TELUS Health

St. Christopher & Nevis Social Security

14th Actuarial Review of the Social Security Fund as of December 31, 2023

November 2024

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Abbreviations and Acronyms

EIB	Employment Injury Benefits
GDP	Gross Domestic Product
IW	Insurable Wages (or Earnings)
ILO	International Labour Office
IMF	International Monetary Fund
IPS	Investment Policy Statement
LTB	Long-term Benefits
OECD	Organisation for Economic Co-operation & Development
SKN	St. Christopher & Nevis
SKNSS	St. Kitts-Nevis Social Security
SS	Social Security
SSB	Social Security Board
SSF	Social Security Fund
STB	Short-term Benefits
TFR	Total Fertility Rate
UEB	Unemployment Benefit

Introduction

St. Christopher (St. Kitts) & Nevis Social Security (SKNSS) began operations in February 1978. Prior to this, a National Provident Fund system was in place. Social Security currently covers employed and self-employed persons in the Federation and offers three main types of social security benefits – short-term benefits, long-term benefits or pensions, and employment injury benefits. The system is financed by contributions which are levied on employment earnings up to a wage ceiling and are paid by employers, employees and self-employed persons. Surplus funds that are not yet needed to pay benefits are invested locally, regionally and internationally in various types of securities and properties.

This is the report of the 14th Actuarial Review of the Social Security Fund and, in accordance with Section 39 of the St. Christopher & Nevis Social Security Act, 1977, it is being prepared three years after the 13th Actuarial Review. This report is being prepared for the Board.

The main purpose of periodic actuarial reviews is to determine if the social security system in St. Kitts-Nevis operates on sound financial and actuarial bases and if it provides adequate and affordable levels of income protection. Where considered necessary, recommendations aimed at ensuring that these objectives can be achieved for current and future generations are made.

For this actuarial review, 60-year demographic and financial projections have been performed. It should be noted that these projections are dependent on the underlying data, methodology and assumptions concerning uncertain future events and that the outcomes and eventual experience will most likely differ, possibly materially, from that indicated in the projections. Therefore, in accordance with the Social Security Act, periodic actuarial reviews should be conducted. The next actuarial review of the Social Security Fund is due as of December 31, 2026.

We wish to thank Mr. Christopher Louard, Director, Mrs. Coressa Williams, Chief Financial Officer, Mr. Donovan Herbert, Chief Insurance Operations Officer, Mrs. Jacintha Maynard, Manager Research & Statistics, and all other members of the Social Security staff who provided data and otherwise assisted with this review.

All dollar amounts in this report are quoted in Eastern Caribbean (EC) dollars.

November 13, 2024

Executive Summary

St. Christopher-Nevis Social Security makes promises to former and current workers that extend beyond sixty years. It is therefore important that it is well designed, well governed and properly administered. Periodic actuarial reviews provide a comprehensive assessment of the current and projected state of the Social Security Fund. They also provide policy recommendations for changes designed to ensure that a suitable balance between benefit adequacy, contribution affordability, and financial sustainability is achieved for both current and future periods. This is the report of the 14th Actuarial Review of the Social Security Fund (SSF) and has been conducted as of December 31st, 2023. It covers the 3-year period 2021 to 2023.

Experience During The Review Period

The economy recovered well from the COVID-19 pandemic with contribution income in 2022 matching its 2019 total of $99.6 million. However, during that period, benefits increased from $101 million to $131 million. Highlights of other relevant experience during 2021 to 2023 include:

- The number of SSB contributors in 2022 returned to pre-Covid levels and increased to 30,146 in 2023. Among this were 1,430 persons aged 62 to 69 who work but do not fully contribute given their age.
- The number of pensioners increased from 7,139 at the end of 2020 to 8,463 at the end of 2023.
- Annual benefit expenditure increased by 26% between 2020 and 2023.
- Age pensions exceeded contribution income in all three years.
- Total expenditure averaged 16.4% of insurable wages compared to contributions of 11% of insurable wages. In the three-year period 2018 to 2020, expenditure averaged 13.3%.
- Provisions for impairment losses totaled $13 million.
- The Fund incurred small surpluses in 2021 and 2023 but an $18 million deficit in 2022 due to reduced investment income.
- The average rate of return on reserves over the three years was 3.2%.
- Investments continue to be heavily concentrated in short-term deposits and public agencies. Real estate holdings grew by $41 million over the 3-year period.
- Total SSF reserves at the end of 2023 were $1.71 billion.

None of the contribution and benefit related recommendations in the report of the 13th Actuarial Review were implemented during the review period. However, a new investment policy was approved, and extensive work was done on new Funding and Risk policies.

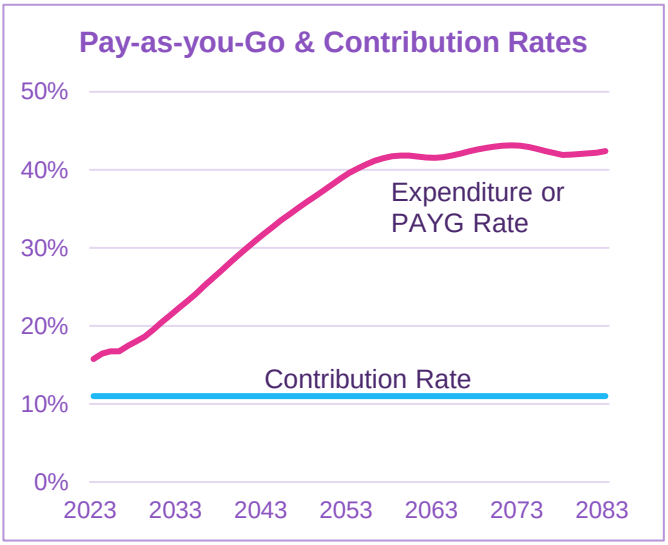
Main Findings

This report's assessment of SSB policy and design indicators suggests that current contribution and benefit provisions provide a good level of benefit adequacy and income protection to most workers and pensioners. Although not required, the periodic adjustment of pension amounts has been effective in replacing most of the price inflation felt by pensioners. The last pension increase which was for minimum pensioners only, was in January 2024. Even though the wage ceiling has not been increased since 1998 only between 9% and 10% of insureds earn more than $6,500 per month. Participation rates among self-employed persons and informal sector workers continue to be low.

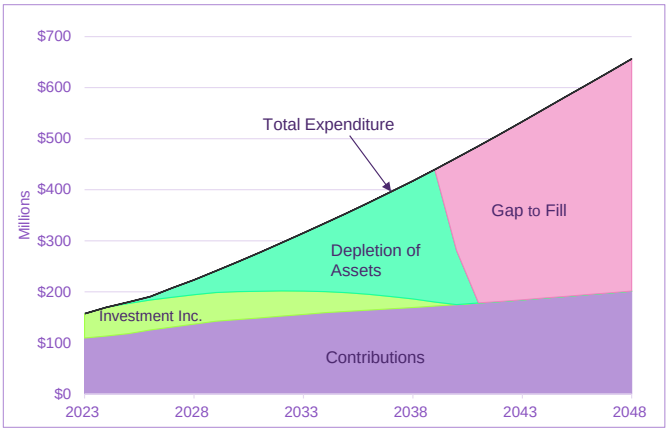
Fund investments continue to be poorly diversified with heavy concentrations in short-term deposits, local public sector and properties. Administrative costs relative to contributions collected decreased during the review period but remain high.

Projection Results

60-year projections of SSB income, expenditure and reserves, under three distinct population and economic growth scenarios, are presented in this report. As shown in the chart below, reserves are projected to be depleted in 2040 (left chart) under the *Best Estimate* scenario if the contribution rate is not increased and benefit reforms not made. Expenditure relative to wage is projected to increase to over 40% in the 2050's. (right chart)



If no reforms are made the adjacent chart illustrates the sources of financing future expenditure. In 2024, expenditure will be met from contributions plus investment income but thereafter, assets will have to be liquidated to meet some expenditure. If this continues and all assets are exhausted, the gap to be filled in 2041 (pink section) will be around 18% of insurable wages.



When reserves are exhausted, there will only be two possible sources of additional income to meet expenditure:-

(a) higher contributions, and

(b) special transfers from government.

At the current stage of Fund finances with benefits growing at over 8% per year, higher investment returns will have almost no impact on overall reserves.

Projections were also made under two different sets of assumptions – one optimistic and one pessimistic. Following are key results, expressed in ranges, for the three projection sets:

1. In the *Best Estimate* and *Pessimistic* scenarios, total expenditure will exceed total income in all years after 2024, and after 2028 under the *Optimistic* scenario. When this occurs, assets will need to be liquidated to help pay benefits.
2. The pay-as-you-go rate in 2040, around the time the Fund is projected to be depleted, will be between 25% and 34%.
3. The average long-term cost of benefits over the next 60 years, often referred to as the general average premium, is between 28% and 40%.

These results are similar to those of the 13th Actuarial Review and once again show that the Fund is not financially sustainable over the medium and long-terms at current benefit provisions and contribution rate.

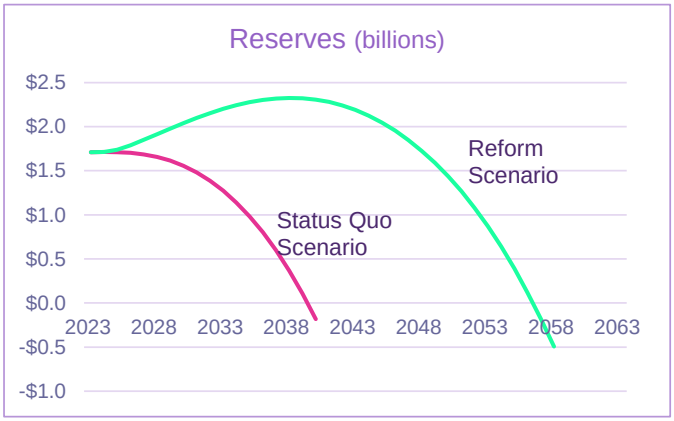
Recommendations

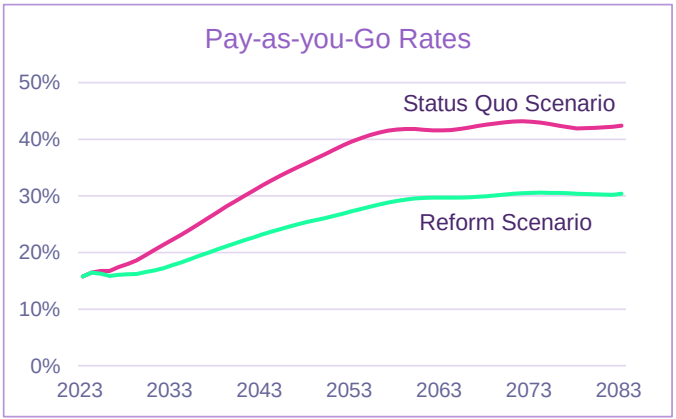
While the Fund is not yet in crisis, further delays in major reforms will result in contribution rates being close to 30% in 2040 if pensions are to be paid in full each month. Critical to preventing a default on pension promises, following are specific recommendations that should be adopted no later than January 2025:

Parameter	Existing	Recommended Change
1. Contribution rate	• 11%	• Increase to 17% by 2027
2. Wage ceiling	• $6,500 per month	• To $7,500 in 2028 but only if pensions made progressive (as per 9 below)
3. Pensionable age	• 62	• Gradually increase to 66 • Could keep 62 for early/reduced pension
4. Age pension changed to Retirement pension	• No income test	• Must be “retired” or “substantially retired” if below pensionable age (62 to eventually 66) • “Substantially retired” defined as having wages below 50% of the wage ceiling.
5. Early Age pensions	• None	• Available from age 62 but reduced by 8% for each year age at the start of pension is less than pensionable age
6. Contribution requirement for Age Pension	• 500 weeks	• Increase gradually to 750 weeks
7. Accrual rate schedule	• 30% after 500 weeks + 2% per set of 50 weeks up to 750 weeks + 1% per set of 50 up to 1,750 weeks (60% after 35 years)	• 1.5% for each year of contributions. (60% attained after 40 years of contributions)
8. Average Earnings for pensions	• Average of best 3 years in last 15 years	• Average of best 7 years over full career
9. Progressive Pensions	• Same replacement rate for all wage levels	• Lower replacement rate applied to wages above $5,000 pm
10. Pension increases	• Ad hoc (last one in 2024)	• None for next 10 years

Further details about each recommended reform and suggested transition periods may be found in Table 6.2.

The above recommendations are considered a minimum of what is required now to prevent draconian actions in ten to fifteen years. As shown below, while the projected outlook for the Fund is improved, depletion is still projected within 35 years. However, projected expenditure relative to wages is reduced from over 40% to 30%.





This shows that even with the reforms recommended above, higher contribution rates and smaller pension promises will likely be required. Policymakers should therefore consider not keeping age 62 for an early reduced Age pension but instead keep one single pensionable age that increases from 62 to 66.

Other recommendations made in this report are:

1. Increase the portion of assets invested outside the Federation and the region.
2. Introduce a permanent unemployment benefit that is harmonized with Severance Fund benefits. The Government's Long Service Gratuity should be eliminated. (Appendix F)
3. If the government adds paternity leave to labour laws, introduce a paternity benefit that compliments the leave provided for in legislation.
4. Implement new technologies that will allow self-employed persons and informal sector workers to easily pay contributions to, and receive benefits from, the SSB.
5. Improve contribution compliance through effective linkages with government departments that issue permits to businesses and self-employed persons.
6. Seek ways to reduce administrative costs.
7. Continue to engage stakeholders and public on the state of the SS Fund. Audited financial statements and actuarial reports should be placed on the SSB website and an annual public meeting led by the Chair and Director should be held by June 30 of each year.
8. Create a comprehensive set of Good Governance Guidelines

St. Kitts-Nevis is now the only Eastern Caribbean country that has not made material reforms to enhance sustainability since inception. The time to act is now.

Chapter 1 Historical Experience

100% of Social Security's contribution income and over 95% of its investment income are directly affected by performance of the local economy. Population size is also directly impacted by economic growth.

