trust has almost doubled in 2018.

Delay in contribution payment has been assessed to have a tremendous impact on the long-term cost of the scheme.

## 5.0 COST OF BENEFITS

- Cost of benefits increased by 149% between December 2014 and December 2017, primarily due to rapid aging population.
- The expenditure on benefits represented 92% and 98% of corresponding contributions income in 2018 and 2019 respectively (leaving little investible income).
- This proportions could have far exceeded 100% of contribution income had it not been for the pensioner payroll clean-up program instituted by the current administration.

## 6.0 ADMINISTRATIVE COST

The share of contribution income used to manage the scheme (administrative/operational cost) is generally assessed to be high. There is no control mechanism or administrative expense policy to regulate and ensure the efficiency of the cost.

The Table 1 below shows the trend of the Administrative/operational cost in the respective valuation periods;

**Table 1: Analysis of Administrative/Operational Cost**

Valuation Date	Valuation period	Amount charged per GHS100.00 collected	Average admi/operational cost (GHS '000)	Assessment
2014	Jan 2012 – Dec 2014	14.70	185,989.33	Moderately high
2017	Jan 2015 – Dec 2017	22.81	471,192.67	Very high
2020	Jan 2018 – Dec 2020	15.00	507,364.00	High

The average administrative cost in the last valuation (2017) increased by **153%** when compared to the average cost of the previous valuation (2014). For the period 2018 to 2020, the average administrative cost increased by **8%** when compared to the cost for 2017 valuation.

The level of administrative and operational expenditure feeds on the quality of governance which remain an important indicator of the financial health of any social security program. It is thus refreshing that the Trust in conjunction with the regulator (NPRA) is developing Administrative Expense Policy to help guide the cost of managing and administering the Basic National Social Security Scheme.

An administrative and operational expenditure policy that seeks to measure, compare and regulate the cost is essential for assessing and reporting operational efficiency. To achieve an optimal cost function, SSNIT and the NPRA need to thoroughly examine and consider all the key factors that affect the costs of operating the scheme.

Based on the analysis, appropriate indices could be developed and adopted with the goal of minimizing the share of scheme revenues that finance administrative costs (cost normalization).

In particular, the exercise should take into consideration contribution collection techniques (effective outreach to employers), investments in systems, processes, and people.

## **7.0 INVESTMENT PERFORMANCE**

- The Real Returns on Investments (RROI) averaged 14.5% in the first valuation regime in 2014 but decreased to 2.44% in the last valuation regime in 2017.
- For four successive years covering 2016, 2017, 2018 and 2019, the SSNIT Scheme has recorded negative real returns on investments (losses) in 3 of the 4 years (2016, 2018 and 2019).
- The year 2020 could prove worse due to the economic effects of the pandemic on the security markets.

## **8.0 CASHFLOW DEFICIT**

For the first time in the history of the Scheme, total expenditure (excluding transfer to NHIA) exceeded the non-interest income in 2018 – cashflow deficit emerged. This deficit is predicted to grow overtime (if no action is taken). The significance of cashflow deficit is that the Trust must draw on its investments and reserves to pay scheduled benefits.

## **9.0 SCHEME RESERVES EXHAUSTION DATE**

In 2014, the Trust's Reserves were projected to become depleted in 2042 whilst in 2017 (based on new income and expenditure data), the Reserves are projected to become depleted in 2037, that is, five years earlier than projected in 2014. With the emergence of cash-flow deficit in 2018, the 2020 expected Actuarial Valuation could predict a depletion period earlier than 2037.

## **10.0 PROPORTION OF INCOME FOR EXPENDITURE**

In the first valuation in 2014, total expenditure (less transfer to NHIS) comprised 50% of total income (including contributions, investment and other income). However, in the last valuation in 2017, total expenditure comprised 81% of income.

The change here is very significant, and could have largely explained why the reserve exhaustion date comes five years earlier.



## 11.0 TABLE OF IMPORTANT DATES

Event	Valuation regime		
	2014	2017	2020 (expected)
Period covered	Jan 2012 to Dec 2014	Jan 2015 to Dec 2017	Jan 2018 to Dec 2020
First year cost exceeds non-interest income	-	2018	2018
First year cost exceeds income (including interest)	-	2019	2019
Year Trust Fund Assets are depleted	2042	2037	Predicted to come earlier than 2037
Years available to restore financial balance or avoid fund depletion	27	19	
Recommended contribution rate for financial equilibrium	19.2% of earnings	22.4% of earnings	Predicted to increase beyond 22.4%.

## 12.0 WHAT CAN BE DONE TO RESTORE SHORFALLS?

The actuarial projection in 2017 indicated that the fund reserves of the SSNIT Scheme is scheduled to become depleted by 2037. This means that in less than 19 years, the Trust's fund reserves will not be able to support the payment of scheduled benefits in full and on time. We therefore have 19 years available to us to make the necessary parametric reforms to re-establish the medium and long-term sustainability.

A number of proposals to address the long-term sustainability challenge of the scheme has been put forth. Some of the commonly discussed proposals include increasing revenue to the Scheme by adjusting the contribution rate, gradually raising the retirement age from 60 in 2025 to reach 62 by 2037 and, removing the ceiling on amount of insurable earnings.

