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Pension Superannuation Allowance Indexation in Ghana: Reality or Myth?

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Abstract
This study sought to examine the pension indexation in Ghana in the light of the prevailing macroeconomic indicators couple with the overall performance of the Social Security and National Investment Trust (SSNIT). The bases of pension superannuation allowance indexation remained questionable and a subject of dissatisfaction among retirees. The study purposively gathered time series data from 1991 to 2013 in relation to annual augmentation of pension superannuation allowance, Treasury bill rates, inflation rates, minimum wage and the performance of SSNIT pension scheme. The data were analyzed using paired wise observation test to ascertain whether beneficiaries of the scheme get real positive return on their investment and the sustainability level of the scheme. The findings of study revealed that the pension indexation is not significantly different from the macroeconomic indicators except Treasury-bills (T-bills) rate but significantly different from the performance of the scheme. Furthermore, retirees do not get real positive returns on their investments and the sustainability rate of the scheme is on the decline. The study concludes that the SSNIT pension allowance indexation is unrealistic and the scheme is not sustainable at the current operational level. The Trustee should engage in more profitable investment portfolios, minimizes its administrative expenditure and review the pension indexation upwards to ensure retirees get real positive returns for their investment. The article 80 of the pension act 766 which provides legal backing to pension indexation in Ghana should specify the relationship between pension indexation, inflation and minimum wage rates.
Keywords: Pension Indexation, Reality and Myth

1. Introduction

The rising life expectancy rate of people coupled with the high unemployment level posed a lot of worry to the aged, governments and pension fund administrators in recent times. Longevity is a source of economic insecurity in that individuals may outlive their financial capacities to maintain themselves and their dependents (Joe, 2011). In developing countries, populations are aging much faster than they did in industrial countries and this is a cause for great concern. According to world population study in 2006, there is an aging population with a declining birth rate; the population over 65years was 4.1% in 1900, 11.6% in 1982, 13% in 2000 and projected 17.5%, 30% in 2020 and 2050 respectively. Life expectancy in Ghana was relatively low (45.53years and 46.15years) for male and female respectively in 1960, (48.45 and 50.26) in 1970, (51.08 and 53.52) in 1980, (55.68 and 57.88) in 1990, (56.23 and 57.78) in 2000, (59.73 and 61.54) 2010 and (60.52 and 62.51) in 2015 (Mundi, 2016). This shows an increase in life expectancy for both males and females which can be attributed to scientific advancements in medicine, technology, improve life style of people and other social intervention programs.

According to the life cycle model, an individual lives for two periods, in the first period he earns a wage for his labour and in the second period he is retired, and savings from his wage income cater for the second period consumption with a constant rate of interest (Atkison & Stiglitz, 1980; Lawrance, 2003). The high unemployment rate and the unsustainable nature of private or self-employed businesses in the developing countries turn to question the future of such people during their old age. The saving habit of people in relation to non-mandatory pension instruments is quite erratic and savings towards pension aside the compulsory pension scheme is on the decline. Personal savings in Ghana had rarely gone beyond 15 percentage mark of GDP, attaining an average of 10.15% in the 1970s, 4.75% in the 1980s, 7.53% in the 1990s and 5.4% from 2000 to 2010 (Larbi, 2013). Pensioners generally dependent on the mandatory schemes for their old age livelihood with high expected lumpsum and monthly superannuation allowance.

Life after retirement is confronted with aging and health care challenges, family dependents couple with shrinking sources of income. Care for the aged may take the form of the state support system or the family care system. While in the developed countries it is more of the state responsibility, in the developing country the responsibility is on the extended family (Liu, 1998). In Ghana the extended family system used to serve as the social protection for family members during old age where active family members support the young and the aged ones. The evolution of formal social protection has virtually eliminated the extended family system there by rendering care for the aged neither the direct responsibility of the state nor the extended family. The state or the employer in Ghana contributes currently 13.5% of employee's basic salary towards the person's first Tier pension scheme. This mandatory contribution frees the state or employer from the employee during retirement challenges as it is expected that such contributions will provide monthly superannuation allowance for the retiree. Conversely,

whether you support your extended family during active work life time or not, a retiree is not guarantee reciprocal financial support.