For most of the last 140 years the St. Kitts-Nevis population has remained between 40,000 and 48,000. The 2022 Population Census, however, placed the resident population at 51,320, having increased from 47,195 in 2011 and 46,325 in 2001. (See Section 4.1 for historical population counts.)

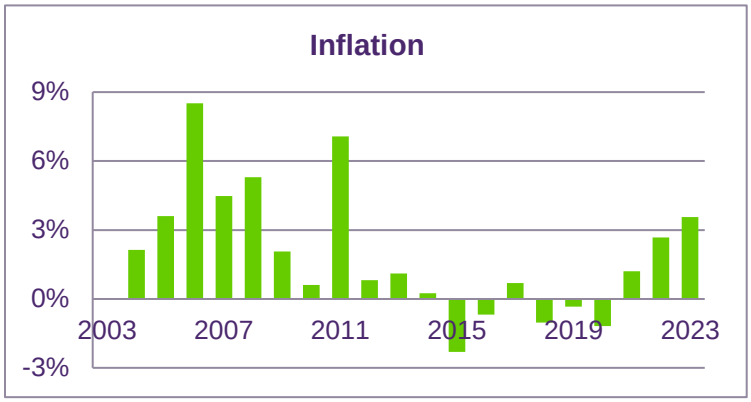
Through charts this Chapter illustrates the evolution of the St. Kitts-Nevis economy and key Social Security demographic and financial experience factors.

1.1 Population & Economy

Figure 1.1. GDP Growth & Inflation, 2003 to 2023

Real GDP growth rates have been mostly positive since 2003 but have generally declined as shown by the following average annual rates of growth over different periods.

- 20-year average: 2.0%
- 10-year average: 1.3%
- 5-year average: -0.2%



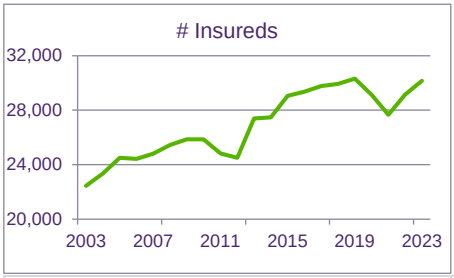
Inflation rates have been relatively low over the past two decades as shown below:

- 20-year average: 1.9%
- 10-year average: 0.3%
- 5-year average: 1.2%

1.2 Social Security

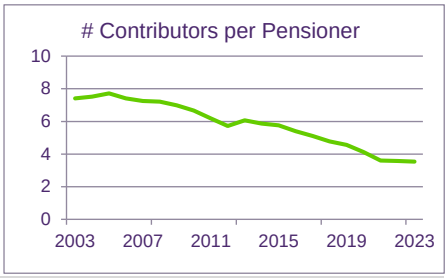
The following charts show the number of persons contributing and drawing pensions each year.

Figure 1.2. Insured Persons (Contributors) & Pensioners, 2003 to 2023



The number of contributors (including those 62 and older) has generally increased with temporary declines during economic downturns. Lockdowns and other impacts from the Covid-19 pandemic significantly affected employment levels in 2020.

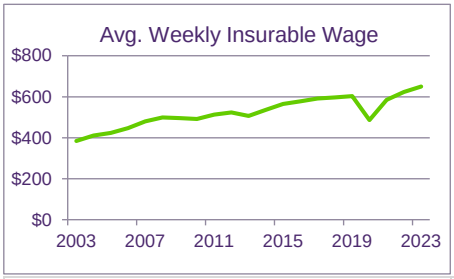
The number of pensioners has consistently increased each year as expected.



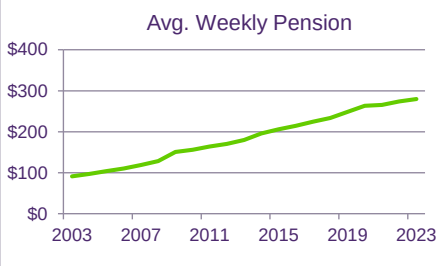
Pensioners in payment continue to grow faster than contributors. The inverse of this is the support ratio. In 2023, there were 3.5 contributors for each pensioner compared with 7.4 in 2003 and 6.1 in 2013.

The following charts show the average insurable wages and pension amounts for those contributing and drawing pensions, respectively.

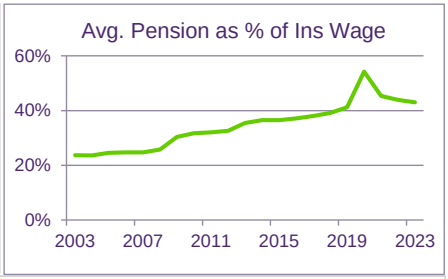
Figure 1.3. Average Insurable Wages & Average Pensions, 2003 to 2023



Average insurable wages generally increased each year and rebounded quickly after fall in 2020 due to the Covid-19 pandemic.



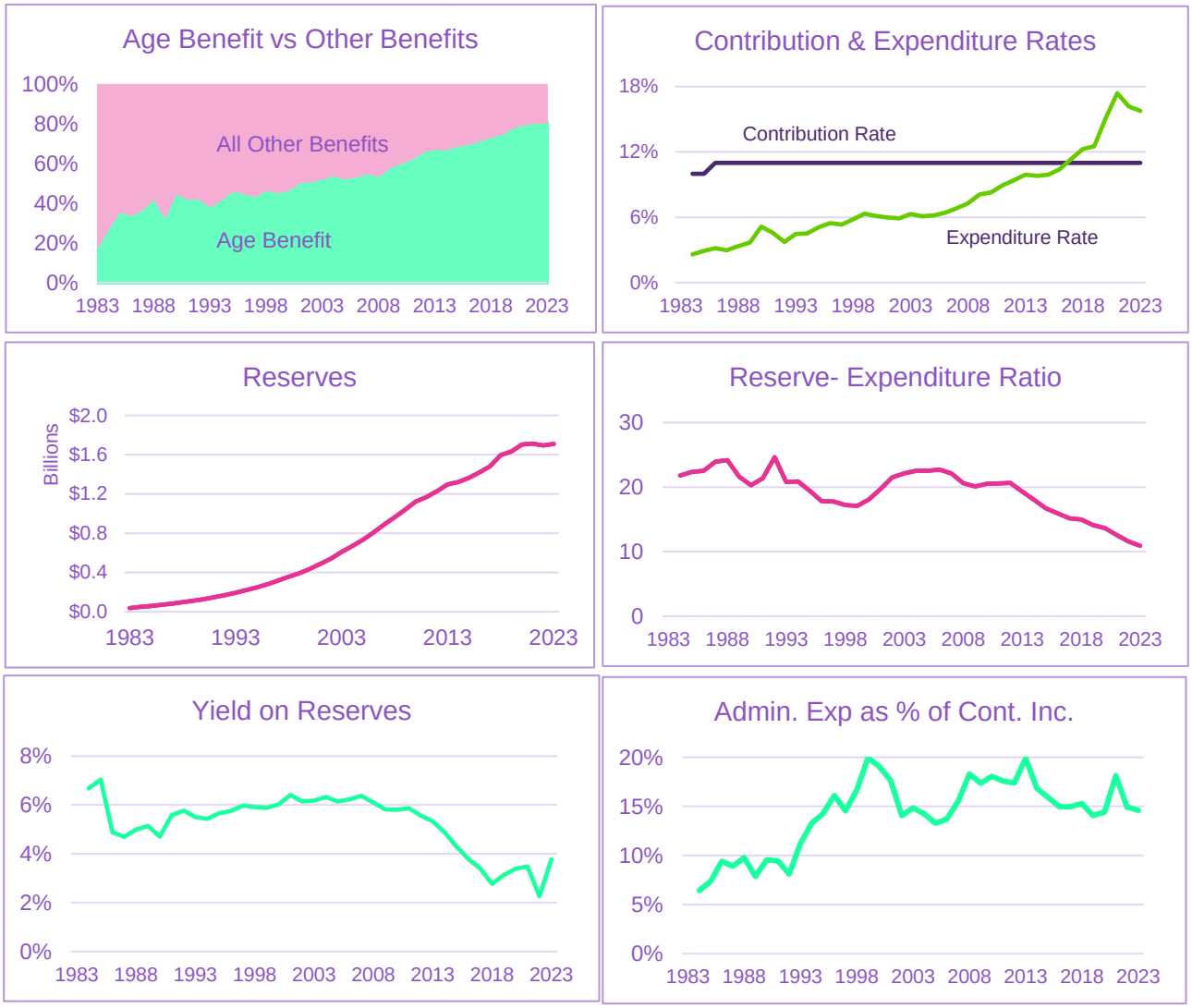
Average pension amounts also generally increase each year due to new pensioners having a higher average pension than those that die and periodic pension adjustments.



Overall, the average pension amount has increased more quickly than the average insurable wage.

The following six charts provide a near-complete picture of SSF experience since inception.

Figure 1.4. Social Security Financial Experience, 1983 to 2023



Once persons started to qualify for Age pensions, Age benefits as a proportion of all benefits increased quickly and now stands at 81%. (top left chart) As the number of pensioners increased total expenditure as a percentage of insurable wages gradually increased (top right chart). These patterns are typical of new social security systems. Since 2017 expenditure has exceeded contributions and although down from a peak of 17.4% in 2021 due to the Covid pandemic, the expenditure rate exceeded the contribution rate by nearly 5% in 2023.

With surpluses each year for over 40 years, reserves grew to $1.7 billion in 2020 (middle-left chart) but have plateaued since then. With expenditure increasing faster than reserves, the reserve-expenditure ratio (middle right chart) has steadily decreased over the last twenty years. This is also typical of a partially funded social security system that has not increased its contribution rate.

Yields on total reserves (lower left chart) declined sharply since 2011 and have not exceeded 4% since 2015 while administrative expenses continue to be high at around 15% of contribution income (lower right chart).

Following are values and brief analysis for several key indicators as of the dates of this and the previous three Actuarial Reviews.

Table 1.1. Social Security Performance Indicators

	2014	2017	2020	2023	Comments
1. Contribution Rate	11.0%	11.0%	11.0%	11.0%	Unchanged since 1986
2. Expenditure Rate	9.8%	11.4%	15.1%	15.8%	2020 higher than expected due to Covid-19 and lower wage base but increasing trend continues
3. Benefits as % of GDP	2.3%	2.9%	4.7%	4.9%	Benefits are increasing faster than nominal GDP
4. Reserve-Expenditure Ratio	18.0	15.1	13.6	10.9	Steady decline continues
5. 3-year average nominal yield on reserves	5.3%	3.8%	3.1%	3.2%	Below target rates for the past nine years
6. Administrative Expenses (3-yr average) as: ▪ % of Contributions ▪ % of Contributions + Benefits ▪ % of Insurable Wages	 18.0% 10.6% 2.0%	 15.3% 8.5% 1.7%	 14.6% 7.1% 1.6%	 15.9% 6.8% 1.7%	Except for when benefits are included in the metric, there has been no sustained reduction in the last nine years
7. # of Contributors Per Pensioner	5.9	5.1	4.1	3.5	Number of pensioners increasing more quickly than the number of contributors

Note: Some amounts may vary from the reports of the 11th, 12th and 13th Reviews.

Chapter 2 Experience Since the 13th Actuarial Review

2.1 Amendments to Act & Regulations

There were no amendments made to the Social Security Act and/or Regulations during the review period. See Section 2.5 for benefit increases that took effect in January 2024.

2.2 Financial Experience

Following are summary income and expenditure amounts for 2021 to 2023. A more detailed version of Social Security Fund finances for these years may be found in Appendix D.

Table 2.1. Summary of SSF Finances, 2021 – 2023 (millions of $'s)

	2021	2022	2023
Income			
Contributions	86.1	99.5	109.5
Investment (excl Impairment provisions)	58.5	38.0	63.1
Impairment & Expected Credit Losses	(1.6)	(10.2)	(1.2)
Other	0.8	0.8	1.0
Total Income	**143.8**	**128.1**	**172.5**
Expenditure			
Benefits	120.4	131.4	140.9
Administrative	15.6	14.9	16.0
Total Expenditure	**136.0**	**146.2**	**156.9**
Excess of Income over Expenditure	**7.8**	**(18.1)**	**15.6**
Other Comprehensive Income	**1.2**	**0.0**	**0.0**
Reserves (end of year)	**1,713.6**	**1,695.5**	**1,711.0**

1. Totals may be off due to rounding
2. 2023 taken from draft audited statements
3. The presentation of income and expenditure above is different from audited financial statements with impairment on debt and Expected Credit Losses shown as negative income.

Highlights of income and expenditure over the three-year review period are:

(i) After a decline in 2021 due to the effects of the Covid-19 pandemic, contributions in 2022 returned to their 2019 level and increased significantly in 2023.

(ii) Investment income fell in 2022 but rebounded in 2023.

(iii) Impairment losses on investments over the three years were 0.8% of reserves.

(iv) Benefit expenditure increased each year as expected.

While the summary of SKNSS finances presented above shows total income and expenditure, internal accounting procedures separate finances into three branches representing the three major types of social security benefits – long-term or pensions, short-term and employment injury benefits. Each benefit is allocated to one of the three branches and each benefit branch is allocated a certain percentage of contribution income, investment income and administrative costs. Since the benefit types have different characteristics and financing mechanisms, the separation allows for better monitoring of experience. The existence of branches does not, however, affect the overall financing or sustainability of the Fund.

The financial experience of each branch and detailed benefit experience for 2021 to 2023 may be found in Appendix E.

The Social Security Fund also comprises three other reserves as described in Table 2.2 below.

Table 2.2. Non-Benefit Reserves

Reserve	Description	Dec. 2023 (in millions)	Status for SSF Reserves Available for Benefits
Freehold Properties & Capital	Cumulative gains on revaluation of freehold properties and financial instruments	$18.2	Included
National Provident Fund (NPF)	Accumulated NPF balances less members' claims settled.	$10.7	Excluded
Staff Supplemental Benefit	Assets of the Staff Pension Plan.	$8.5	Excluded

2.3 Experience Compared with Projections of 13th Actuarial Review

In the 13th Actuarial Review, projections were prepared under three different sets of demographic and economic assumptions. Shown below is a comparison of actual cumulative experience over the 3-year period with the projections of the "Best Estimate" scenario.