Striking a balance between the program's future revenue and benefit streams could prove challenging. As recommended by the valuation reports, there is the need to begin to plan for increase in contribution rate in the short term to avoid a rapid depletion of the Scheme Reserves and to make the scheme more sustainable for future generations.



From a policy perspective, this option will affect all covered workers, and lawmakers are required to address sustainability challenges in timely manner by phasing in the necessary parametric and legislative changes gradually and give workers and beneficiaries enough time to adjust to the changes.

It is also important that the Office of the Chief Actuary at SSNIT summarizes the results of the triennial Actuarial Valuation Report in a simple language for the consumption of all stakeholders of the scheme. This will among other things, provide a deeper understanding of the financial status of the scheme, engender informed public debate of how demography and economy interact with the pension system, and most importantly, enrich transparency with regards to risk-sharing as conditions change.

### **13.0 WHAT IS THE TIMEFRAME FOR ACTION?**

Indeed, depletion of the Trust Reserves in 2037 is an outcome to be avoided and, planning for the recommended increase in contribution rate is an activity that resides heavily with the lawmaking body of Parliament. An immediate 3.42 percentage point increase in the contribution rate (from 11% to 14.42%) is required.

The process of addressing the solvency concerns of the SSNIT Scheme will likely involve long stakeholder engagements and intense debate in Parliament. It is time that Parliament of Ghana and other relevant stakeholders examine actuarial recommendations and commence discussion on addressing financing shortfalls of the Basic National Social Security Scheme.



## **BACKGROUND**

Social Security Schemes globally have been confronted with excessive financial pressures primarily due to changing demographic and economic factors which include rapid ageing population, periods of protracted low interest rates, and recently, the well documented economic effects of COVID-19 pandemic. These changes have significantly affected the timing of benefits payments, and level of benefits, which generally pile up pressure particularly on Defined Benefit Schemes. Rapid ageing population has particularly been identified as a key factor that dictates the rising cost of pensions around the world, and consequently has received much attention by governments and policymakers.

This development has further heightened the need for social security administrators and regulators to deepen transparency and, enrich the public debate on risk sharing by regularly reporting on how changing demographic and economic factors interact with public pension systems. After all, one useful way of reaching the objectives of a better managed public pension systems is to provide better information on the financial development and status of the systems to the public. For instance, the Social Security Administration of the United States in November 2020 released a report which was effectively an updated actuarial valuation, after having evaluated the effects of COVID-19 pandemic on the actuarial status of Old-Age and Survivors Insurance Fund for 2020 fiscal year.

Given that Actuarial Valuation Reports (AVRs) present a picture of the financial situation and future direction of the scheme in the face of changing economic and demographic variables, and the fact that it is a relatively complex technical document, it is imperative that the report be summarized in a manner that can be understood by people who are in the position to act on the future evolution of the scheme, and possibly minimize the political risk for particularly public pay-as-you-go pensions systems.

This brief seeks to examine and compare the Actuarial Valuation Reports (AVRs) of the SSNIT Scheme as at December 31, 2014 (VR<sub>1</sub>) and, as at December 31, 2017 (VR<sub>2</sub>), mostly using the VR<sub>1</sub> as a baseline. The main objective is to analyze the economic and demographic development of the Basic National Social Security Scheme over the periods and, communicate what it means to the long-term financial sustainability of the Scheme. This brief will also give a hint of how the next Actuarial Valuation Report (covering 1<sup>st</sup> January 2018 to 31<sup>st</sup> December 2020) will possibly look like, taking into consideration potential impacts of major events such as COVID-19, and implementation of the new Past Credit provision. Consequently, recommendations for improving the scheme's long-term solvency will be proffered for consideration by the Social Security Administration, Regulator, and Policymakers.



## **THE BASIC NATIONAL SOCIAL SECURITY SCHEME (BNSSS) IN CONTEXT**

The rising cost of benefits of the SSNIT Scheme caused by fast changing economic and demographic factors, has followed a pattern that is not different from the experience of other jurisdictions including advanced economies. Except, in the case of SSNIT, there is another factor in the pack that has significantly impacted on the scheme's long-term financial viability, considering that the important requirement of conducting Actuarial Valuation to assess the effect of proposed modifications on the existing scheme was not satisfied.

In essence, there are two important issues of equal weight sitting on two ends of the social security governance scale – ensuring long term financial sustainability of the scheme, and provision of adequate benefits for members. Whilst there is no doubt that the legislative changes under the Act 766 supplied the needed solution to benefits adequacy, the actual economic effects on the long-term financial viability of the SSNIT scheme (due to the 2008 structural reforms) is yet to be given the needed technical examination and highlights. It is worth mentioning however, that there have been legitimate calls for concerns by individuals, organizations, including multilaterals over the long-term sustainability of the scheme. The proposals so far, as response to the challenges caused by the demographic and structural shifts and, to improve the fiscal sustainability of SSNIT Scheme, have considered the need to increase the normal retirement age (currently at 60). The most recent was captured in a pension reform report (under GIZ financed project) in November 2020 which examined proposals for regulatory adjustments of the pension system. The report recommended that in order to guarantee the long-term survival of the scheme, there is the need for upward review of the current contribution rate of 11% and, the minimum contributory period (from the present 180 months).