The main secure source of livelihood to the aged in Ghana is the pension benefits. The pension benefits can take the form of invalidity, lumpsum, superannuation allowance or survivors' benefits. The focus of the study is to examine the fairness of pension superannuation allowance indexation in Ghana in the light of the prevailing economic indicators and the performance of the pension scheme. The comparison of pension allowance increment to the prevailing macro-economic indicators is key to the sustainability of the livelihood of retiree in Ghana. Despite the fact that the Social Security and National Insurance Trust (SSNIT) pension scheme is a social insurance and not a provident fund where by individuals have their own account, social insurance benefits computation is still based on employee's contribution. On retirement, employees' contributions are used in computing the total benefits due the person and a proportion of 25% is paid as lumpsum and the remaining 75% for the superannuation allowance. As a result of the irrational spending pattern of human beings, the whole amount could have been paid to the person, but the scheme continues to manage the superannuation component. This therefore ascribe to the fact that there is no cost in collecting the contribution as far as retirees are concern apart from ensuring that their funds are invested judiciously.

According to article 80 of Ghana social security Act 766, the Trust shall annually review the pension payment which shall be indexed to wage inflation rates of active members or another rate determined by the Trust in consultation with the Board of the Authority. It is against this backdrop that this study sought to examine the pension allowance indexation in Ghana in the light of the various economic indicators and the performance of the SSNIT pension scheme. The paper is organized into review of related literature, research methodology, results, discussions and conclusion.

2. Literature Review

2.1 Conceptual Framework

The conceptual frame was adapted from Schmahl (1990) in relation to his conceptualization of demography, labour market, capital market and social security linkages. The study adopted and modified Schmahl's concept to include social security, capital market, pension package and pension life linkages. The modification provides a platform for comparison between the net returns on personal savings from the capital market and SSNIT pension benefits in the sustenance of retirees pension life.