Table 2.3. Projections from 13th Actuarial Review Compared with Actual Experience

	2021-2023 Projected (millions)	2021-2023 Actual (millions)	% Difference
Contribution Income	$303.0	$295.1	3% below projected
Investment Income	$156.1	$162.2	4% above projected
Impairment Losses	-	($13.0)	None assumed
Benefit Expenditure	$389.2	$392.7	1% above projected
Administrative Expenditure	$43.9	$46.5	6% above projected
2023 Year-end Reserves*	$1,748.1	$1,711.0	2% below projected
Reserve-Expenditure Ratio (end of period)	11.3	10.9	3% below projected

* Includes Freehold Properties & Capital Reserves

2.4 Investments

At the end of 2023, Social Security Fund investments (cash excluded) stood at $1.65 billion up from $1.61 billion at the end of 2020. During the review period, the average yield on reserves was 3.2%. With inflation averaging 2.5% per annum, the average real rate of return on reserves was 0.6%.

The following table provides a summary of the investment mix of the Social Security Fund at year-ends 2020 and 2023.

Table 2.4. Summary of Cash & Investments, Year-end 2023 & 2020 (millions of $'s)

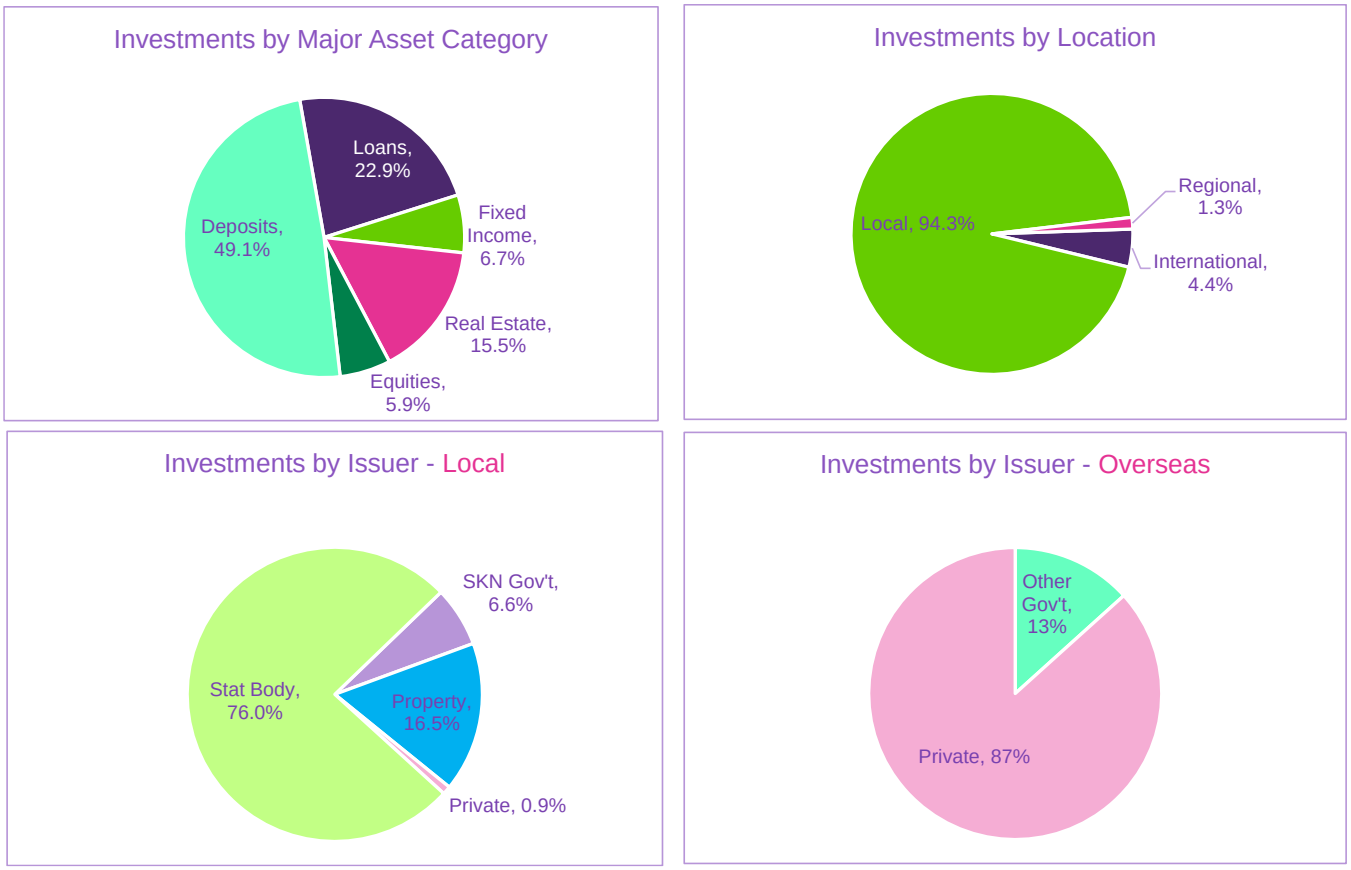
Investment Category	2023		2020	
	$'s	%	$'s	%
Certificates of Deposit	808.7	49.1%	821.7	51.0%
Fixed Income	110.0	6.7%	88.3	5.5%
Loans	377.1	22.9%	382.4	23.7%
Equities	96.5	5.9%	102.5	6.4%
Real Estate	256.3	15.5%	215.5	13.4%
Total	**1,648.6**	**100.0%**	**1,610.3**	**100.0%**

Notes: Totals may be off due to rounding

Although the changes in values held in each investment category were relatively small, there was a notable increase in real-estate holdings and only a small decrease in deposits.

Diversification is a critical component in the investment of social security funds. How well investments are diversified can be assessed using four criteria:- across various asset classes, across maturity dates, across different locations and by issuer of the underlying securities. The following charts illustrate the diversification of SSF investments as of December 2023.

Figure 2.1. Investments, December 2023



Note: SKNA National Bank Ltd & Bank of Nevis are included in Statutory Bodies.

A summary of the asset mix, with specific emphasis on diversity, shows that:

- By asset class:- still poorly diversified with nearly 50% held in short-term deposits.
- By location:- still poorly diversified with 94% invested locally.
- By issuer:- still poorly diversified with 78% backed by local public sector entities. (SKNA National Bank Ltd. Is included as a statutory body given its majority government ownership)
- By maturity:- still poorly diversified with an over-concentration of investments in short-term deposits compared with the Fund's obligations being mostly long-term. Given that cash flow deficits are likely to start in 2025, having some assets in short-term deposits is prudent.

Further analysis of the Fund's investments at the end of 2023 reveals that 90% of all deposits, or 44% of all investments, are held in SKNA National Bank Ltd.

SSF investments are guided by a new Investment Policy Statement (IPS) which was approved in 2023. This Policy sets out investment objectives and guidelines for the Fund and defines the management structure and monitoring procedures for both internal and external investment management. It also includes a desired asset allocation policy for the Fund.
The following table shows the asset mix on December 31, 2023, compared with the acceptable ranges found in the IPS.

Table 2.5. Asset Mix Compared to IPS Strategic Allocation, Dec. 2023

Asset Class/Region	Actual	Allowable Range	Variance
Money Market Securities	49%	20% - 30%	Well above
Fixed Income – Domestic & Regional	5%	3% - 10%	In line
Fixed Income – International	2%	10% - 30%	Well below
Equities – Domestic & Regional	3%	0% - 5%	In line
Equities – International	3%	5% - 15%	Below
Domestic Private Credit	23%	20% - 25%	In line
Domestic Real Estate	16%	10% - 13%	Above
International Real Estate	0%	0% - 5%	In line

The Board should set specific timelines for the actual asset allocations to be in line with those recently agreed to and now set out in the Investment Policy.

2.5 Subsequent Events

1. Effective January 2024, the following benefit increases took effect:
    - Minimum Age/Invalidity and adult Survivors pension was increased from $430 to $500 per month,
    - Assistance (non-contributory) pension was increased from $255 to $350 per month, and
    - Funeral grant for an insured person or spouse was increased from $2,500 to $3,500.

2. During June and July 2024, extensive public consultations relating to major reforms were held with stakeholders.

Chapter 3 Assessment of Performance & System Design

National social security systems must balance benefit adequacy with contribution affordability and long-term sustainability. There is an obvious trade-off between these concepts:- higher benefits provide larger incomes to beneficiaries but cost more. On the other hand, inadequate pensions result in pressures to increase benefits or add new ones. This Chapter contains a review of current design parameters and examines how well key policy objectives are being met.

3.1 Meeting Policy Objectives

The SKN Social Security system is mandatory for all employed and self-employed persons. It has a defined benefit structure where the rules governing eligibility and the amounts payable are defined in statute. The SSB is expected to be perpetual. Together, the rules and the amounts at which key parameters are set determine benefit adequacy. How well certain rules are enforced, and how well the system is managed, also impact how well policy objectives are met.

Following is a brief assessment of four of the SSB's primary objectives: - coverage, pension adequacy, financial stability and administrative efficiency.

- Coverage, which looks at how well workers of all sectors are covered for income security in old age;
- Pension adequacy, which relates to the ability of pensions to provide a decent standard of living;
- Financial sustainability, which ultimately relates to the affordability of the system to future contributors; and
- Administrative efficiency relates to effectively collecting contributions and paying benefits, keeping administrative costs low while delivering quality service and fulfilling statutory reporting obligations.

To determine how well these objectives are now being met, and how likely they are to be met in the future, an analysis of current contribution and benefit provisions, key rates and parameters as well as actual performance indicators has been performed. While some mention is made of Short-term and Employment Injury benefits, this analysis focuses primarily on pensions which accounted for 87% of SSF benefit expenditure in 2023.

3.1.1 Coverage

With SSB participation mandatory for all employed and self-employed persons, coverage concerns relate to actual participation rates by formal and informal sector workers and the proportion of elderly residents receiving an SSB pension. The following five estimates for 2023 provide a fairly good analysis of current coverage levels:

a)	% of employed workers contributing to the SSB	> 90%
b)	% of contributors that have their wages fully covered by the SSB	90%
c)	% of the elderly resident population who receive an SSB pension (assumes 5% of pensioners live outside the Federation)	91%
d)	% of deaths resulting in funeral grants (2021 - 2023)	80%
e)	% of births resulting in maternity grants (2021 to 2023)	70%

The first two indicators above show that most employed persons participate in the SSB and that most have their wages fully covered even though an adjustment to the wage ceiling has not occurred since 1998. With no ceiling adjustment for over 25 years, the SSB has lost relevance to those earning above $78,000 per year.

The high rates of receipt for pensions among elderly residents, Funeral and Maternity grants, confirm the high level of participation among employed persons.

3.1.2 Adequacy

Benefit adequacy can be broken down into two components:

- Current adequacy: Are pensions adequate today?
- Future adequacy: Under current provisions, will the pension be adequate in the future?

Current Adequacy

The 2024 minimum contributory pension is currently $500 per month is approximately 27% of the minimum wage and 15% of average insurable wages.

For pensioners receiving more than the minimum, their pension replacement rates are initially between 30% and 60% of their final average insurable wage, lower for the small percentage of very highly paid persons. This replacement level is considered adequate.

Future Adequacy

A worker who has steady earnings below the wage ceiling and contributes to SS for a full career, sustaining him/herself predominantly from his employment earnings, can expect a pension of close to 60% of pre-retirement earnings. By ILO and other international standards this is adequate and thus meets any reasonable test of benefit adequacy for a social security pension. The challenge quite often, especially for the self-employed, is that many workers do not have steady wages and do not consistently work and contribute for 35 years.

The ceiling has been fixed at $6,500 where around 91% of workers are fully covered. Given that neither wage ceiling nor pension adjustments are automatic there is some uncertainty regarding future benefit adequacy. While no ceiling adjustment for an extended period will have an effect on the ultimate pension replacement rate of higher income workers, not increasing pensions periodically will result in a gradual decline in the purchasing power of these pensions.

When compared with targeted replacement rates for mandatory social security pensions in OECD countries, the SKN SSB provides relatively high replacement rates. The significant difference between pensions in old age in SKN compared with OECD countries is the additional pensions that most in OECD countries can look forward to – state means-tested pensions to those at the lower end of the income scale and private pensions (employment linked or personal) for others. Given the low level of pension participation and personal long-term savings by workers, the higher replacement rate targets in SKN are reasonable.

Social security pensions are not intended to provide all of the income required to support oneself in old age. Based on the above, current contribution and benefit provisions provide pensions in old age that meet reasonable tests of future benefit adequacy. Reform measures designed to enhance long-term sustainability may have to include freezing future pension increases for an extended period.

When non-pension benefits are considered, the various short-term and employment injury benefits provide almost full income protection for all contingencies that could lead to involuntary loss of employment income. The sole benefit not currently provided is one that covers loss of income due to involuntary unemployment.

3.1.3 Financial Sustainability

National social security systems are expected to be perpetual. Therefore, financial sustainability should focus on whether the system is able to meet the needs of current generations without compromising the needs of future generations.

As highlighted in recent actuarial reviews, the SSF is not financially sustainable:– reserves are projected to be exhausted within 15 to 20 years and the cost of benefits at that time will be around 28% of insurable wages.

It is not possible to determine today the highest contribution rate that workers and employers will be able to afford, or willing to pay, twenty to thirty years from now. With reserves now declining assets will have to be sold to help meet expenditure, and higher contribution rates will be required in the future.

Based on regional and international comparisons the SSB provides a very generous benefits package for a modest contribution rate and thus unless major reforms are made soon, the Fund's financial sustainability is in doubt.

Since contribution rate increases are inevitable, the key challenge for current and future Boards and governments regarding financial sustainability is determining how extreme pension reforms and possible cuts will be. No significant reforms to contributions or benefits aimed at enhancing sustainability have been made since inception.