### **HOW THE 2008 PENSION REFORMS IMPACTED ON THE SSNIT SCHEME**

The 2008 pension reforms gave rise to the Act 766, which established a 3-tier contributory pension system with the fundamental objective of providing enhanced retirement income security to Ghanaian workers, as well as establish uniform rules and regulations with respect to benefit administration and payment.

The reforms made specific changes to the old Social Security Law (PNDC Law 247). Notably, the minimum qualifying period for pension has reduced from 240 to 180 months, the contribution rate to SSNIT has decreased from 17.5% to 11% and, pension guaranteed period has also increased from 12 years to 15 years.



The reduction in qualifying period from 240 to 180 months means members who would otherwise have qualified for Lump Sum (return of contributions plus interest) will qualify for pension, thus leading to bulging pensioner population, lower ratio of workers to beneficiaries and, declining funding ratios.

The increase in pension guaranteed period from 12 to 15 years means dependents of deceased pensioners aged between 72 and 75 are eligible for death benefit under the current Law. This has a significant impact on cost of benefits, given that a significant proportion of the pensioner population is within the age range 72 to 75. Similarly, the extension of the pension guaranteed period (72 to 75) has increased each survivor's grant by 11% for members who die whilst still in service. In addition, the amendment to the Act 766 (Act 883) in 2014 introduced a new benefit type (Emigration Benefit). Rate of application for Emigration benefits is evidently growing year-on-year and will add significantly to the scheme's direct cost with time. **However, on the other side of the scale, contribution income to SSNIT has reduced by 26.7% on each contributing member.**

These changes have introduced substantial financial imbalance between the scheme's assets and the corresponding liabilities, thus certainly questioning the future solvency of the Basic National Social Security Scheme.

*The last two valuations on the financial soundness of the SSNIT Scheme have indicated the need for policymakers to address social security solvency concerns. The findings and recommendations as contained in those Actuarial Valuation Reports (VR<sub>1</sub> and VR<sub>2</sub>) of the SSNIT Scheme should provide the initial political push to get things going.*

## **ACTUARIAL VALUATION REPORT**

The main document that reliably appraised a pension scheme's ability to meet its benefit payment obligations to current and future beneficiaries is the Actuarial Valuation Report (AVR). Actuarial valuation is a financial planning tool that seeks to assess the long-term financial sustainability of a pension scheme by making long-term projections that are based on assumptions on a wide range of demographic and economic factors. It shows the present financial status and the likely future demographic and socio-economic development of the scheme. The report essentially informs stakeholders whether the scheme's assets, contributions and investment returns are enough to pay all benefits and expenses.

A typical AVR is summarized in what is termed as the 'Actuarial Opinion' which is a statement (based on the results) certifying whether the scheme is financially sustainable over a specified period into the future (projection period).



## THE ACTUARIAL STATUS OF THE SSNIT PENSION SCHEME

Section 53 of the National Pensions Act, 2008 (Act 766) stipulates that an external actuarial valuation of the SSNIT Scheme is carried out every three (3) years. Accordingly, the last two actuarial valuation exercises were carried out for periods ending 31st December, 2014 and, 31<sup>st</sup> December, 2017 by the Social Protection Department of the International Labor Organization (ILO) and the Actuarial Department of SSNIT.

The projection period for each valuation was for 50 years and 75 years (2015 to 2064 and, 2018 to 2092) respectively.

The last two Actuarial Valuation Reports of SSNIT carried the same opinion in similar wording as follows:

**“Based on the results of this valuation, we hereby certify that the SSNIT scheme is not financially sustainable over the period covered by the projections in this report. This means that in considering applicable financing rules and the future demographic and economic environment in which it will operate, the current assets of the SSNIT scheme, together with future contributions, will not be sufficient to pay all future benefits and administrative and operational expenses over the period covered by the projections in this report”.**

The statement above gives the indication that the Trust’s funds on which Social Security relies to pay benefits have been running low, and seeks to serve a warning about what might happen (even in a good economy), if recommendations relating particularly to reviewing contribution rates and, benefits provisions and, risk reduction strategies are not considered and implemented.

The 2014 valuation regime projects that (based on knowledge of the scheme as at the start of 2015) the trust’s fund reserves are projected to deplete in 2042. The subsequent valuation in 2017 however, predicts that the reserves deplete in 2037 (5 years earlier), i.e., funds are unable to pay full benefits scheduled under the law on timely basis in 2037. At this point, only 80% of scheduled benefits are payable (representing a possible benefit cut by 20 percentage points across current and future retirees). An acceleration of Fund Reserve depletion date by 5 years between two successive valuations is significant. Whereas in 2014, we had 28 years to figure out how to avoid reserve depletion, that number has dropped to 19 years as at the end of 2017. It is important to also note that the estimate for the reserve exhaustion date is not a worst-case scenario.

The Actuarial Valuation Reports therefore recommended that there is the need to begin to plan for increase in contribution rate in the short term to avoid a rapid depletion of the Scheme Reserves and to make the scheme more sustainable for future generations.