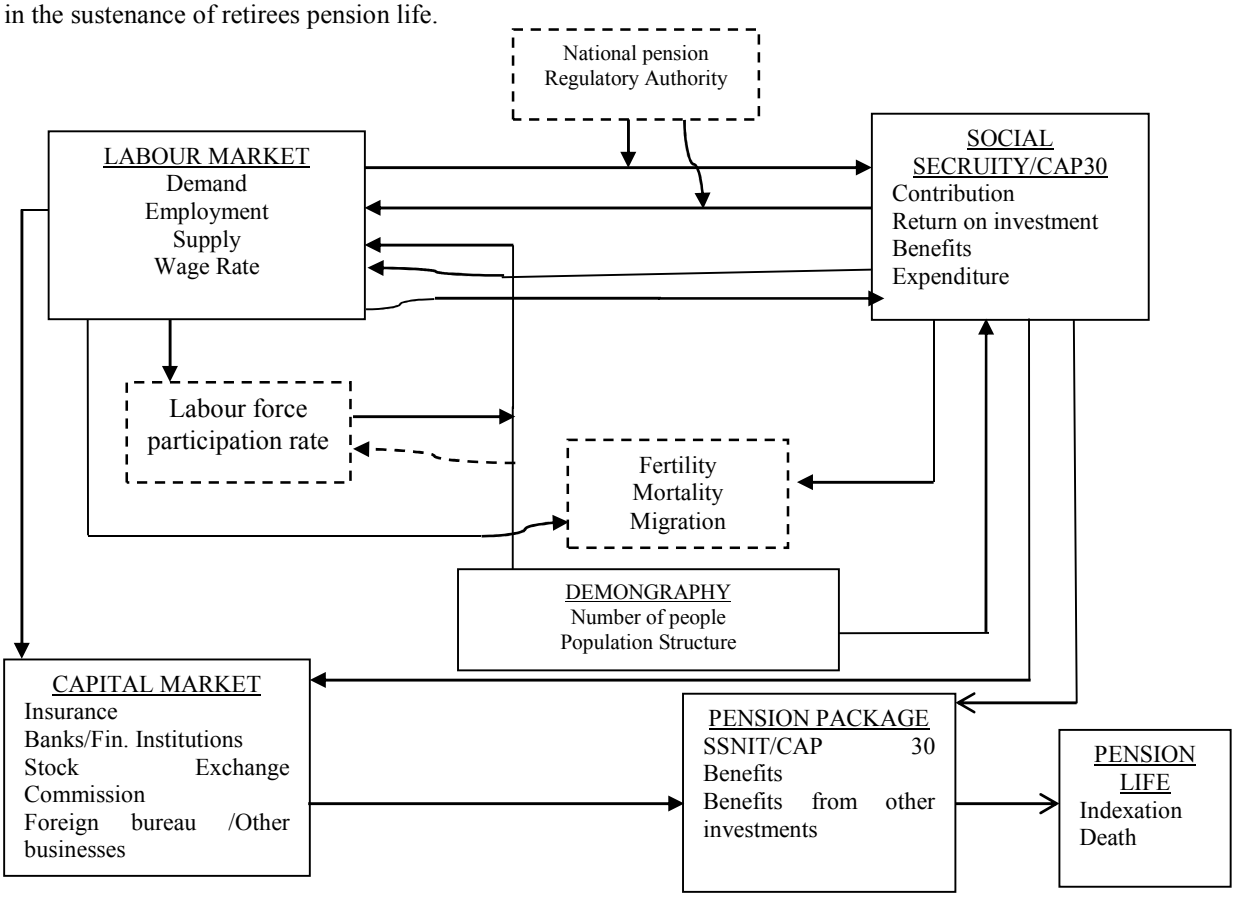

Figure 1.Demography, Labour Market, Capital Market, Social Security and Pension life linkages
Source: Adapted from Schmahl (1990)

The demography of a country depicts the number of people and the age structure of the population. The demography is directly linked to the fertility, mortality and migration rates of the country as well as labour market activities and the operations of social security schemes (Schmahl, 1990). While the demography of a country depends largely on these indicators, the labour market rather depends on the demography of the country as indicated in figure 1. Increase in the fertility rate have the likelihood of increasing the population and increases in mortality and migration rates are most likely to cause a reduction in the population. The overall effect of these indicators on the demography and the consequential effect on social security depend on the impact of these changes on fertility, mortality and migration rates in the country.

The labour market and social security schemes have an interdependent relationship. The activities of the labour market depend on the employment rate of the country and the contribution of these people to the pension schemes (Schmahl, 1990). The social security schemes determine the retirement age of employees and this will determine the replacement rate from the labour market. Changes in the labour market conditions do not affect only the social security schemes in the country but also to a great extent the capital market (Kumado & Gockel, 2003; Lawrence, 2003). The pension regulatory authority has a supervisory role over all pension related activities in Ghana and since the second and third tiers components of the three tier pension scheme of the country are managed by operators of the capital market, and hence is linkage with the labour and capital markets.

The pension package depends on returns on investment from social security schemes and returns from investments in the capital market. Personal investment in the capital market is quite erratic and mostly unsustainable. This study is not so much interested in the interdependent nature of the various endogenous variables to pension life but rather, the reality of pension allowance superannuation indexation in relation to the macroeconomic indicators and the trustee's performance.

2.2 Empirical Evidence

A number of empirical research works had been carried out on pension planning and management of pension funds. However, majority of these research works over concentrated on the importance of pension scheme and its externalities to the detriment of whether the contributors are paid benefits that commensurate their contributions at the prevailing macroeconomic indicators rates. The uniqueness of this study lies in its key focus on whether pension indexation commensurate prevailing macroeconomic indicators and the scheme's performance. As depicted in the conceptual frame-work of this research, the pension schemes, capital market, labour market, demography and pension package of a country are interdependent and researchers are always caught in the web as the change in one of these indicators affect the others making it difficult for researchers to focus on only one of these variables. The pension life is an output variable and has no interdependent relationships with any of its endogenous variables and this makes the study quite explicit.

Amu, M.E.K. and Amu, E.K. (2012) examined the saving behavior of rural households in Ghana. The study revealed that there is no defined saving pattern of Ghanaians as they save whenever there is excess income. The research also suggested that there is low knowledge about saving among rural households. This research work is quite related to the current study but it failed to discuss the returns on savings and the sustainability of livelihood of the retirees. Larbi (2013) explored the long run determinants of private savings in Ghana using co-integration approach. The findings of the study revealed that financial liberalization, per capita income and inflation are the key determinants of private savings. The study also pointed to the erratic saving rate of Ghanaians from 1970 to 2010. Despite the closed similarities and relevant relation between Larbi's work and the current study, the former failed to distinguish between what component of savings rates are pension related and non-pension savings.