3.1.4 Administrative Efficiency

Administrative efficiency relates to both how well the SSB administers the social security program (collects contributions, adjudicates and pays benefits and invests surplus funds) and how much it costs to perform these functions. An average of 15.9% of contribution income, or 1.7% of insurable wages, was spent on operating expenses over the three-year review period. This is considered high both in absolute terms and when compared with other social security funds in the OECS.

Regarding effectiveness of its operation, it appears that the Board performs reasonably well at collecting contributions and adjudicating claims and paying benefits in a timely manner. Actuarial review and financial audits are up to date, but annual reports have not been prepared for several years.

Both cost savings and improved performance could however be achieved if greater use were made of available technology. While there is no single benchmark or target that is ideal for all countries and all social security systems, given the level of technology now available, targets of 1.5% of insurable wages in 5 years and 1.2% in 10 years are not unreasonable.

3.2 Comparisons with Other OECS Countries

Even within the OECS, it is difficult to compare social security schemes given the special peculiarities of each country's system, history and economy. For example, the age of the scheme affects its current financial state as does the level of the initial contribution rate and reforms made since inception. The following table highlights the similarities and differences of the SKN SSB with other national insurance and social security schemes in the OECS in several key areas.

Table 3.1. SKN SSB Compared with Other NI & SS Systems in the OECS

Contribution rate	Only St. Lucia (10%) and Anguilla (10.5% increasing to 12% in 2027) are currently lower than SKN (11%). Montserrat and SVG are gradually increasing to 15%, Dominica to 15.75% while Antigua-Barbuda and Grenada are gradually increasing to 16%.
Wage ceiling	Anguilla and Dominica ($7,000 pm) have a higher wage ceiling than Antigua-Barbuda and SKN. ($6,500 pm).
Benefits package	Minor differences only
Pensionable Age	Only SKN (62) and Anguilla (65) remain unchanged since inception. Antigua-Barbuda, Dominica, Grenada, & St. Vincent are gradually increasing to 65. Montserrat and St. Lucia are already at 65.
Pension accrual rates	Other than Antigua-Barbuda (50%) and Montserrat (55%), all others have a maximum pension rate of 60% of average insurable wages. Other than SKN with 35 years, it takes 40 years of contributions to attain the 60% rate in other territories. It will soon take 45 years in some countries.
Minimum pension	Only Anguilla has a higher rate at $715 per month.
Adjustment of wage ceilings and pensions	Ad hoc increases in all countries. Although not in the OECS, The Bahamas, Barbados and the BVI now have automatic adjustments to both.

Chapter 4 Best-Estimate Projections

Many demographic and economic factors, such as changes in the size and age structure of the population, economic growth, employment and wage levels and inflation, influence Social Security Fund finances. Therefore, to best assess the Fund's long-term costs and sustainability, projections of St. Kitts-Nevis's total population and the economy are required. For this review 60-year projections have been performed.

In developing the assumptions used for the projections, historical trends and reasonable future expectations, as well as the interrelationships between the various assumptions, have been taken into account. Core projections have been performed using assumptions that reflect best estimates. The demographic and financial projection results based on this assumption set are referred to throughout this report as "Best Estimate."

4.1 Population Projections

St. Kitts-Nevis has experienced net out-migration for decades but with increased economic activity in recent years, there was overall net in-migration between 2011 and 2022. Fertility rates continue to decline and other than for violent deaths primarily among young males, life expectancy continues to increase.

4.1.1 Assumptions

Projections of St. Kitts-Nevis's population begin with the results of the 2022 census and in each projection year thereafter, fertility, mortality and migration assumptions are applied. Fertility rates are used to estimate the number of births each year while mortality rates determine how many, and at what ages, people are expected to die. Net migration represents the difference between the number of persons who permanently enter and leave St. Kitts-Nevis and is the most volatile of the three factors. The 2022 population census placed St. Kitts-Nevis's population at 51,320, up from 47,195 in 2011.

The total fertility rate (TFR) represents the average number of live births per female of childbearing age in a particular year. If there is no migration, a TFR of 2.1 is required for each generation to replace itself. St. Kitts-Nevis's TFR was estimated at between 1.4 and 1.5 over the period 2020 to 2023. For these projections it is assumed that TFR's in St. Kitts-Nevis will decrease to 1.35.

The United Nations Latin America life table and the number of deaths in the past few years suggest life expectancy at birth in 2023 of around 72 for males and 75 for females. Improvements in life expectancy are assumed to occur in accordance with UN estimates.

The third factor that affects population size is migration. This is the most volatile and most difficult to measure. Inter-census population changes suggest average levels of net inward migration between 2011 and 2022 of around 120 persons per year. For this report, net migration is assumed to return after 2030.

For the medium and longer terms, the economic assumptions used assume stable and positive economic growth and labour productivity in all years. Although simplistic, they approximate usual economic cycles and volatility that encompass periods of expansion and recession. They also account for projected changes in the population and labour force that will provide the capacity for additional output through more workers and increased productivity (real wages).

The following table indicates the principal demographic and economic best-estimate assumptions for this and the previous Review. Further details may be found in Appendix B.

Table 4.1. Principal Demographic & Economic Assumptions

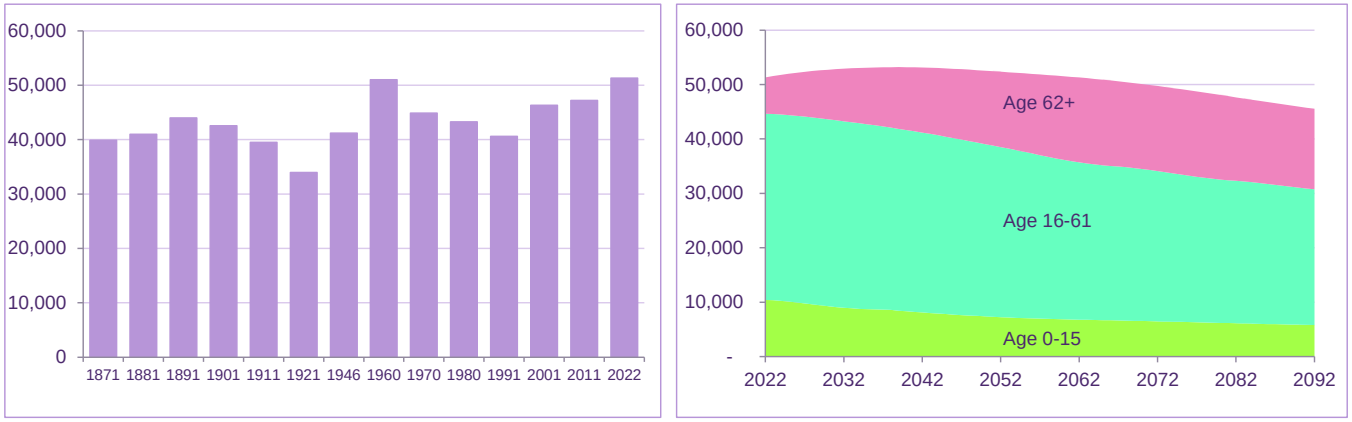
		14th Actuarial Review	13th Actuarial Review
Total Fertility Rate		1.4 in 2023 decreasing to 1.35 in 2030, constant thereafter	1.65 in all years
Mortality Improvements^		Slow	Slow
Net In-Migration Per Annum		0 until 2030, then increasing to 60 in 2040 then to 200 in 2060	-50 in 2011 decreasing to 0 in 2021, then increasing to 25 in 2025 then to 100 in 2065
Real GDP Growth Rates	Short-term (from IMF Article IV) Next 5 years 2034+ (2036+ for 13th)	4.7%, 4.3%, 3.8%, 3.1%, 2.9%, 2.9% (2024 to 2029) 1.0 0.5%	1.8%, 6.4%, 5.1%, 2.4%, 2.4% (2021 to 2025) 2% declining to 0.75% in 2036 0.75%
Real Increase in Wages (Productivity)		½% less than GDP growth up to 2029, 0.7% up to 2034, 0.4% thereafter	0%, 3.5%, 3.5%,1.5%, 1.0% (2021 to 2025), 0.5% thereafter
Inflation (all years)		2.0%	2.0%

^ UN mortality improvement rates

4.1.2 Projection Results

The two charts in Figure 4.1 illustrate St. Kitts-Nevis' population from 1871 to 2022 and the projected population under the assumptions presented above. From the 2022 Census population of 51,320, St. Kitts-Nevis's population is projected to increase over the next 20 to 25 years and then gradually decrease. These projections are similar to those of the 13th Actuarial Review.

Figure 4.1. Historical & Projected St. Kitts-Nevis Populations



Numerical details of these projections may be found in Appendix C.

It should be noted that the projections presented in this report have been prepared for the sole purpose of determining the implications for SSF finances.

For the SSF, while projected future population size is important, the age distribution is more critical, as pensions to the elderly represent the bulk of expenditure and contributions will be paid by those of working-age. As shown above, while the number of children and working-age persons is projected to decrease over time, the elderly population is expected to increase significantly.

4.2 Social Security Fund Projections

Best Estimate Social Security Fund demographic and financial projections have been modeled using the best-estimate population results, best estimate SS-specific assumptions and the contribution and benefit provisions that were in place on January 1, 2024.

4.2.1 Assumptions

Key Social Security assumptions are shown below.

Table 4.2. Social Security Best Estimate Assumptions

	14th Review	13th Review
Avg. Contribution Rate	11.0%	11.0%
Insurable Wage Ceiling	To $7,000 per month in 2027 then increases by change in average wages	To $7,000 per month in 2024 then increases by change in average wages
Short-term Benefits as a % of Insurable Wages	1.5% of insurable wages	Increasing from 1.55% to 1.6% of IW over 10 years
Employment Injury Benefits (excluding pensions)	0.05% of insurable wages	Increasing from 0.07% to 0.12% of insurable wages over 10 years
Pension Increases	3% in 2027, 1.0% per annum thereafter	5% in 2024, 1.5% per annum thereafter
Long-term Yield on Reserves	3.5%	3.0%
Admin. Expenses as a % of Insurable Wages	Decreasing from 1.6% to 1.5% of insurable wages over 10 years	Decreasing from 1.6% to 1.5% of insurable wages over 10 years

The main assumption changes between the two reviews are a ½% increase in projected investment returns and the lower assumption of annual pension increases – 1.0% instead of 1.5%, given the financial changes expected.

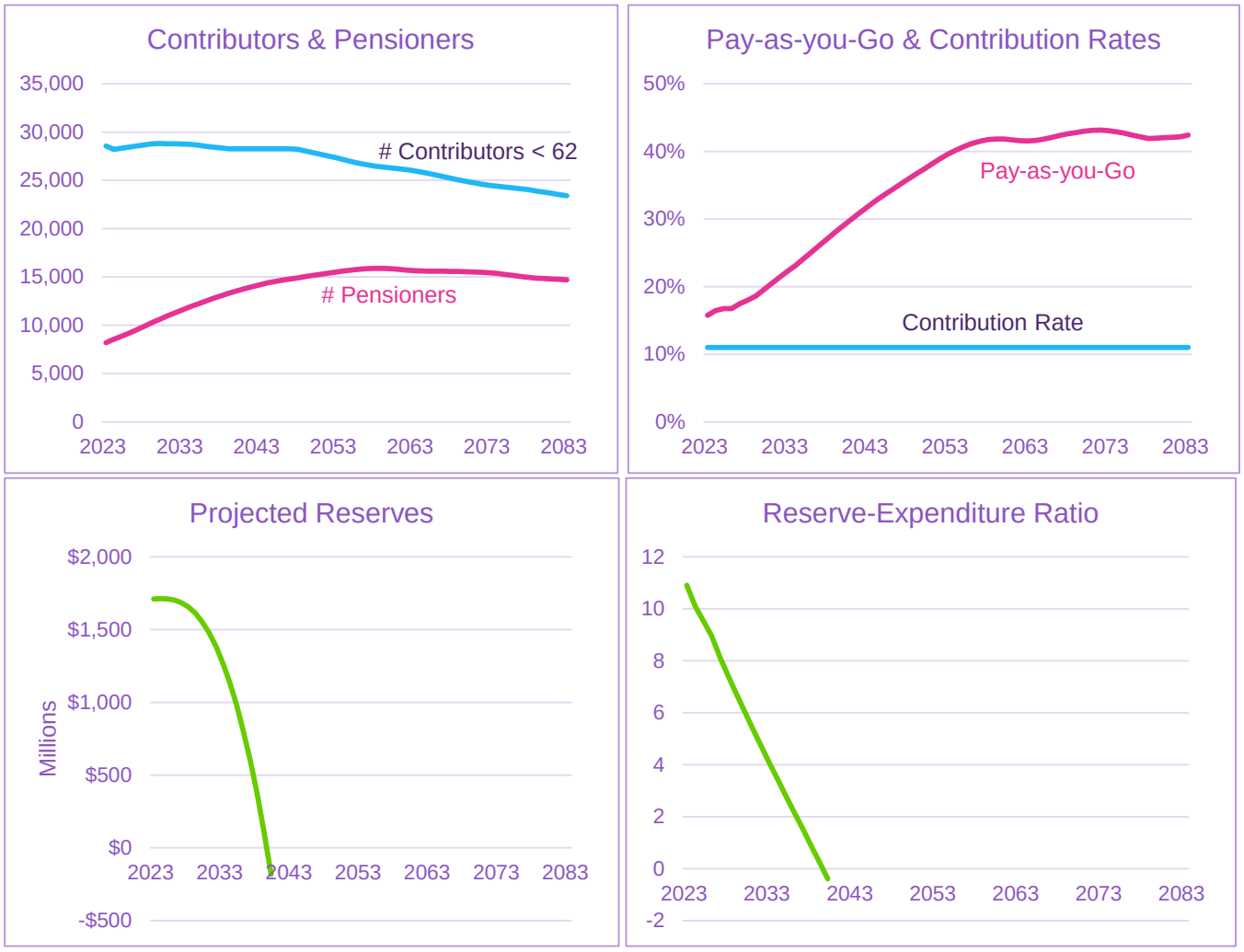
It should be noted that the assumptions and rates in the above table are not targets which Social Security should aim to achieve but instead are the assumptions on which the projections are based.