Indeed, depletion of the Trust Reserves in 2037 is an outcome to be avoided and, planning for the recommended increase in contribution rate is an activity that resides heavily with the lawmaking body of Parliament.

It is important to understand the dynamics of the factors that have led to the actuarial opinions, and the ensuing recommendations. This will basically illustrate why and how the scheme liabilities develop and why and how the value of the assets changed. Based on this understanding, policies and legal provisions would be relooked at, and operational strategies could be changed to improve the financial health of the scheme.

## **FACTORS DRIVING THE ACTUARIAL OPINION**

The future income and expenditure of defined-benefit schemes are determined by a wide range of factors including retirement rates, fertility rates, mortality rate, employment rates, wage growth rate, interest rates, disability incidences, program-specific design features, etc. These factors largely inform the size of the covered workers, their earnings and the beneficiary population.

The three types of measures usually used to assess the actuarial status of typical Defined-Benefits Schemes over the long-range projection period are (1) annual cashflow measures, including income rates, cost rates, and resulting balances; (2) Fund ratios; and (3) other summary measures such as actuarial balances.

To satisfy a test of long-range close actuarial balance each year, a scheme funds must meet two conditions: (a) satisfies the test of short-range financial adequacy, and (b) the trust fund ratio remains positive throughout the projection period, such that benefits would be payable in a timely manner throughout the projection period.

Having compared the Trust's last two Actuarial Valuation Reports on the long-term financial status of the Social Security Trust Funds, the following are worth noting:

### **Reserves Exhaustion Period**

The level of fund reserves measures the scheme's ability to pay benefits to current and future retirees. The rate of growth in the reserve generally follows the development of the income/expenditure dynamics in each valuation period.

- In 2014, the Trust's Reserves were projected to become depleted in 2042 whilst in 2017 (based on new income and expenditure data), the Reserves are projected to become depleted in 2037, that is, five years earlier than projected in 2014.



- While the scheme would continue to operate and receive contributions from Employers, Employees and Self-Employed persons after reserve depletion, those contributions are projected to cover only 80% of scheduled benefits. By the end of the projection period (2092), only 32% of scheduled benefits would be payable.
- The valuation in 2014 covering (January 2012 to December 2014) reported an increase in the Trust's Reserves by GHS4.0 billion representing a growth of 117%. The valuation in 2017 covering (January 2015 to December 2017) however, recorded a lower increase by GHS2.41 billion, growth of 32% in the reserve. (Refer to APPENDICES A1 and A2)

### **Income/Expenditure**

- The lower growth in the reserve in the 2017 valuation was largely due to substantial increase in cost of benefits (149%), decreased contribution collection performance (from 109% to 53%), Real Returns on Investments (RROI) fell significantly below the target (averaged 14.5% between 2012-2014 against an average of 2.44% in 2015-2017 including a negative RROI performance in 2016). There was substantial increase in Administrative Cost particularly in 2015 and 2016 (the average administrative cost for 2017 valuation was 153% higher than the average for the 2014 valuation). Evidently, the administrative cost when expressed as a percentage of contribution income averaged 14.7% in 2014 valuation but increased markedly to 22.81% in the last valuation. Similarly, administrative cost averaged 1.8% of insurable earnings in 2014 valuation but increased to 3.17% in 2017 valuation. The administrative cost accounted for 17% and 18% of total expenditures for the period 2012-2014 and 2015-2017, respectively. (Refer APPENDICES B1, B2).
- The total income (including contributions, investment and other income) for the period 2012-2014 amounted to GHS5.23 billion. Total expenditures (excluding transfer to NHIS) for the same period amounted to GHS2.64 billion, representing 50% of income. For the period 2015-2017, total income amounted to GHS8.1 billion whilst total expenditures for the same period amounted to GHS6.59 billion, representing 81% of income.

The change here is very significant, and could have largely explained why the reserve exhaustion date comes five years earlier. (Refer to APPENDIX A1)

- In 2018, the total expenditure (excluding NHIA transfer) began to exceed the non-interest income – cashflow deficit emerged. The non-interest cashflow shortfall was GHS219 million in 2018 and could increase further in 2019. This deficit is predicted to grow overtime (if no action is taken). The significance of cashflow deficit is that the Trust must draw on its investments and reserves to pay scheduled benefits. (Refer to APPENDIX A3).



## **Reserve Ratio (RER)**

The Reserve Ratio is the ratio of the end-of-year reserve to the total expenditure for each financial year. The reserve ratio is a measure that gives indication of how long the scheme would be able to pay full benefits if it does not receive contributions and investment income anymore. It is generally preferred that the ratio decreases slowly as the scheme enters its maturity phase.

- The actual reserve ratio has declined much faster than the projected under both valuation regimes. The RER averaged 5.40 between 2012 and 2014, and 3.8 between 2015 and 2017. This shows that RER has deteriorated by 33% between the two valuations.

In addition, the reserve ratio in the 2017 valuation is projected to decline from 3.7 at the beginning of 2018 to 2.4 in 2022 and will move to 0 in 2037. The observed ratio has however dipped significantly from 5.6 in 2012 to 2.8 in 2018.