Aryeetey and Udry (2000) conducted a study on saving in Sub-Saharan Africa. The study suggested that, Gross Domestic Savings in Africa averaged only 8% of GDP in the 1980s, compared to 23% for Southeast Asia and 35% in the newly industrialized economies. The study also revealed that there is low savings in Africa as a result of array of transaction costs with formal financial markets, coupled with risk management strategies, production activities of households and savings in assets acquisition. Loaya et al. (2000) assessed the savings trend in developing countries. This study pointed out that savings rates around the world vary widely. The East Asians save more than 30% of gross national disposable income (GNDI), while Sub-Saharan Africans save less than 15%. These savings disparities do not call for a common saving policy due to the differences in income streams, preferences, demographics and economies. The determinants of savings are host of externalities, market failures and policy induced distortions.

Afutu (2011) researched on the impact of social security on the Ghanaian teachers and concluded that social security in Ghana has enhanced the standard of living of retirees who were teachers. The research sampled 50 basic school teachers on retirement and collected qualitative and quantitative data using the survey design. The study revealed that, public servants especially have benefited from the introduction of social security, however most of them were disappointed with the inadequate benefit received as they were expecting something higher. According to Agyemang (2011) in his study on the assessment of the returns on employee's pension fund investment and the impact on future benefit payment, the returns on SSNIT investment were generally below the

returns achieved by other investment funds over the study period.

According to Musenge (2003), good governance in social security schemes is critical for the viability and sustainability of the schemes. It is equally critical for building trust in institutions that have often been the subject of suspicion and scorn. One of the major sources of distrust in social security institutions in Africa is the mismanagement of the schemes, political interferences, government control of the composition of the board and inadequate benefits (Kawor, 2009; Oliver, 2003). Joe (2009) also argued that pension funds are invested in companies, households as well as the government which is in contravention with the scheme investment policies. Pension funds are used to grant loans to companies to allow for growth. Shares are also purchased in various companies in order to earn dividends. Loans are also granted to households in order to supplement their income for consumption. Governments also use pension funds to supplement their budgets.

A survey by Mercer (2006) of the governance of global retirement plans offered by multinational Corporations found that sponsoring employers are very concerned about the lack of governance of their benefit plans in the different countries in which they operate. A lack of resources (including skills) and weak local engagement were found to be the most common challenges multinational corporations had in meeting their global pension's governance goals. Kaplan (1995) examined the top ten myths of social security in the United State of America as (1) there is a trust fund, (2) Social Security does not increase the federal budget deficit; (3) retirees are only recovering their own money, (4) Social Security will not be there when one retires, (5) retirement benefits are proportional to one's lifetime earnings, (6) Social Security favors two-income married couples, (7) Social Security favors long-lived marriages, (8) one could do better investing directly, (9) working after retirement makes financial sense, and (10) retirement benefits are taxed more heavily than other pension.

Rauh (2010) conducted a study into whether state pension funds are sustainable and why the government should worry about state pension liabilities. The study analyzes the flow of state pension benefit payments relative to asset levels and contributions. Assuming future state contributions fund the full present value of new benefits, many state systems will run out of money in 10-20 years if some attempt is not made to improve the funding of liabilities that have already been accrued. The expected shortfalls raise the possibility that the federal government will be faced with a decision as to whether to bail out states driven to insolvency by their pension programs. The empirical literature review above demonstrated the veracity of research works carried out in the study area which points to the existence of research gap in the reality of pension superannuation allowance indexation in Ghana and hence the relevant of this study.

3. Research Methodology

The study sought to assess the pension indexation in Ghana and whether the monthly superannuation allowance is sustainable, commensurate the country economic indicators and the performance of SSNIT. The ontology of this study is positivism since pension indexation, monthly superannuation allowance, economic indicators and SSNIT performance can be quantified and objectively measured. The research paradigm is quantitative, deploying times series data on the various indicators from 1991 to 2013. The choice of period is based on the fact that effective social pension started in 1991 despite the promulgation of the 1972 pension act which was operated as provident fund until 1991. SSNIT had not yet released the 2014 and 2015 official annual report of the scheme and hence the limitation of the time series data from 1991 to 2013.