By assuming that the wage ceiling and pensions in payment will be increased periodically in line with inflation, it is being assumed that the prevailing level of coverage and income security made possible by the ceiling and minimum pension will be generally maintained throughout the remainder of the projection period.

4.2.2 Projection Results

For this report, the projections for the three benefit branches are combined. Reserves as of December 2023 were $1.71 billion. The charts in Figure 4.2. highlight key projection results of the *Best Estimate* scenario assuming that the contribution rate remains at 11% and that there are no changes to benefit rules.

Figure 4.2. SSF Projections – Best Estimate Scenario



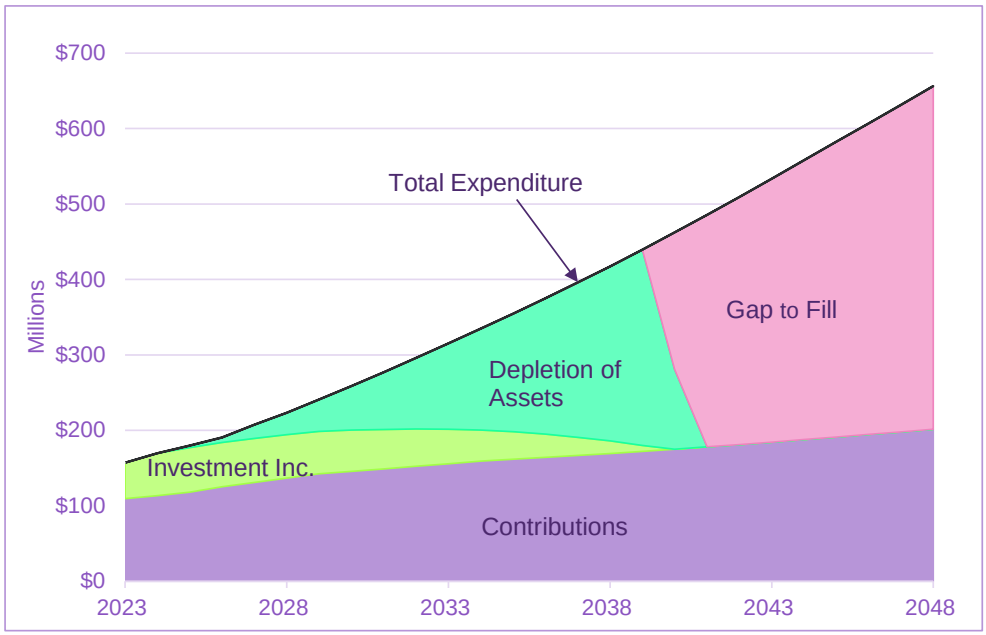
The key results of these projections are summarised as follows:

1. Expenditure will exceed contribution income in all years.
2. Other than the possibility of a small surplus in 2024, expenditure is expected to exceed total income (cash flow deficits) in all years.
3. Reserves are projected to be exhausted in 2040.
4. When reserves are exhausted, annual expenditure relative to total insurable wages (pay-as-you-go rate) will be approximately 29%. The contribution rate will therefore have to be increased to this level to meet total expenditure.
5. The pay-as-you-go rate will increase to above 40% in 2083.

6. The number of contributors (under age 62) for each pension in payment is expected to fall from 3.5 in 2023 to 1.6 in 2083.

The following chart illustrates how the sources of financing expenditure will change as the Fund moves from a state of expenditure being 43% more than contributions in 2023 to 2.6 times contributions when all reserves are exhausted in 2040.

Figure 4.3. Sources of Financing Expenditure, 2023 to 2048



1. With expenditure projected to exceed contributions plus investment income each year after 2024, assets will have to be liquidated to help meet expenditure.
2. As more and more assets are liquidated, they will eventually run out (2040). If the contribution rate is not increased, the income shortfall (pink section) in 2041 is estimated at 19% of insurable wages. The required contribution rate would then have to be 30%.

Numerical details of the financial and demographic projections are provided in Tables 4.3 to 4.5.

Table 4.3. Projected Income & Expenditure - Best Estimate (millions of $'s)

Year	Inflows			Outflows				Reserves	
	Contribution Income	Investment Income	Total	Benefits	Admin. & Other Expenses	Total	Surplus/ (Deficit)	End of Year	# of times current year's expenditure
2021	86.1	57.7	**143.8**	120.4	15.6	**136.0**	**7.8**	**1,714**	12.6
2022	99.5	28.6	**128.1**	131.4	14.9	**146.2**	**(18.1)**	**1,695**	11.6
2023	109.5	62.9	**172.5**	140.9	16.0	**156.9**	**15.6**	**1,711**	10.9
2024	113.4	58.9	**172.3**	153.4	16.2	**169.6**	**2.7**	**1,714**	10.1
2025	118.0	58.9	**177.0**	162.9	16.8	**179.7**	**(2.8)**	**1,711**	9.5
2026	125.2	58.8	**184.0**	172.7	17.8	**190.5**	**(6.5)**	**1,704**	8.9
2027	130.9	58.3	**189.2**	188.9	18.6	**207.5**	**(18.3)**	**1,686**	8.1
2028	136.6	57.5	**194.1**	204.0	19.3	**223.4**	**(29.3)**	**1,657**	7.4
2029	142.4	56.3	**198.7**	220.7	20.1	**240.8**	**(42.2)**	**1,615**	6.7
2030	145.7	54.6	**200.2**	238.1	20.5	**258.6**	**(58.4)**	**1,556**	6.0
2031	149.0	52.3	**201.2**	256.1	20.9	**277.0**	**(75.8)**	**1,481**	5.3
2032	152.3	49.3	**201.6**	274.6	21.4	**296.0**	**(94.3)**	**1,386**	4.7
2033	155.7	45.8	**201.4**	293.4	21.8	**315.2**	**(114)**	**1,273**	4.0
2038	169.3	16.6	**185.9**	393.9	23.4	**417.3**	**(231)**	**365**	0.9
2043	184.4	(35.9)	**148.5**	508.4	25.2	**533.6**	**(385)**	**(1,238)**	(2.3)
2048	201.2	(117.8)	**83.4**	629.0	27.2	**656.2**	**(573)**	**(3,713)**	(5.7)
2053	218.8	(235.5)	**(16.7)**	758.3	29.2	**787.5**	**(804)**	**(7,251)**	(9.2)
2063	267.9	(603.4)	**(335.5)**	977.1	34.9	**1,012.1**	**(1,348)**	**(18,219)**	(18.0)
2073	317.5	(1,192.1)	**(874.6)**	1,203.3	40.4	**1,243.7**	**(2,118)**	**(35,720)**	(28.7)
2083	381.8	(2,089.3)	**(1,707.5)**	1,424.2	47.3	**1,471.5**	**(3,179)**	**(62,334)**	(42.4)

Table 4.4. Projected Benefit Expenditure - Best Estimate (millions of $'s)

Year	Pensions & Grants				Short-term Benefits	Employment Injury Benefits	Benefits as a % of Ins. Wages
	Old Age	Invalidity	Survivors	Assistance			
2021	96.1	4.7	4.7	1.0	12.5	1.3	15.4%
2022	106.1	4.5	5.0	1.0	13.6	1.2	14.5%
2023	114.1	4.5	5.3	0.8	14.9	1.3	14.2%
2024	124.2	4.8	6.3	1.2	15.5	1.4	14.9%
2025	132.3	5.1	6.8	1.1	16.1	1.5	15.2%
2026	140.3	5.5	7.2	1.1	17.1	1.6	15.2%
2027	154.4	6.1	7.9	1.0	17.8	1.7	15.9%
2028	167.5	6.7	8.4	1.0	18.6	1.9	16.4%
2029	182.2	7.3	8.9	1.0	19.4	2.0	17.1%
2030	197.9	7.8	9.5	0.9	19.9	2.1	18.0%
2031	214.2	8.3	10.1	0.9	20.3	2.2	18.9%
2032	231.1	8.9	10.7	0.9	20.8	2.4	19.8%
2033	248.1	9.4	11.4	0.8	21.2	2.5	20.7%
2038	339.8	12.1	15.1	0.7	23.1	3.1	25.6%
2043	445.4	14.3	19.3	0.6	25.1	3.7	30.3%
2048	557.0	16.2	23.7	0.5	27.4	4.2	34.4%
2053	678.2	17.0	28.2	0.4	29.8	4.5	38.1%
2063	876.8	20.7	37.3	0.3	36.5	5.6	40.1%
2073	1,082.9	24.5	45.8	0.2	43.3	6.7	41.7%
2083	1,279.7	30.6	53.7	0.1	52.1	8.2	41.0%

Table 4.5. Projected Contributors & Pensioners at Year-end - Best Estimate

Year	# of Contributors	# of Pensioners					Total # of Pensioners	Ratio of Contributors to Pensioners
		Age	Invalidity	Survivors	Death & Disablement	Assistance		
2021	27,664	5,612	373	1,091	86	328	**7,490**	**3.7**
2022	29,140	6,020	404	1,111	84	300	**7,919**	**3.7**
2023	30,146	6,442	364	1,293	80	284	**8,463**	**3.6**
2024	28,203	6,734	373	1,342	86	270	**8,805**	**3.2**
2025	28,313	7,027	373	1,374	86	258	**9,119**	**3.1**
2026	28,436	7,309	379	1,414	88	247	**9,436**	**3.0**
2027	28,562	7,599	390	1,446	90	236	**9,761**	**2.9**
2028	28,683	7,927	403	1,470	92	226	**10,118**	**2.8**
2029	28,795	8,271	417	1,487	95	215	**10,485**	**2.7**
2030	28,803	8,608	424	1,499	97	206	**10,834**	**2.7**
2031	28,798	8,931	434	1,507	99	197	**11,167**	**2.6**
2032	28,783	9,237	445	1,517	102	188	**11,489**	**2.5**
2033	28,748	9,528	453	1,528	104	180	**11,793**	**2.4**
2038	28,360	10,824	501	1,609	114	143	**13,191**	**2.2**
2043	28,268	11,843	534	1,692	122	114	**14,305**	**2.0**
2048	28,213	12,495	546	1,751	126	90	**15,008**	**1.9**
2053	27,333	13,096	526	1,780	123	72	**15,597**	**1.8**
2063	26,001	13,250	520	1,776	123	44	**15,713**	**1.7**
2073	24,485	13,107	490	1,713	116	22	**15,448**	**1.6**
2083	23,416	12,514	481	1,599	113	8	**14,715**	**1.6**

Note: # of contributors in 2024 and onwards are those under age 62 who contribution at the full rate

4.2.3 General Average Premium

For social security systems that are partially funded and designed to be perpetual, costs are usually presented in terms of the pay-as-you-go-rates, which represent annual expenditure as a percentage of insurable wages. For private pension plans, however, where full funding is the financing objective, there are other measures of the system's cost that may be useful for policy makers to be aware of.

The general average premium is the average level contribution rate required over the next 60 years to fully cover total expenditure during that period. This rate may be looked at as the average long-term cost of the complete Social Security benefits package. For the *Best Estimate* projections, the general average premium is 32.5%.

4.2.4 Actuarial Balance

Another measure of the financial sustainability of a social security system is called "actuarial balance." For a given period, the actuarial balance can be defined as the difference between:

1. the sum of the beginning reserves and the present value of future contributions (money available to meet expenditure), and
2. the present value of future expenditure,

divided by the present value of future insurable wages. This formula produces a rate that indicates the adequacy or insufficiency of the present contribution rate for a given period. For the Social Security Fund, the deficiency expressed in dollars and as a percentage of insurable wages is shown in Table 4.6.

Table 4.6. Actuarial Balance 2024 – 2083 ($'s are in millions)

	2023 Year-end Reserves	1,711
Plus	PV of Future Contributions	4,918
Minus	PV of Future Expenditure	14,541
Equal	PV of Surplus/(Shortfall)	(7,912)
	Actuarial Balance (% of Insurable Wages)	(17.7%)

Consistent with previous discussions, the negative actuarial balance indicates that together with reserves, the current contribution rate is insufficient to meet future expenditure for the next 60 years. The shortfall of 17.7% indicates that the average contribution rate would have to be increased to 28.7% for the entire period in order for reserves to last up to 2083.

4.3 Comparison with Results of the 13th Actuarial Review

The following table shows a comparison between key projection results from the 13th Actuarial Review and this Review.

Table 4.7. Summary Results of 14th Review Compared With 13th Review

	14th Actuarial Review	13th Actuarial Review
Expenditure First Exceeds Total Income	2025	2024
Reserves Depleted	2040	2040
Pay-as-you-go rate in 2080	42.0%	38.8%
General Average Premium	32.5%	31.0%

As shown above the key projection results of this 14th Review are similar to those of the 13th Review.

4.4 Sensitivity Analysis – SSB Factors

Given the extensive set of assumptions required for projecting SSF finances and the length of the projection period, future experience will certainly differ from that projected under best estimate assumptions. To illustrate a reasonable range for the Fund's outlook, projections using two different sets of population, economic and Social Security assumptions are presented in the following chapter. However, certain Social Security factors such as yield on reserves and contribution collection rates will also impact the Fund's outlook. The changes in expenditure and reserve depletion for small differences in several assumptions are shown in the following table.

Table 4.8. Sensitivity Tests – SSB Factors

Assumption	Differs from Best Estimate	PAYG Rate in 2033	Reserve Ratio in 2033	Reserves Depleted
Best Estimate		22.3%	4.0	2040
Long-term Yield on Reserves (3.5%)	+1%	22.3%	4.7	2041
	-1%	22.3%	3.5	2039
Contribution Collections (no effect on benefits)	+2%	21.8%	4.1	2040
	-2%	22.7%	3.9	2040
Pension Increases	50% of Best Estimate assumption	21.7%	4.3	2040
One-time Shock in 6th projection year	$30m payout & 10% reduction in contributions in 2029 & 2030	22.3%	3.8	2040

As shown above, the outlook for the Fund is only slightly better/worse if yields on reserves and contribution collections are greater/lower than assumed, and minimal for smaller pension increases and a one-time shock that affects both income and expenditure. These small changes in outlook are a consequence of the significant effect that changing demographics will have on future expenditure assuming no changes to projected benefits.