- The decreasing reserve ratio is as a result of increasing expenditure (due to decreasing worker-beneficiary ratio (dependency ratio) and somewhat uncontrolled administrative cost).

## **Dependency Ratio**

The Dependency Ratio refers to the ratio of the number of insured population (contributors) to the number of beneficiaries (pensioners).

This ratio has assumed a decreasing trend because the number of pensioners grows more rapidly when compared to the growth of the contributor population. Both valuation reports have projected the continuous decrease in the number of workers contributing into the system to support each beneficiary as the nation ages and fertility rate declines. Evidently, the observed dependency ratio was 9 contributors per pensioner in 2012 and 2013. It decreased to 8 for the period 2014 to 2019, and further down to 7 in 2020.

Given the rate of decrease, the dependency ratio might outpace the projected figure of 6 by 2042 (if nothing is done). (Refer to APPENDIX C1)

The dependency ratio generally illustrates the financial impact of ageing population on pension schemes, as it has a direct relationship with cost of benefits (usually expressed as a percentage of insurable earnings).

## **Pay-as-you-go (PAYG) rate**

The increasing dependency ratio year-on-year induces a corresponding increase in cost of benefits. The cost is usually expressed as a percentage of insurable earnings (pay-as-you-go-rate).



PAYG rate is a metric that represents the recommended contribution rate which would be enough to balance the income and expenditure of the scheme in each financial year.

According to both valuations, the PAYG rate continues to rise year-on-year and therefore indicates that to sustain the scheme for future generations, the present contribution rate will have to increase significantly over the next three decades. For instance, the 2017 valuation estimated that the PAYG rate will increase from 12.3% in 2018 to reach a level of around 17.4% by 2047. This shows that the present contribution rate of 11% is insufficient in 2018, to cover the expenditures of the scheme. The increasing gap between the income rate (11%) and the cost rate (PAYG rate) indicates the scheme is facing financing shortfalls.

Based on income-expenditure analysis among other factors, both valuation regimes in 2014 and 2017 have stated that **“This actuarial valuation clearly demonstrates that an increase in contribution is necessary to make the scheme more sustainable for future generations, and that it should be planned now”**.

### **SHORT RANGE PROJECTION**

According to the 2017 valuation regime, within the short range (2017-2027), the Trust’s total cost is projected to be equal to its total income in 2027, but will exceed income in all later years. In actual terms, the Scheme’s cost has exceeded its non-interest income since 2018 and therefore, in addition to annual contributions and other income, investment income must be used to meet all annual expenditures. Furthermore, for the first time in the history of the Scheme, we are likely to see total expenditure exceed total income (including investment income) in 2019. (Refer to APPENDIX A3)

### **LIKELY OUTLOOK OF THE NEXT VALUATION REPORT**

The next actuarial valuation report will be based on data for the period January 2018 to December 2020.

The period includes the unprecedented year of the COVID pandemic, as well as the implementation of the new interest rate policy with regards to the computation and payment of Past Credit. These two factors could have remarkable effects on the actuarial status of the Trust Fund.

- Firstly, the Trust has as at December 2020 paid supplementary Past Credit in excess of One Hundred and Seven Million Ghana Cedis (representing 1.22% of 2017 reserve).
- Secondly, a considerable 138,640 contributors went off the contribution payroll in 2020 (largely due to pandemic-specific job losses) as opposed to 39,682 in 2019 (249% increase).



- Thirdly, on the Trust's investment performance (NPRA 2019 Report), the scheme recorded negative real returns on their investments of (-2.96%) in 2018 and (-0.99%) in 2019. The year 2020 could be worse due to the economic effects of the pandemic on the security markets. (Refer to APPENDIX B2)
- Fourthly, there has been increased retirement rates across all ages from 55 to 60. The rate of growth of the pensioner population continues to outstrip the corresponding growth rate of contributors (20% and 13% respectively). Evidently, the dependency ratio dropped further from 8 contributors per pensioner in 2019 to 7 in 2020. This is mainly reflecting the rapid ageing population and declining fertility rates phenomena.  
Note that computed old-age and total dependency ratios from 2010, 2015, 2020 censuses also illustrate the ageing process. The old-age dependency ratio, defined here as the number of people aged 15 to 59 divided by the number of people aged 60 and over shows that, in 2010, there are approximately 8.25 people in the working-age group for each person over the age of 60. This ratio decreased from 8.25 in 2010 to 7.72 in 2015. The ratio is predicted to decrease further when the 2020 population and housing census results are published. The 2017 actuarial valuation report projected that the number would reduce to 2.9 people by 2067. The long-term trend of the dependency ratio illustrates the effect of ageing population on the cost of pensions, which have to be supported by the working-age population. (Refer to APPENDICES C1, C2, C3, C4)
- Fifthly, cost of administration of the scheme continues to be high for the period 2018 to 2020 (relatively). Administrative and Operational cost as a percentage of contribution income averaged 15% as compared to 23% in the previous valuation period. This appears somewhat to have been kept under check. (Refer APPENDIX B1)
- Sixthly, the Trust mobilized a contribution income of GHS2.72 billion and GHS3.0 billion in 2018 and 2019 respectively. These represent an increase of 14.54% and 11% when compared to collections in ensuing years.  
Indebtedness to the Trust has almost doubled in 2018. Government indebtedness to the Trust continues to hurt the schemes long-term sustainability. Delays in the payment of due contributions by government has been cited in the actuarial valuation reports as hampering the scheme's compliance rates, and investible funds. As at end of 2017, the total indebtedness to the Trust stood at GHS908.03 million with over 75% of the indebtedness due by the government.