Secondary data were collected on pension fund inflow and outflow, pension superannuation indexation and macroeconomic indicators from 1991 to 2013. In terms of fund inflow and outflow data were collected on annual contribution, annual benefit paid, administrative expenditure, return on investment, fund size in addition to exchange rate and minimum wage. In relation to the macroeconomic indicators, data were also collected on T-bill rates, inflation rates and real return rates computed. The macroeconomic indicators data were collected from bank of Ghana website and the fund inflow, outflow and pension indexation data were obtained from the SSNIT annual reports.

The analytical techniques deployed in this study were the Pair-wised observation Test, the Pearson Product moment correlation Test and the student t-test. The Paired observation test was conduct on the SSNIT pension scheme performance indicators and the pension indexation. The pension indexation was also compared with macroeconomic indicators. The pair-wised test sought to determine whether there are any significant differences between pension indexation and SSNIT performance in terms of growth in contribution, funds size, benefits payment, expenditure and return on investment rate. The test equally assessed whether there is any significant differences between pension indexation and prevailing economic indicators in relation to Treasury bill, inflation, minimum wage and Ghana Cedi to US dollar exchange rates. The pearson product moment correlation assessed the association between the pension indexation and the macroeconomic indicators as well the trustee's performance. The sustainability of the scheme was also put into test using the student t-test of mean.

4. Results and Discussions

The data collected on the pension scheme performance in relation to fund inflow and outflow, and the prevailing

economic indicators were subjected to both descriptive and inferential analysis. The results of the analysis as depicted in the tables below formed the bases for the discussions, conclusion and policy implication of this study.

Table 1. Fund inflow and outflow analysis

Year	annual Contribution (Gh¢ m)	Benefits paid (Gh¢ 'm)	Adm. Expenditure (Gh¢ 'm)	ROI (Gh¢ 'm)	Fund size(Gh¢'m)	Exchange rate (Gh¢=$)	Monthly Min wage (Gh¢)
1991	2.10	0.08	0.50	0.43	8.38	0.04	1.24
1992	3.20	0.25	0.70	0.89	11.85	0.04	1.24
1993	8.61	0.33	0.99	1.85	21.23	0.07	1.24
1994	8.34	0.81	1.78	2.73	29.64	0.10	2.13
1995	11.56	1.35	2.03	3.77	50.90	0.12	3.24
1996	17.00	2.08	3.05	7.68	72.62	0.16	4.59
1997	21.17	3.34	4.95	11.79	99.61	0.21	5.40
1998	23.52	4.54	7.09	16.88	118.17	0.23	5.40
1999	37.28	6.23	8.68	21.17	144.67	0.36	7.83
2000	45.88	9.55	12.32	17.86	205.33	0.67	11.34
2001	72.84	13.35	18.47	26.39	272.67	0.71	14.85
2002	100.17	19.46	22.38	38.59	387.00	0.77	19.31
2003	134.02	30.21	26.65	68.33	621.50	0.86	24.84
2004	163.25	46.55	36.92	85.93	878.00	0.89	30.24
2005	190.60	63.02	40.10	77.77	929.20	0.91	36.45
2006	286.80	79.87	51.83	134.75	1,182.00	0.92	43.20
2007	384.97	117.08	56.75	113.60	1,731.87	0.95	51.30
2008	418.75	163.43	62.37	159.91	2,228.75	1.07	60.75
2009	667.60	223.24	119.10	132.28	2,374.80	1.41	71.69
2010	576.83	310.75	92.92	215.58	2,900.61	1.45	83.97
2011	825.96	355.15	100.61	176.63	3,419.04	1.49	100.71
2012	934.13	443.15	145.67	524.24	4,280.60	1.69	120.97
2013	1159.71	692.31	179.25	515.42	5,564.78	1.96	141.48

Source: SSNIT Annual reports (various years) and Auditor General Reports

Table 1 shows the annual pension contributions, benefits payment, administrative expenditure, return on investment and fund size in millions Ghana cedis. The table also captured the Ghana cedi to dollar exchange rate and the minimum wages within the study period. There is a general steady growth of all these indicators in absolute terms which cannot easily be compared with the relative nature of pension indexation. Table 1 was transformed into relative terms or percentage growth as shown in table 2 to create common bases for the paired observation test.