Chapter 5 Alternative Scenarios

Best Estimate projections up to 2083 presented in the previous chapter provide estimates of future Social Security Fund demographics and finances under best-estimate assumptions. Given the uncertainty in forecasting such a long period, two alternative scenarios that highlight the sensitivity of the results to differences in assumptions regarding future outlook have been performed. These alternative projection sets encompass assumptions that are generally more optimistic and more pessimistic than those of the *Best Estimate* projections. However, since long-term sustainability will likely be more sensitive to future population growth and economic development than SSB-specific factors such as compliance rates and operating costs, the basis for the alternative scenarios also focus on differences in population and economic outlooks.

The *Optimistic* scenario represents a larger economy with higher wages, lower pensions, better contribution compliance and higher investment returns while the *Pessimistic* scenario represents a smaller population with lower wages and larger pensions, lower contribution compliance and lower investment returns.

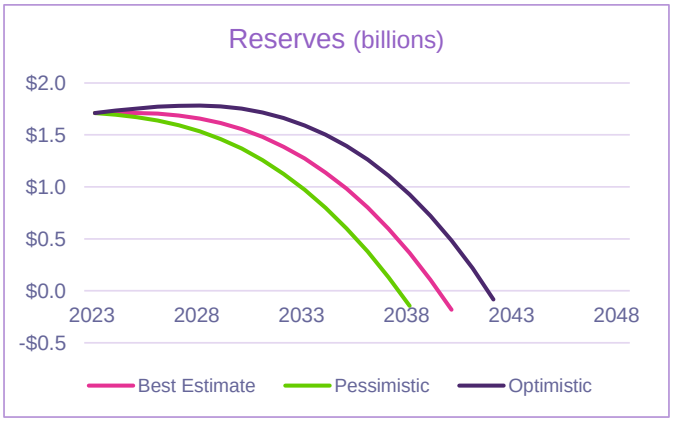
Following is a summary of the main assumptions for the three projection scenarios. The values for all other assumptions are similar across scenarios.

Table 5.1. Principal Demographic, Economic & Social Security Assumptions

	Optimistic	***Best Estimate***	***Pessimistic***
Ultimate Total Fertility Rate	1.4	1.35	1.2
Mortality Improvements^	Very Slow	Slow	Medium
Net (In) Migration Per Annum	160% of Best Estimate	0 until 2030, then increasing to 60 in 2040 then to 200 in 2060	40% of Best Estimate
Real GDP Growth (p.a.)	½% higher in each year	4.7%, 4.3%, 3.8%, 3.1%, 2.9%, 2.9% (2024 to 2029), 1.0% in 2030 to 2034, 0.5% thereafter	½% lower in each year
Ultimate Real Wage Increase (p.a.)	0.6%	0.4%	0.2%
Collection Of Contributions	+2%	-	-2%
Pension increases	-1/2% pa	1% every year from 2027	+1/2% pa
Administrative Expenses	Same dollar value as Best Estimate	1.6% decreasing to 1.5% of IW in 10 years	Same dollar value as Best Estimate
Long-term Yield on Reserves	4.5%	3.5%	2.5%

The main population and Social Security demographic and financial results of the three projection sets are presented in Figure 5.1 and Table 5.2. As expected, the outlook for Social Security finances is closely linked to the size and age distribution of the general population and Social Security performance indicators such as contribution collection rates and yield on investments.

Figure 5.1. Projection Results – All Scenarios



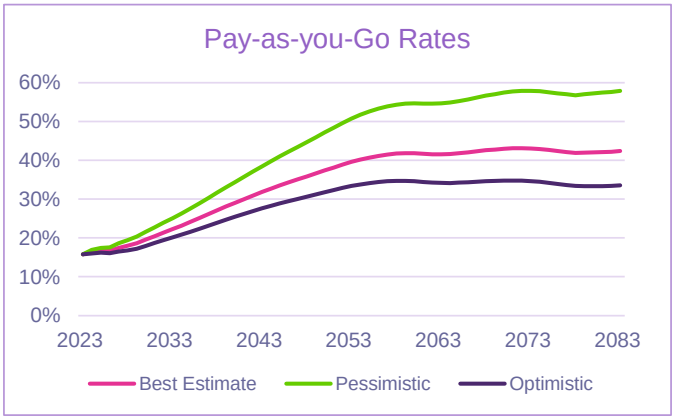


Table 5.2. Summary Results – All Scenarios

	Optimistic	Best Estimate	Pessimistic
Expenditure next exceeds Total Income	2029	2025	All years
Reserves depleted	2042	2040	2038
General Average Premium	27.8%	32.5%	40.6%
Pay-as-you-go rate in 2040 (around time Fund expected to be depleted)	25.5%	29.1%	34.4%
# of Contributors per Pensioner – 2083	1.9	1.6	1.2

Chapter 6 Towards a Sustainable Social Security

Social Security reforms have been recommended and discussed with the government and stakeholders for over 15 years, but none have yet been made. Elsewhere in the OECS most countries have made extensive reforms which have increased contribution income, slowed the growth of benefit expenditure and extended the projected life of the Fund.

Projections presented in earlier chapters show that for the St. Kitts-Nevis Social Security Fund:

- Age pensions account for 81% of benefit expenditure;
- Age pensions exceed contribution income ($114 million vs $110 million in 2023), and the gap increases each year;
- Total expenditure in 2024 will be over 16% of insurable wages compared to the 11% contribution rate;
- The Fund will be exhausted between 2038 and 2043.
- Projected expenditure when the Fund is projected to be exhausted is 28% of insurable wages

Following recent public consultations the Government of St. Kitts-Nevis is expected to decide on a set of reforms.

6.1 Parametric Reforms

Social security schemes can be reformed in two main ways:

(a) Structural reforms – a change in the systems structure such as from a defined benefit, pooled fund approach to one with individual accounts.

(b) Parametric reforms – core design structure is maintained but several parameters such as contribution rates, eligibility requirements and pension formula are changed.

Changes to how future benefits are financed could also be revised under either structural or parametric reforms.

Structural reforms to Caribbean social security systems have not been extensively studied and the current defined benefit and partially funded structure is still considered appropriate for St. Kitts-Nevis. Other countries in the region have demonstrated that well designed reforms that balance benefit adequacy with contribution affordability could result in a more sustainable system.

Given the projected high cost of benefits if no reforms are made, a comprehensive set of parametric reforms that include significant contribution rate increases and changes to all parameters of the Age pension are required. These changes will need to be phased in quickly.

6.1.1 Contribution Rate

Increasing the contribution rate produces an immediate increase in contribution income. Given that expenditure is already close to 16% of insurable wages and projected to be almost 17% in 2026 and 18% in 2028, a schedule of rate increases to at least 17% by 2027 with a first adjustment of 2% in January 2025 should be the minimum consideration.

Contribution rate increases should be shared equally with employers and employees, thus maintaining the 1% rate differential for employment injury benefits.

6.1.2 Age Pension

There are four basic means by which future Age pension costs can be reduced:

(i) Fewer persons qualifying each year (eligibility requirements)

(ii) Shorter payment period (start pension later)

(iii) Smaller average new pension amount (formula adjustments)

(iv) Smaller or no pension increases

Following is a list of specific reforms that could be made to Age pensions that will lead to reductions in the growth in the number of pensioners and average pension amount. Unlike contribution rate increases, however, the financial impact of these changes, most of which will have to be phased in over several years, takes many years to realise material cost reductions.

Table 6.1. Options for Reducing Long-term Age Pension Costs

Reform Measures	Current Provision	Possible Changes	Rationale
Award pensions at a later age	▪ Pensionable Age is 62 (unchanged since inception)	▪ Increase to 65, 66 or 67, keeping 62 as the first age for reduced pensions ▪ Increase to 65, 66 or 67 for all pensioners (i.e. no early pension age)	▪ Many 62+ year olds continue to work for high incomes. ▪ Starting later reduces the number of years pension is paid
Pension accrual rates	▪ 30% after 10 years, 40% after 15 years, 60% after 35 years (unchanged since inception)	▪ 20% or 25% after 10 years increasing at the same rate until 60% after 40 years ▪ 1.5% for each year – 60% after 40 years	▪ Heavy weighting for first 10 years was required at inception to provide a reasonable pension to early awardees
Award pension only if retired or at least, substantially retired	▪ No requirement to have retired or reduced employment income	▪ Must be fully retired, or ▪ Still employed but have earnings no more than a certain threshold such as 50% of the wage ceiling	▪ Change from an age-based pension to a retirement-based pension to reduce the number of pensions in payment and reduce excess combined income

Reform Measures	Current Provision	Possible Changes	Rationale
Make the pension formula explicitly progressive – lower pension rate for higher income levels	▪ The benefit rate is the same for all (e.g., 50% after 25 years of contributions)	▪ Use a lower benefit rate for income above a certain amount e.g., 50% of 5,000 + 40% of IW above $5,000	▪ Ensures same benefit for those with lower incomes but slightly lower benefits for those with higher incomes
Longer reference period for wages used in pension calculations	▪ Best 3 years in the last 15 years	▪ Best 5 in last 15 years ▪ Best 7 in last 15 years ▪ Best 7 years ever ▪ Best 10 years ever	▪ A longer average periods achieves (1) closer relationship between earnings over time and ultimate pension amount, (2) less potential for abuse, (3) slightly lower pensions
Increase required # of contributions	▪ 500 weeks (10 years)	▪ 600 weeks (12 years) ▪ 750 weeks (15 years)	▪ Fewer new pension awards

Other reform options that may have a smaller impact on future costs should also be considered.

6.2 Recommended Reforms

Following is a recommended set of specific reforms to begin taking effect in 2025 and be fully phased in by 2032.

Table 6.2. Options for Reducing Long-term Age Pension Costs

Parameter	Existing	Proposed Change	Transition
1. Contribution rate	• 11%	• Increase to 17%	13% in 2025, 15% in 2026, 17% in 2027
2. Wage ceiling	• $6,500 pm since 1998	• $7,500 (but only if pension formula made progressive as per 9 below)	$7,000 pm in 2026 $7,500 pm in 2028
3. Pensionable ages	• 62	• Increase to 66	63 in 2026, 64 in 2028, 65 in 2030, 66 in 2032
4. Age Pension changed to Retirement pension	• Age pension (no income test)	• Must be “retired” if between 62 and pensionable age • “Retired” defined as wages below 50% of wage ceiling	2025
5. Early Age pensions	• None	• Available from age 62 but reduced by 8% for each year age less than pensionable age	When pensionable age first increased
6. Minimum contributions to qualify for Age Pension	• 500 weeks	• Increase to 750 weeks	2025 to 2032 (30 additional contributions each year)
7. Accrual rate schedule	• 30% after 500 weeks + 2% per set of 50 weeks up to 750 weeks + 1% per set of 50 up to 1,750 weeks	• 1.5% per year • Maximum 60% attained after 40 years of contributions	2025 to 2032
8. Average earnings for pensions	• Average of best 3 years in last 15 years	• Average of best 7 years of insurable wages over full career	2025 to 2028
9. Progressive Pensions	• Same formula & replacement rate for all wage levels	• 80% of benefit accrual rate for wages above $5,000 pm.	2025 to 2028
10. Pension increases	• Ad hoc – discretion of government	• Written policy for increases that are overall lower than full inflation	See Section 7.2

Even with the above set of reforms additional contribution rates will be required. Further changes to Age pension may also be required if it is felt contribution rates of over 20% will be unaffordable. When and by how much further increases and changes are made will depend on experience over the next five to ten years.

6.3 Projected Effect of Reforms

While emphasis is often placed on the year the Fund is projected to be exhausted, future expenditure expressed as pay-as-you-go rates is perhaps more important when deciding on future reforms. The following charts illustrate both projected reserves and pay-as-you-go rates for a scenario with the recommended reforms using the *Best Estimate* assumptions.

Figure 6.1. Projected Reserves and Pay-As-You-Go Rates, Reform Scenario

As shown above, the proposed reforms are projected to have a material impact on both the current cost of Social Security benefits (pay-as-you-go rates) and Fund sustainability. However, depletion of reserves is still projected within 35 years and the required 30% rate is likely to be considered unaffordable.

Details in the following table show that a combination of contribution rate increases and benefits reforms is required as neither by itself, has a significant impact on lowering costs and enhancing sustainability.

Tale 6.3. Projected Impact of Contribution Rate Increases & Pension Reforms

Scenario	Status Quo *(Best Estimate)*	Contribution Rate Increases Only	Pension Reforms Only	All Recommended Reforms
General Average Premium	32.5%	32.5%	24.1%	24.1%
PAYG in 2040	29.1%	29.1%	21.6%	21.6%
Year Reserves Exhausted	2040	2045	2045	2057
Comments on Results		No impact on expenditure and reserves last only 5 more years.	Significant reduction in expenditure rates but reserves last only 5 more years.	Significant impact to both income and expenditure with reserves extended 17 years

Chapter 7 Towards a Modern Social Security

The St. Kitts-Nevis Social Security is similar in design to others in the Caribbean that were introduced in the 1960's. While social conditions, labour markets and technology have changed significantly since inception, there have not been any material design changes to Social Security in St. Kitts-Nevis, other than wage ceiling, pension and grant increases.

Following is a brief discussion of the following issues for which design changes should be considered as part of the reform discussions.

(a) Wage ceiling increases
(b) Pension increases
(c) Survivors' pension
(d) Invalidity benefit
(e) Maternity benefit
(f) Paternity benefit
(g) Unemployment benefit
(h) Method for Self-employed contributions
(i) Enhanced transparency

7.1 Wage Ceiling Increases

Since inception "step-like" adjustments to the wage ceiling have been made. The last such increase was in 1998. While increases to the wage ceiling provide a small increase in contribution income, they also result in larger pensions. Depending on the magnitude of the ceiling adjustment and the number of years over which wages are averaged for pension purposes, the net financial impact of additional contributions and additional benefits could be negative. This occurs for those higher paid persons who will receive a pension for many years as the additional pension exceeds the accumulated value of their additional contributions.