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The cost of benefits increased by 14% and 18% in 2018 and 2019 respectively. The expenditure on benefits represented 92% and 98% of contributions income in 2018 and 2019 respectively. Total expenditure (less transfer to NHIA) exceeded non-interest income for the first time in 2018 and persisted in 2019.

Based on the analysis of the financial and demographic changes during the period 2018-2020 and its expected impact on the reserves, the recommended contribution rate necessary to absorb the rising cost of benefits and administrative expenditure (PAYG rate) will rise substantially and most likely will draw the reserve's depletion year earlier than 2037. Regardless of the projection period for 2020 valuation, the constant recommended contribution rate throughout the valuation period (General Average Premium) will also increase (from the 22.4%).

## RECOMMENDATIONS

Whilst the Actuarial Valuation Reports have recommended increment in the contribution rate to SSNIT (legal provision), which the Parliament of Ghana, and all other relevant stakeholders must as early as possibly table for discussion, there is an equal need to reexamine some operational factors that could bolster the Trust's effort to establish the needed actuarial balance for the scheme.

We recommend as follows;

### Legal

- (1) Considering the anticipated increase in costs, there is the need to specify a rule for the determination of the actuarial equilibrium of the scheme to guide future contribution rate increases subject to specified funding objectives. The rule may be incorporated as an amendment to the Act 766.
- (2) In line with best practices, it is essential that the SSNIT is made to present a summarized Actuarial Status of the Scheme to the law-making body of Parliament of Ghana after the triennial Actuarial Valuation Report is presented to the Board of Trustees. This is required to reduce political risk facing a Public Defined Benefits scheme such as the SSNIT scheme. This provision may be incorporated as an amendment to the Act 766.
- (3) **Transfer to National Health Insurance Fund:** the 2.5% transfer of SSNIT income to fund the National Health Insurance Program as provided in Section 63 (4) of the National Pension Act, 2008 (Act 766) needs to be examined. On average, transfer to NHIA accounted for 19% and 15% of the total expenditure of the Scheme for the periods 2011 to 2014 and 2015 to 2018 respectively. This represents a hefty bite off the Trust income.

Parliament and policymakers need to think of alternative methods of funding the National Health Insurance Program such that the Trust could retain the full 13.5% as income.

### Operational

- (4) The Office of the Chief Actuary at SSNIT should summarize the results of the triennial Actuarial Valuation Report in a simple language for the consumption of all stakeholders of the scheme. This will among other things, provide a deeper understanding of the financial status of the scheme, engender informed public debate of how demography and economy interact with the pension system, and most importantly, enrich transparency with regards to risk-sharing as conditions change.



(5) The Trust could improve its dependency ratio and reserves and, minimize direct losses to dead-but-not-reported cases by intensifying its payroll clean-up strategy. The effect of the pension payroll clean-up program in 2018 and 2020 has had visible positive effects on cost of benefits and pensioner growth rates. The results of the deactivation program should also provide basis for reexamination of pensioner mortality assumptions during valuations and risk reduction strategies (rather than relying only on improvement in life expectancy).

(6) Net migration has been assumed in both actuarial valuations to be zero. The amount of funds allocated to emigration benefits keeps increasing year-on-year and could increase more as after-effects of the COVID-19 pandemic.

The next valuation needs to consider the effects of migration on the scheme in order not to introduce marked variances between projected and actuals. Additionally, the next pension reform should consider reviewing the vesting period for emigration benefits to at least age 50 years (in line with best practices).

(7) The contribution income plays key role in the future development of the scheme reserves. It is not enough to report on how much was collected in a period and the percentage change. The collection ratio, which takes into consideration how much should have been collected is a better measure of compliance. This should be an important feature in the valuation process.

(8) Whist the Trust strives to implement its anticipated Informal Sector Pension Scheme, there is the need for Operations to focus attention on voluntary contributors in the informal sector. The sector holds a ripe potential and the SSNIT structure could easily fit.

A simple sensitivity analysis shows that Informal-Sector focused Units if established within existing Branches will impact positively on the long-term sustainability of the Scheme.

(9) Analysis of the Scheme's investment portfolios shows that portfolios with majority SSNIT control mostly do not deliver the desired results when compared to ones with less SSNIT stakes. In the case of the former, the Boards are poorly constituted with members who have short-term interest. The Board Members in the latter have permanent interest and thus engage professionals to manage the investments.

As a partially funded scheme, it is important that investment portfolios perform well to support the benefit payment function. There is the need to work on the political risk facing mode of investment of pension assets of the SSNIT Scheme.

Accordingly, the Trust should consider reviewing its fundamental investment policies with respect to proportion of investment assets.