Table 2.Percentage change in fund inflow and outflow and indexation

Year	% change in contribution	% change in benefits	% change in expenditure	% change in ROI	% change in Fund size	SSNIT pension Indexation (%)
1991	-	-	-	-	-	-
1992	52	213	40	107	41	10.0
1993	169	32	41	108	79	10.0
1994	-3	145	80	48	40	10.0
1995	39	67	14	38	72	10.0
1996	47	54	50	104	43	30.0
1997	25	61	62	53	37	25.0
1998	11	36	43	43	19	14.0
1999	59	37	22	25	22	12.5
2000	23	53	42	-16	42	20.0
2001	59	40	50	48	33	21.8
2002	38	46	21	46	42	39.0
2003	34	55	19	77	61	34.0
2004	22	54	39	26	41	21.8
2005	17	35	9	-9	6	27.4
2006	50	27	29	73	27	20.0
2007	34	47	9	-16	47	15.0
2008	9	40	10	41	29	16.2
2009	59	37	91	-17	7	21.6
2010	-14	39	-22	63	22	11.0
2011	43	14	8	-18	18	7.0
2012	13	25	45	197	25	12.0
2013	24	56	23	-2	30	22.6

Source: SSNIT Annual reports (various years) and Auditor General Reports

Table 3. Paired Test between Pension Indexation and the Scheme (SSNIT) Performance

	Paired Differences							
				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	P-Values
Indexation - % Change in fund size	-18.27727	22.39766	4.77520	-28.20784	-8.34671	-3.828	21	.001
Indexation - % change in ROI	-29.00455	55.29473	11.78888	-53.52086	-4.48824	-2.460	21	.023
Indexation - % change in expenditure	-15.64091	28.13980	5.99943	-28.11740	-3.16442	-2.607	21	.016
Indexation - % change in benefits	-37.82273	48.37845	10.31432	-59.27253	-16.37293	-3.667	21	.001
Indexation - % change in contribution	-19.50455	39.24493	8.36705	-36.90477	-2.10432	-2.331	21	.030

Source: Author's Computation

The analysis in table 3 depicts the paired test between pension indexation and the performance of the SSNIT pension scheme. The preliminary analysis revealed that the mean differences between the pension indexation and the scheme performance indicators are all negative which suggests that the scheme's performance exceeded the pension indexation from the descriptive perspective. The p-values of 0.001, 0.023, 0.016, 0.001 and 0.030 for fund size, return on investment, expenditure, benefit payment and contribution growth rates respectively are all less than 5% (0.05) significant level. This suggests that there are significant mean differences between the pension indexation and the scheme performance indicators.

Table 4. Economic indicators

Year	Inflation (%)	91-day T-bills (%)	% change in exchange (Gh¢=$)	% change in min. wage	SSNIT Pension Indexation (%)	real return %	Fund sustainability ratio (yrs)
1991	18.03	21.05	33.33	111.1	-	-	14
1992	10.06	27.13	0.0	0.0	10	-0.06	12
1993	24.96	34.78	75	0.0	10	-14.96	16
1994	24.4	34.78	42.86	71.74	10	-14.4	11
1995	58.04	45.06	20	51.9	10	-48.04	15
1996	46.56	47.88	33.33	41.67	30	-16.56	14
1997	27.9	47.53	31.25	17.65	25	-2.9	12
1998	19.3	28.67	9.52	0.0	14	-5.3	10
1999	12.5	34.18	56.52	45	12.5	0	10
2000	24.9	41.99	86.11	44.83	20	-4.9	9
2001	32.9	28.94	5.97	30.95	21.8	-11.1	9
2002	14.8	26.6	8.45	30	39	24.2	9
2003	26.7	19.6	11.69	28.67	34	7.3	11
2004	12.7	17.1	3.49	21.74	21.8	9.1	11
2005	15.1	11.4	2.25	20.54	27.4	12.3	9
2006	11.02	9.6	1.1	18.52	20	8.98	9
2007	10.7	10.6	3.26	18.75	15	4.3	10
2008	16.5	24.7	12.63	18.42	16.2	-0.3	10
2009	19.3	22.5	31.78	18.01	21.6	2.3	7
2010	9.38	12.25	2.84	17.13	11	1.62	7
2011	8.73	10.67	2.76	19.94	7	-1.73	8
2012	8.88	11.5	13.42	20.12	12	3.12	7
2013	11.65	18.79	15.98	16.95	22.6	10.95	6