Periodic ceiling adjustments ensure that the SSB remains relevant to higher income earners. The last adjustment in 1998 saw the ceiling increase from $1,350 to $1,500 per week. If the next ceiling adjustment exceeds 5% ($75 per week or $325 per month), an adjustment factor should be applied to average insurable wages above the current ceiling level when pensions are being calculated to ensure that the increased value of benefits is consistent with the increased contributions collected. E.g. if the adjustment factor is 75%, someone whose average insurable wage is $7,000 would have that reduced to 100% x $6,500 + 80% x $500 = $6,900.

A recommended approach to wage ceiling increases intended to ensure that the Social Security retains its relevance for higher paid workers is to adjust the ceiling every year, or possibly every two years, by the actual increase in average wages. Such scheduled adjustments occur in the BVI, The Bahamas and Barbados.

Following is a description of how scheduled increases should be implemented.

(a) The Government's Statistic Office creates a National Wage Index using Social Security wage data. (Social Security captures full earnings since it collects the Government's levy) This index will be used to

measure the change in average wages each year and serve as the basis for annual or biennial wage ceiling adjustments.

(b) The National Wage Index should be published annually by June 30th of each year.

(c) By September 1st of each year (or the year prior to a change for biennial adjustments) the SSB will announce the wage ceiling that will apply starting January of the following year. One option for determining each ceiling adjustment is the average change in Wage Index over the prior three years.

7.2 Pension Increases

Pension increases have also been made on an ad hoc basis but have been much more frequent than ceiling increases. Since 1998, there have been several pension adjustments, the most recent being in January 2024 for those earning less than $500 per month, the new minimum rate.

Automatic pension adjustments such as practiced in The Bahamas, Barbados and the BVI would be ideal. However, given the projected state of the Fund, pension increases should continue to be ad hoc and made only after actuarial projections suggest their impact on the Fund allows for funding targets to be maintained.

Pensioners should also be called upon to share the burden of putting the Fund into a sustainable position. Therefore, as part of the upcoming reform process, one or more clear statements on future pension increases should be made. Prudent options for such a statement are:

- No pension increases for at least the next 6 years;
- Only pensions at lower amounts will be considered for an adjustment after each actuarial review;
- For the next 10 years, adjustments to the minimum pension will not exceed 60% of the cumulative inflation since the last increase.

7.3 Survivors' Pensions

Many issues have been raised about the adequacy and relevance of some Survivors' pension rules. These are presented below.

Widows/Widowers

- The current payment durations for Survivors' pension depends on the age of the spouse at the date of death of the insured person – one year if under age 45 and for life if over 45. No pension is awarded if the couple had been married or cohabiting for less than three (3) years. With the fixed age of 45 and 3 years of marriage/ cohabitation, a difference in date of death of just a few days determines whether one gets a pension for one year or a lifetime. This approach based on presumed need being greater for an older spouse does not consider the actual circumstance of the family. One way of providing extended income support to younger widows & widowers is to award and pay a pension to the surviving spouse if there are dependent children. This would mean that even if the survivor is 30 years old and the youngest child is 2 years old, the pension could be paid for another 14 to 16 years depending on when the youngest child stops full-time education.
- The 3-year period of marriage is arbitrary, and perhaps was intended to ensure that the marriage was "firm" or "legitimate". Given the potential difficulty in determining when a common-law arrangement started, the 3-year requirement could be eliminated for legally married couples but maintained for common law relationships.

- Pension suspended upon remarriage or co-habitation: Not only is this difficult to administer, but it presumes that the new spouse is financially able to provide for the pensioner. Consideration could be given to allowing spouses to continue receiving their pension after remarriage.

Children

- Increase the age for survivors' children that stay in full-time education to receive a benefit from 18 to 21.
- Set a minimum that provides what is considered "adequate income support" for a child of a low-income family. This minimum amount could be paid even if there are many children to be included by not limiting combined survivors benefit to 100% of what the deceased person's pension was or would have been.

Other

- The sum of the pensions to all survivors could exceed 100% of the deceased pension. E.g. if the deceased had a spouse (50%) for 4 children (16 2/3% each) – allow each survivor to get a pension. This would apply even where the minimum is paid.

While each of these changes will positively impact some individuals and families, they each will increase benefit costs. Given the projected state of the Fund, changes that result in additional benefit payouts must be offset by either contribution rate increases or changes in Age pensions beyond those discussed in the previous chapter.

7.4 Invalidity

Social Security regulations define an invalid as "an insured person incapable of performing any employment as a result of a specific disease or bodily or mental disablement likely to be permanent and this condition has lasted for 26 weeks." This is a very strict definition of "invalid" in which one is unable to perform any work and/or receive any wages. A more liberal definition could permit someone to work in a different occupation or for reduced or limited hours and/or wages.

Insured persons assessed as being invalid who are able to perform limited work duties now have to make a choice between:

(a) keeping their full Invalidity pension and not working, or

(b) accepting any level employment and foregoing the pension even if the wage offered is low.

For an invalid, performing minimal tasks and earning a small wage would be beneficial to their personal wellbeing. While allowing persons receiving Invalidity benefit to also receive employment income may appear reasonable, it could easily be abused, especially by new applicants who only have a partial disability. Employers could also collude with their employed Invalidity pensioners to not declare their true income to ensure continued payment of the pension. If the Board wishes to consider the payment of Invalidity benefit to persons with limited employment income several new evaluation and monitoring mechanisms will need to be put in place.

It is not possible to provide a reasonable estimate of the financial effect of such a change at this time but if well managed, extra costs should not be material. Following are the ways in which income and expenditure could be affected:

- Increased benefit expenditure if under current rules, the pension would have been suspended once employment started. If very few suspensions occur now, then additional pension costs will be minimal.

- Reduced benefit expenditure if the person starts earning more than the threshold and the pension is eventually suspended.
- Additional contribution income from the wages earned.

7.5 Maternity Benefit

Two changes to Maternity benefits are under consideration – a longer payment period for the weekly Allowance and larger one-time Maternity grant. Following is a description of each, along with considerations and estimated costs.

Table 7.1. Impact of Maternity Benefit Changes

Change	Considerations	Estimated Cost
Extend maximum payment period of Maternity Allowance from 13 to 17 weeks	• This change should follow a change in the labour law • The weekly allowance should only be paid if the mother remains off from work	$0.6 million per annum
Increase the Maternity grant from $450 to $600	• The grant has not been increased since 1998 • There is no rule of thumb or benchmark for ideal level of Maternity grant.	$60,000 per annum

Neither of these changes, or even both implemented together, will have a material impact on the long-term costs and sustainability of the SSF.

7.6 Paternity Benefit

Anguilla is the only Caribbean country which currently provides paternity leave in labour legislation, and a complementary Social Security paternity benefit. A Social Security Paternity benefit should only be introduced following the inclusion of paternity leave provisions in labour law. Since Social Security benefits are intended to replace lost income, a new Paternity benefit should only be paid if the father loses income because he elects, or is required, to stay away from work to care for his new baby.

The current SSB Maternity allowance rate is 65% and the maximum benefit period is 13 weeks.
Should the SSB add a Paternity benefit, following are three specific recommendations:

(a) the benefit rate for Maternity allowance, 65%, should also apply for the new Paternity allowance;

(b) the benefit should only be paid if the man is off from work and losing all or a portion of his wages; and

(c) the maximum payment period for SSB's Paternity benefit should be consistent with the maximum paternity leave permitted in new legislation.

Following are cost estimates for a Paternity benefit under several scenarios, all of which assume that eligible males earn 10% more than eligible females.

Table 7.2. Estimated Paternity Benefit Costs

Portion of births with a Paternity benefit claim	10% of Births		30% of Births	
Avg # weeks paid	2	4	2	4
Estimated annual cost	$44,000	$88,000	$132,000	$264,000

$100,000 of benefit costs is approximately 0.01% of insurable wages so the highest estimate above equates to 0.027% of insurable wages. By comparison, Maternity allowance costs have averaged 0.20% of insurable wages in recent years. Therefore, if the maximum benefit period is 4 weeks, the cost increase will not be material.

No Paternity grant should be considered as the Maternity grant already considers the contributions of the father if the mother did not meet the qualifying conditions.

7.7 Unemployment Benefit

The only ILO-recommended income replacement benefit not offered by the SSB is one payable during periods of income loss following involuntary unemployment. In recent years, the Turks and Caicos Islands and Grenada added this benefit bringing to four the number of Caribbean countries offering this benefit.

Appendix F provides a summary of the objectives of an unemployment benefit, a list of design considerations and estimated costs for a benefit with a 50% replacement rate. Such a benefit with a maximum duration of 13 weeks is estimated to cost around 0.5% of insurable wages. (See Appendix F)

7.8 Self-employed & Informal Sector Workers

Previous actuarial reviews have highlighted the relatively low level of participation among the growing self-employed and informal sector. The primary effect of low coverage among these groups is a growing number of elderly persons who will not have a secure pension in old age. COVID-19 related lockdowns and restrictions showed how vulnerable uncovered self-employed persons are to reduced or lost earnings.

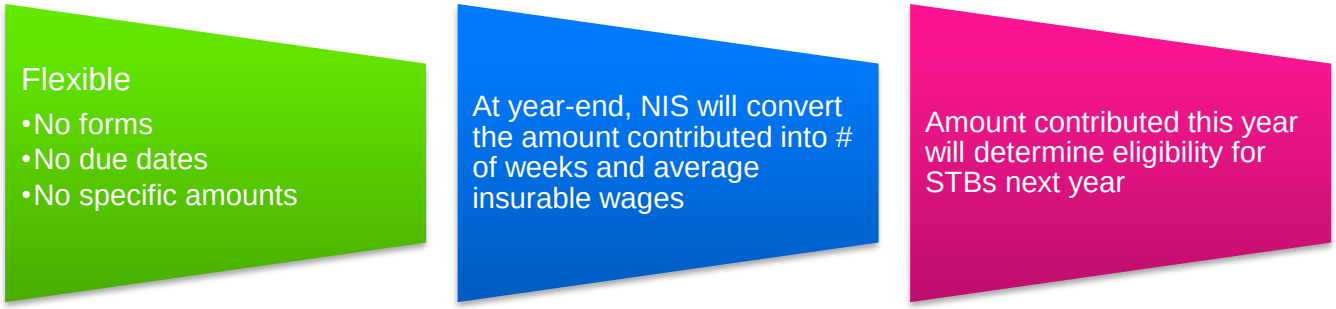
To avoid increasing levels of non-participation among self-employed and informal sector workers, new approaches to reaching informal sector workers is critical. The most effective approach is likely to include:

(a) Make SSB contributions a requirement to obtain government issued licenses and permits or authorization to carry on their respective trade, and
(b) Have severe consequences if they do not have the required permit or license.

Together with various government departments, the SSB should adopt new approaches using available technology to share current compliance status to improve self-employed participation.

Since SEPs do not often have a regular steady wage like employed persons do, it is also recommended that the NIS adopt the following approach to the way SEPs contribute.

Figure 7.1. A New Approach to Self-employed Contributions & Benefits



This recommended approach will allow the SSB to keep the current contribution approach that works well for employed persons.

7.9 Enhanced Transparency

Public support for the SSB, especially given the reforms that need to be made, is critical. To increase public appreciation and support for SSB initiatives, a different approach to sharing current and relevant information is required.

Historically, annual reports, audited financial statements, and actuarial review reports are not shared publicly prior to them being laid in Parliament. Currently, annual reports are several years behind while audits and actuarial reviews are up to date. Further, while recent actuarial reports are posted online, audited financial statements for 2020 to 2022 are not posted on the SSB's website.

Instead of waiting for reports to be prepared and tabled, regular publishing of quarterly financial and performance information in the local press and on the SSB's website is recommended. This could include:

- Financial information – income, expenditure, reserves
- Compliance levels - % of contributions paid on time, % of workers contributing, and progress on collections of outstanding contributions
- Noted trends in contribution collections and each benefit
- New investments and overall investment performance

The SSB is also encouraged to hold an annual public meeting, like an AGM held by a private company. At such a meeting the Chairperson and Director/CEO will report on the Scheme's performance, challenges, progress on the implementation of strategic objectives, plans for the short and medium terms. They should be willing and able to answer any SS-related questions from the public.

Statement of Actuarial Opinion

It is our opinion that for this report of the 14th Actuarial Review of the Social Security Fund:

- the data on which the projections and analysis are based are sufficient and reliable;
- the assumptions used are, in the aggregate, reasonable and appropriate, and
- the methodology employed is appropriate and consistent with sound actuarial principles.

This report has been prepared in accordance with the Caribbean Actuarial Association Actuarial Practice Standard #3 for Social Security Programs.

TELUS Health

Derek Osborne

Fellow of the Society of Actuaries
Partner

Nassau, Bahamas
November 13, 2024

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Appendix A Summary of Contribution & Benefit Rules

Following is a general description of the coverage, contributions and benefits provisions of the St. Kitts-Nevis Social Security Board (SKNSSB) as of December 31st, 2023.

A.1 Contingencies Covered & Benefits Provided

St. Christopher & Nevis Social Security provides for the following benefits:

(a) Long-term benefits: Age, Invalidity and Survivors' benefits.

(b) Short-term benefits: Sickness benefit, Maternity allowance & grant, Funeral grant.

(c) Employment Injury benefits: Injury benefit, Disablement benefit, Medical Expenses, Death benefit and Burial grant.

A.1.1 Insured Persons

Employed, self-employed and voluntary insured persons aged 16-61 are covered for the above contingencies as follows:

(a) Employed persons: All contingencies.

(b) Self-employed persons: All contingencies except employment injury benefits.

(c) Voluntary insured persons are covered for Age & Survivors' benefits only.

(d) Employed persons under age 16 or over age 61 are covered for employment injury benefits only.