## (10) **Administrative and Operational Cost**

For the purposes of reporting operational efficiency, appropriate indices have to be developed and adopted with the goal of minimizing the share of scheme revenues that finance administrative costs (cost normalization).

Currently, the conventional measure is focused on cash flows (contributions collected or benefits paid). This basis of measuring cost has several biases and therefore, a more encompassing denominator that considers the number of active members as a means of cost normalization seems ideal.

NPRA and SSNIT could consider member accounting technique in the development of administrative cost policy guidelines. An administrative and operational expenditure policy that seeks to measure, compare and regulate the cost is essential for assessing the efficiency with which the scheme is managed. To achieve an optimal cost function, SSNIT and the NPRA need to understand and consider all the key factors that affect the costs of operating the scheme. In particular, the exercise should take into consideration contribution collection techniques (effective outreach to employers), investments in systems, processes, and people. The level of administrative and operational expenditure feeds on the quality of governance which remain an important indicator of the financial health of any social security program.



## **CONCLUSION**

Social security proves to be the primary source of income for many Ghanaian retirees and their families. Considering an assessment that indicates that in less than 19 years, the Trust's fund reserves will not be able to support the payment of scheduled benefits in full and on time, the evidence needed by Parliament of Ghana and other relevant stakeholders to take legislative action with regards to the sustainability of the scheme is clear enough to be ignored.

The process of addressing the solvency concerns of the SSNIT Scheme will likely involve long stakeholder engagements and intense debate in Parliament. It is time that Parliament of Ghana and other relevant stakeholders examine actuarial recommendations and commence discussion on addressing financing shortfalls of the Basic National Social Security Scheme.

Specifically, both valuation regimes certified that, the current assets of the scheme, together with future contributions, will not be sufficient to pay all future benefits and administrative and operational expenses, hence the SSNIT scheme is not financially sustainable over the respective projection periods.

Whilst the rising expenditure of the scheme is in large part due to changes in demographic and socio-economic factors (which calls for upward review of the contribution rate), the cost of administering the scheme is rated as relatively high. It is thus refreshing that the Trust in conjunction with the regulator (NPRA) is developing Administrative Expense Policy to help guide the cost of managing and administering the Basic National Social Security Scheme.

**Reference:** *All the relevant statistics contained in this brief was sourced from SSNIT Actuarial Valuation Reports ending 2014 and 2017, as well as the NPRA 2019 Annual Report*





## **APPENDICES**

### APPENDIX A1: Income, Expenditure and evolution of Reserves of the SSNIT Scheme (2011-2017)

Item Type	Amount (GHC Billion) 2012-2014	Amount (GHC Billion) 2015-2017	% Change in Growth
Contributions	3.88	6.35	64%
Investment earnings	1.12	1.21	7%
Other income	0.23	0.54	139%
<b>Sub-total</b>	<b>5.23</b>	<b>8.10</b>	<b>55%</b>
Net increase in Value of Investments	1.99	2.02	2%
<b>Total Income</b>	<b>7.22</b>	<b>10.12</b>	<b>40%</b>
<b>Expenditure</b>			
Benefits	2.08	5.18	149%
Administrative expenses	0.56	1.41	153%
<b>Sub-total</b>	<b>2.64</b>	<b>6.59</b>	<b>150%</b>
Transfer to NHIS	0.58	1.13	95%
<b>Total Expenditure</b>	<b>3.22</b>	<b>7.72</b>	<b>140%</b>
<b>Reserve as at 31 December (2014/2017)</b>	<b>7.43</b>	<b>9.84</b>	<b>32%</b>

### APPENDIX A2: Reserves Growth between the two successive Actuarial Valuations of the SSNIT Scheme (2012-2014 and 2015-2017)

Valuation end Year	Reserve on 1 <sup>st</sup> January (GHS Billion)	Reserve on 31 <sup>st</sup> December (GHS Billion)	Reserve growth (GHS Billion)	Reserve growth (%)
2011	2.90	3.42		
2014	5.56	7.43	4.01	<b>117%</b>
2017	8.41	9.83	2.40	<b>32%</b>



### APPENDIX A3: Comparing Income to Expenditure (Cash-flow surplus/deficit)

YEAR (a)	CONTRIBUTION INCOME (b)	OTHER INCOME (c)	NON- INTEREST INCOME d=(b+c)	INTEREST INCOME (e)	TOTAL INCOME f=(d+e)	DIRECT COST (BENEFITS + ADMI) (g)	Cash flow Surplus /Deficit (d-g)
2009	667.60	16.01	683.61	148.744	832.35	342.34	<b>341.27</b>
2010	576.83	10.33	587.16	116.28	703.44	424.17	<b>162.99</b>
2011	825.96	25.53	851.49	151.10	1,002.59	455.76	<b>395.73</b>
2012	934.13	25.33	959.46	500.91	1,460.37	588.82	<b>370.64</b>
2013	1,159.71	55.08	1,214.79	460.42	1,675.21	871.55	<b>343.24</b>
2014	1,784.43	147.64	1,932.07	162.59	2,094.66	1,174.32	<b>757.75</b>
2015	2,122.38	91.03	2,213.41	375.17	2,588.58	1,620.53	<b>592.88</b>
2016	1,848.96	30.94	1,879.90	425.44	2,305.34	2,330.20	<b>(450.30)</b>
2017	2,374.23	422.00	2,796.23	405.98	3,202.21	2,636.91	<b>159.32</b>
2018	2,719.52	41.01	2,760.53	435.96	3,196.49	2,979.86	<b>(219.33)</b>
<b>2019</b>	<b>3,012.28</b>	<b>****</b>	<b>3,112.28</b>	<b>***</b>	<b>3,112.28</b>	<b>3,438.83</b>	