Source: SSNIT Annual reports, Bank of Ghana, Ghana statistical Services, Ghana Stock

Table 5. Paired observation Test between Pension Indexation and Prevailing Economic Indicators

	Paired Differences							
				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	T	Df	P-values
Pension Indexation – Inflation	-1.91783	13.96366	2.91162	-7.95616	4.12051	-.659	22	.517
Pension Indexation - T-bills	-7.23478	14.43737	3.01040	-13.47797	-.99160	-2.403	22	.025
Pension Indexation - Exchange rate ($)	-3.59304	26.56200	5.53856	-15.07931	7.89323	-.649	22	.523
Pension Indexation - - Minimum wage	10.55348	27.02115	5.63430	-22.23830	1.13134	-1.873	22	.074

Source: Author's Computation

Table 4 captured the prevailing macroeconomic indicators within the study period. There is a continuous fluctuation of the economic indicators which does not necessarily implied similar fluctuating performance of pension schemes in Ghana. This postulation is supported by the assertion that economic indicators have their sensitivity limit with regards to pension performance. Table 5 depicts the pair-wised test between pension indexation and the prevailing macroeconomic indicators. The descriptive analysis revealed that all the mean differences between pension indexation and the economic indicators are negative which suggest that all the economic indicators exceeded the pension indexation. The significance of these differences was ascertained from the inferential analysis. The p-values of 0.517, 0.523 and 0.074 for inflation, exchange rate and minimum wage respectively which are greater than 5% (0.05) level of significance suggest that there are no significant mean differences between pension indexation and the economic indicators such as inflation, exchange rate and minimum wage. Conversely the p-value of 0.025 which is less than 5% (0.05) significant level implies that there is significance mean difference between the pension indexation and Treasury bill rates.

Table 6. Sustainability and Real Return on Investment analysis

	Paired Differences							
				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	T	Df	P-value
sustainability – - Idealstable (15yrs)	4.73913	2.64948	.55246	-5.88485	-3.59341	-8.578	22	.000
real return - zero - return	1.64000	14.22704	3.03322	-7.94792	4.66792	-.541	21	.594

Source: Author's Computation

The pension fund sustainability which is the ratio between the fund size and the total expenditure was computed and compared with the assumed ideal sustainability rate of 15 years. This assumption is grounded on the premise that the current full pension qualification under the SSNIT pension scheme is a minimum of 15years contribution, attainment of age 60 years among others. There is a negative difference of 4.739 years between the fund sustainability and the assumed ideal stable rates with a p-value of 0.000 which suggests that mean difference is significance at 5%. The mean real return difference was negative and the test analysis with 0.594 p-values which is greater than 5% (0.05) suggests that the negative mean real return is not significantly different from zero return. The correlation between the pension indexation, macroeconomic indicators and SSNIT performance is not significant and even negative in some cases as depicted in the Appendix.

5. Conclusion and Policy Implication

The pension indexation recorded negative differences between all the scheme performance and prevailing economic indicators. All the negative differences in relation to the scheme performance are significant which confirmed that pension superannuation allowance indexation in Ghana is far less that the relative growth rates of pension contribution, administrative expenditure, benefit payment and return on investment. The negative differences between the pension indexation and the economic indicators are not significant for inflation, Ghana cedi and dollar exchange rates and national minimum wage and the converse for Treasury bill rates. The results of

the study also ascribed to the fact that retirees do not get positive real return on their pension superannuation. The pension fund sustainability which measures the viability of the scheme and its ability to settle all expenditure or liabilities that fall due is on the decline and even below expectation.

The legal determinant of SSNIT pension superannuation allowance indexation in Ghana is enshrine in article 80 of the social security Act 766 which states that "the Trust (SSNIT) shall annually review the pension payment which shall be indexed to wage inflation rates of active members or another rate determined by the Trust in consultation with the Board of the Authority". The analysis of the study revealed that the annual pension indexation in Ghana is less than the economic indicators including the minimum wage and prevailing inflation rate. The other rates determined in consultation with the SSNIT Board per the Act 766 cannot be attributed to the scheme performance due to the fact that the scheme performance indicators far exceeded the pension indexation. The underpinning of pension indexation in Ghana is therefore a myth and not a reality.

The policy implication of the findings and the conclusion of the study suggest that the board and management of SSNIT, the pension regulatory authority and the Government should review the disconnect between nonpayment of realistic pension indexation rate culminating into negative real return on the part of retirees and the unsustainability rate of the fund. The fund inflow and outflow in relation to return on investment and administrative expenditure respectively are potential activators of the disconnect and should also be reviewed.

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Appendix

Table 7.Correlation matrix of SSNIT performance and Pension Indexation

		Inflation rate	91 day T-bill rate	Percentage change in exchange rate	Percentage change in minimum wage	Percentage change in average GSE return rate	SSNIT pension indexation
Inflation rate	Pearson Correlation	1	.755**	.290	.303	.100	.131
	Sig. (2-tailed)		.000	.179	.159	.649	.551
	N	23	23	23	23	23	23
91 day T-bill rate	Pearson Correlation	.755**	1	.622**	.231	.113	.016
	Sig. (2-tailed)	.000		.002	.289	.607	.943
	N	23	23	23	23	23	23
Percentage change in exchange rate	Pearson Correlation	.290	.622**	1	.312	.109	-.220
	Sig. (2-tailed)	.179	.002		.148	.621	.313
	N	23	23	23	23	23	23
Percentage change in minimum wage	Pearson Correlation	.303	.231	.312	1	-.078	-.197
	Sig. (2-tailed)	.159	.289	.148		.724	.366
	N	23	23	23	23	23	23
Percentage change in average GSE return rate	Pearson Correlation	.100	.113	.109	-.078	1	.012
	Sig. (2-tailed)	.649	.607	.621	.724		.958
	N	23	23	23	23	23	23
SSNIT pension indexation	Pearson Correlation	.131	.016	-.220	-.197	.012	1
	Sig. (2-tailed)	.551	.943	.313	.366	.958	
	N	23	23	23	23	23	23

**. Correlation is significant at the 0.01 level (2-tailed).

a. Cannot be computed because at least one of the variables is constant.

Table 8.Correlation matrix of Economic indicators and Pension Indexation

		percentage change in contribution	percentage change in benefits	Percentage change in expenditure	Percentage change in ROI	Percentage change in fund size	SSNIT pension indexation
percentage change in contribution	Pearson Correlation	1	-.097	.191	.162	.472*	.093
	Sig. (2-tailed)		.667	.394	.471	.027	.681
	N	22	22	22	22	22	22
percentage change in benefits	Pearson Correlation	-.097	1	.281	.181	.228	.110
	Sig. (2-tailed)	.667		.205	.419	.307	.625
	N	22	22	22	22	22	22
Percentage change in expenditure	Pearson Correlation	.191	.281	1	.128	-.026	.229
	Sig. (2-tailed)	.394	.205		.571	.909	.306
	N	22	22	22	22	22	22
Percentage change in ROI	Pearson Correlation	.162	.181	.128	1	.290	.051
	Sig. (2-tailed)	.471	.419	.571		.191	.823
	N	22	22	22	22	22	22
Percentage change in fund size	Pearson Correlation	.472*	.228	-.026	.290	1	.173
	Sig. (2-tailed)	.027	.307	.909	.191		.442
	N	22	22	22	22	22	22
SSNIT pension indexation	Pearson Correlation	.093	.110	.229	.051	.173	1
	Sig. (2-tailed)	.681	.625	.306	.823	.442	
	N	22	22	22	22	22	22

*. Correlation is significant at the 0.05 level (2-tailed).