**APPENDIX B1: Administrative & Operational Cost Benchmarking**

<b>VALUATION REGIME</b>	<b>YEAR</b>	<b>Administrative &amp; Operational Cost/Contribution Income</b>	<b>Administrative &amp; Operational Cost/Benefits Cost</b>	<b>Administrative &amp; Operational Cost/Insurable Earnings</b>
VR1 - Actuarial Valuation covering January 2012 to December 2014	2012	15.59%	32.87%	
	2013	15.46%	25.89%	
	2014	13.06%	24.76%	1.8
	<b>AVERAGE</b>	<b>14.70%</b>	<b>27.84%</b>	<b>1.8</b>
VR2 - Actuarial Valuation covering January 2015 to December 2017	2015	18.13%	31.14%	2.5
	2016	31.44%	33.24%	4.4
	2017	18.85%	20.44%	2.6
	<b>AVERAGE</b>	<b>22.81%</b>	<b>28.27%</b>	<b>3.17</b>
Next Actuarial Valuation Period will cover January 2018 to December 2020	2018	17.82%	19.41%	
	2019	16.30%		
	2020	10.70%		
	<b>Average</b>	<b>15%</b>		

**APPENDIX B2: Investment Performance in the 2014 and 2017 Valuation Regimes**

<b>VALUATION REGIME</b>	<b>YEAR</b>	<b>Real Returns on Investments Performance (%)</b>
Actuarial Valuation covering January 2012 to December 2014	2012	10.67
	2013	15.97
	2014	16.81
	<b>Average</b>	<b>14.50</b>
Actuarial Valuation covering January 2015 to December 2017	2015	4.02
	2016	(5.93)
	2017	9.22
	<b>Average</b>	<b>2.44</b>
Next Actuarial Valuation Period will cover January 2018 to December 2020	2018	(2.96)
	2019	(0.99)
	2020	

**APPENDIX C1: Worker-Beneficiary Ratio (Dependency Ratio)**

<b>YEAR</b>	<b>PENSIONER POPULATION</b>	<b>ACTIVE WORKER POPULATION</b>	<b>Number of Workers Per Pensioner</b>
2009	98,658	880,760	9
2010	107,312	900,322	8
2011	112,522	963,619	9
2012	119,323	1,051,429	9
2013	128,504	1,120,512	9
2014	142,076	1,189,168	8
2015	156,262	1,242,385	8
2016	174,164	1,353,610	8
2017	189,549	1,440,424	8
2018	200,000	1,533,942	8
2019	215,850	1,625,255	8
2020	227,407	1,633,505	7

**APPENDIX C2: Pensioners-Contributors Growth rates in successive valuation regimes**

<b>Year</b>	<b>Population</b>		<b>Growth (%)</b>		<b>Remarks</b>
	Pensioners	Contributors	Pensioners	Contributors	
2011	112,522	963,619	-	-	
2014	142,076	1,189,168	26.27	23.41	Pensioners grow more rapidly
2017	189,549	1,440,424	33.41	21.13	Pensioners grow more rapidly
2020	227,407	1,633,505	20	13	Payroll clean-up effect

### APPENDIX C3: Development of the General Population – Fertility Rates

Age of Mother	Projected Fertility Rate (%)		
	2017	2042	2067
15-19	6.73	4.98	3.34
20-24	14.97	10.49	7.22
25-29	19.27	15.56	12.76
30-34	18.81	17.25	15.81
35-39	12.34	9.88	8.07
40-44	4.68	2.26	0.97
45-49	1.79	0.97	0.44
<b>TFR</b>	<b>3.93</b>	<b>3.07</b>	<b>2.43</b>

Source: 2017 Actuarial Valuation Report

### APPENDIX C4: Development of the General Population – Ageing Effects (Demographic ratios, 2010, 2015 and 2020)

Year	2010	2015	2020
Old-age dependency <sup>1</sup>	8.25	7.72	-
Children and youth dependency <sup>2</sup>	1.43	1.34	-
Total dependency <sup>3</sup>	1.22	1.14	-

Source: Statistical Service Census results

1 Ratio of people aged between 15 and 59 to those aged 60 and over.

2 Ratio of people aged between 15 and 59 to those aged between 0 to 14.

3 Ratio of people aged between 15 and 59 to those aged 0 to 14, plus those aged 60 and over.

### Distribution of the population by Age (2010, 2015 and 2020)

AGE	2010 census (%)	2015 survey (%)	2020 census (%)
0 to 14	38.32	39.80	
15 to 59	55.01	53.30	
60+	6.67	6.90	
Total	100.00	100.00	100.00

Source: Statistical Service Census results