A.1.2 Insurable Earnings and Contributions

Earnings used for determining contributions and benefits are limited to $6,500 per month. Earnings include basic salary and all other earnings paid in cash. The ceiling on insurable wages has increased since 1978 as follows:

Table A.1. Historical Wage Ceilings

Period	Annual Wage Ceiling
1978 to 1983	$24,000
1984 to 1992	$48,000
1993 to 1995	$62,400
1996 to 1997	$70,200
1998 to present	$78,000

Contributions are computed as a percentage of insurable earnings. The contribution rate is 11%, 5% paid by the employee and 6% by the employer. Before Employment Injury Benefits were introduced in 1986, the contribution rate was 10%. Self-employed persons pay a 10% contribution rate, and voluntary contributors pay at 5% of insurable earnings. Contributions at 1% of insurable earnings are payable for those less than 16 or over 61.

Table A.2. Contribution Rates

Insured Category	Employee	Employer	Total
Employed	5%	6%	11%
Self-employed	-	-	10%
Employed over 61	-	1%	1%

A.2 Benefit Provisions

A.2.1 Long-Term Benefits

(a) AGE PENSION

CONTRIBUTION REQUIREMENT: 500 paid or credited weekly contributions of which 150 must be paid.

AGE REQUIREMENT: 62. The pension is not dependent on retirement from the workforce.

AMOUNT OF BENEFIT: 30% of average insurable earnings over the best three years in the last 15, plus 2% for every 50 weeks credited between 500 and 750, plus 1% for every 50 weeks credited over 750.

MAXIMUM PENSION: 60% of average earnings over the best three years.

MINIMUM PENSION: $500 per month. The minimum pension also applies to Invalidity pension. It was last increased in January 2024 from $430 per month.

(b) AGE GRANT

CONTRIBUTION REQUIREMENT: 50 paid or credited weekly contributions.

ELIGIBILITY: Other than for the contribution requirement, the applicant must be eligible for Age Pension.

AMOUNT OF BENEFIT: 6 times average weekly insurable earnings for each 50 weekly contributions paid or credited. This amount is paid as a lump sum.

(c) INVALIDITY PENSION

CONTRIBUTION REQUIREMENT: 150 weekly contributions paid.

ELIGIBILITY: The applicant is:

i. Less than 62,
ii. Medically declared an invalid, other than as a result of an employment injury,
iii. Has exhausted the maximum period for sickness benefit.

AMOUNT OF BENEFIT: Calculated in the same manner as for Age benefit, except that the minimum pension is 30% of average insurable earnings or $430 per month, whichever is higher.

DURATION OF PENSION: Payable as long as invalidity continues. A review of the person's continuing eligibility is made at least every three years.

(d) SURVIVORS' BENEFITS

CONTRIBUTION REQUIREMENT: The deceased, at time of death, was receiving or had paid enough contributions to qualify for an Invalidity or Age pension.

ELIGIBILITY: Widow or widower married for at least three years (includes common-law spouse), child(ren) under 16, 18 if in full-time education or invalid, and dependent parents.

AMOUNT OF BENEFIT: The proportion of Invalidity pension shown below:

- Widow or widower: 50%;
- Child or parent: 16 2/3%;
- Child (orphan or disabled): 33 1/3%;
- Maximum benefit: 100% of pension deceased would have been entitled to.
- Minimum pensions: Widow(er) - $215 per month (increased from $200 July 2014)
  Child/parent - $103.20 per month (increased from $96 July 2014)

If the claimant is also entitled to an Age Pension, the Age pension plus 50% of the Survivors pension is paid, subject to a minimum of 100% of the Survivors pension.

DURATION OF BENEFIT:

- Widow or widower aged 45 or over at time of death, or disabled: life pension or until the beneficiary is entitled to a larger Age pension in his/her own right. The pension will cease upon remarriage or cohabitation;
- For a widow(er) under age 45 and not disabled, or not married for at least 3 years: one year;
- For dependent children, up to age 16, or 18 if attending school or college.
- For an invalid child, for as long as invalidity continues.
- For a parent under 62 and not invalid, one year. If invalid or over 62, pension payable for life.

(e) SURVIVORS' GRANT

CONTRIBUTION REQUIREMENT: 50 contributions paid or credited by the deceased insured person.

ELIGIBILITY: Other than for the contribution requirement of the deceased, the applicant must be eligible for survivors pension.

AMOUNT OF BENEFIT: The same proportion of the Age grant as Survivors' pension bears to the Age pension.

(f) ASSISTANCE PENSION

ELIGIBILITY: The applicant must be:

- Either aged 62 or over or an invalid,
- Not gainfully employed,
- In need,
- Ordinarily resident in St. Kitts-Nevis,
- Not previously awarded an Age or Invalidity pension.

AMOUNT OF BENEFIT: $255.00 per month.

A.2.2 Short-Term Benefits

(a) SICKNESS BENEFIT

CONTRIBUTION REQUIREMENTS: 26 paid contribution weeks with at least 8 weeks in the last 13. The insured must be 16 or over and under age 62 and was employed immediately before onset of the illness.

WAITING PERIOD: 3 days. If incapacity lasts for more than 3 days, benefit is payable from the first day. Two periods of illness separated by less than eight weeks are treated as one.

AMOUNT OF BENEFIT: 65% of average weekly insurable earnings during the 13 weeks prior to illness.

DURATION OF BENEFIT: Maximum of 26 weeks.

(b) MATERNITY ALLOWANCE

CONTRIBUTION REQUIREMENT: 39 paid contribution weeks with at least 20 contributions in the last 39 weeks immediately preceding the week that is 6 weeks before the expected week of confinement or the week from which benefit began, if later.

AMOUNT OF BENEFIT: 65% of average weekly insurable earnings during the last 39 weeks.

DURATION OF BENEFIT: 13 weeks, starting no earlier than 6 weeks before the expected date of confinement.

(c) MATERNITY GRANT

CONTRIBUTION REQUIREMENT: Same as for Maternity Allowance. If the mother fails to qualify for Maternity Allowance but her legally married husband's contributions satisfy these conditions, the Maternity Grant is payable.

AMOUNT OF GRANT: $450. The Maternity Grant has increased as follows:

Table A.3. Historical Maternity Grants

Period	Maternity Grant
1978 to 1983	$50
1984 to 1988	$100
1989 to 1992	$200
1993 to 1994	$300
1995 to 1997	$400
1998 to 2023	$450

(d) FUNERAL GRANT

ELIGIBILITY: The insured person must have made at least 26 contributions. A grant is also payable in respect of the death of the spouse or a dependant child of the insured. If death results from employment injury, no prior contributions are required.

AMOUNT OF GRANT: $3,500 for the insured or his/her spouse. The amount for a dependant child ranges from $400 to $1,600. The funeral grant for the insured has been increased as follows:

Table A.6. Historical Funeral Grants

Period	Funeral Grant
1978 to 1983	$200
1984 to 1988	$500
1989 to 1992	$1,000
1993 to 1994	$1,500
1995 to 1997	$2,000
1998 to 2023	$2,500
2024	$3,500

A.2.3 Employment Injury Benefits

(a) INJURY BENEFIT

ELIGIBILITY: Incapable of work as a result of an accident arising out of insured employment, or as a result of an illness related to employment. There are no qualifying contribution requirements for Employment Injury benefits.

AMOUNT OF BENEFIT: 75% of average insurable earnings in the last 13 weeks before the accident or disease occurred (or less if the person was insured for a shorter period.)

DURATION OF BENEFIT: 26 weeks.

WAITING PERIOD: 3 days. If incapacity lasts 4 or more days, benefit is payable from the first day.

(b) DISABLEMENT BENEFIT

ELIGIBILITY: Partial or total loss of any physical or mental faculty as a result of a job-related accident or disease.

WAITING PERIOD*:* The payment period of injury benefit.

AMOUNT OF BENEFIT: The payment of a pension or a grant is based on the percentage loss of faculty suffered.

- If degree of disablement is less than 20%, a grant equal to 365 times the weekly benefit rate times the degree of disablement is paid.
- If degree of disablement is 20% or more, a weekly benefit of the injury benefit amount times the degree of disablement is paid.
- In the case of temporary disablement, the benefit is payable for as long as the disablement lasts up to a maximum of 365 weeks.

(c) DEATH BENEFIT

ELIGIBILITY: Dependants are defined as for survivors' benefit.

AMOUNT OF BENEFIT: Proportion of disablement pension, the same percentage as for Survivors benefit.

(d) MEDICAL EXPENSES

EXPENSES COVERED: Reasonable expenses up to $25,000 for doctor's fees, medication, hospitalisation, travelling and constant care and other specified costs incurred as a result of an employment injury or prescribed disease.

(e) BURIAL GRANT

ELIGIBILITY: The insured person died as a result of an employment injury. No prior contributions are required.
AMOUNT OF GRANT: $4,000.

A.2.4 CARICOM Social Security Agreement

St. Kitts-Nevis is a signatory to the CARICOM Agreement on Social Security. By totalising contributions made in all CARICOM countries, persons who have insufficient contributions to qualify for a pension in one or more states, may receive pensions from all systems if the total number of contributions made exceeds the number required in that state. The pension payable would be the proportion that contributions made in that state bear to the total contributions made times the pension that would have been payable for the total number of contributions made. The Agreement covers Old-age, Invalidity, Survivors and Disablement benefits only.

Appendix B Methodology, Data & Assumptions

This actuarial review makes use of the comprehensive methodology developed at the Financial and Actuarial Service of the ILO (ILO FACTS) for reviewing the long-term actuarial and financial status of a national pension scheme. The review has been undertaken by modifying the generic version of the ILO modeling tools to fit the specific case of St. Kitts-Nevis and the Social Security Fund. These modeling tools include a population model, an economic model, a labour force model, a wage model, a long-term benefits model and a short-term benefits model.

The actuarial valuation begins with a projection of St. Kitts-Nevis's future demographic and economic environment. Next, projection factors specifically related to Social Security are determined and used in combination with the demographic/economic framework to estimate future cash flows and reserves. Assumption selection takes into account both recent experience and future expectations, with emphasis placed on long-term trends rather than giving undue weight to recent experience. Projections have been made under three assumption sets for which the demographic and economic assumptions vary.

B.1 Modelling the Demographic & Economic Developments

The general St. Kitts-Nevis population has been projected beginning with totals obtained from the results of the 2022 national census and by applying appropriate mortality, fertility and migration assumptions. The total fertility rate is assumed to decline in two of three scenarios and increase slightly in the *Optimistic* scenario. Table B.1 shows ultimate age-specific and total fertility rates for each assumption set.

Table B.1. Age-Specific & Total Fertility Rates

Age Group	Fertility Rates 2022	Fertility Rates (2030+)		
		Optimistic	Best Estimate	Pessimistic
15 - 19	0.001	0.001	0.001	0.001
20 - 24	0.041	0.042	0.037	0.033
25 - 29	0.082	0.082	0.074	0.066
30 - 34	0.065	0.065	0.058	0.052
35 - 39	0.067	0.067	0.061	0.054
40 - 44	0.036	0.036	0.032	0.029
45 - 49	0.009	0.008	0.008	0.007
Total Fertility Rate	1.40	1.50	1.35	1.20

Mortality rates have been determined using United Nations life tables for Latin America. These rates have been adjusted to model closely the actual number of deaths in St. Kitts-Nevis. Improvements in life expectancy for the Best Estimate scenario have been assumed to follow the “slow” rate as established by the United Nations. Sample mortality rates for the Best Estimate scenario and the life expectancies at birth and at age 62 for sample years are provided in Table B.2.

Table B.2. Sample Mortality Rates & Life Expectancies

Age	Males			Females		
	2021	2051	2081	2021	2051	2081
0	0.0303	0.0234	0.0194	0.0278	0.0196	0.0161
5	0.0007	0.0005	0.0004	0.0007	0.0005	0.0004
15	0.0004	0.0003	0.0003	0.0003	0.0002	0.0002
25	0.0010	0.0007	0.0006	0.0006	0.0004	0.0003
35	0.0014	0.0010	0.0009	0.0010	0.0007	0.0006
45	0.0028	0.0022	0.0019	0.0021	0.0015	0.0013
55	0.0071	0.0058	0.0049	0.0047	0.0034	0.0029
65	0.0181	0.0151	0.0131	0.0128	0.0095	0.0080
75	0.0445	0.0384	0.0340	0.0338	0.0263	0.0228
85	0.1127	0.1011	0.0922	0.0920	0.0752	0.0670
95	0.2568	0.2396	0.2248	0.2068	0.1791	0.1644
Life Expectancy at:						
Birth	73.2	75.8	77.6	76.4	80.0	81.8
Age 62	18.7	19.9	20.9	21.0	22.8	23.9
Life Expectancy at Age 62 for Alternate Scenarios:						
Pessimistic	18.9	20.7	22.2	21.0	23.6	25.2
Optimistic	18.5	19.2	19.7	20.5	21.6	22.5

For the Best Estimate scenario, net outward migration is assumed to change to net inward migration. The Optimistic and Pessimistic scenarios assume 50 person per year more and less, respectively.

Table B.3. Net Migration

Age	2022			2035			2050		
	Opt.	Best Est.	Pess.	Opt.	Best Est.	Pess.	Opt.	Best Est.	Pess.
0 - 9	-	-	-	4	3	1	18	12	5
10 - 19	-	-	-	2	1	1	10	6	2
20 - 29	-	-	-	18	11	4	77	48	19
30 - 39	-	-	-	16	10	4	66	42	17
40 - 49	-	-	-	7	4	2	29	18	7
50 - 59	-	-	-	2	1	1	9	6	2
60 - 69	-	-	-	0	0	0	1	1	0
70+	-	-	-	-	-	-	-	-	-
All Ages	-	-	-	49	31	12	210	131	53

The projection of the labour force, i.e. the number of people available for work, is obtained by applying assumed labour force participation rates to the projected number of persons in the total population. Over the first 30 years age-specific labour force participation rates for both males and females for ages 44 and over are assumed to gradually approach the rates that in 2023 apply to persons five years younger. Table B.4 below shows the assumed age-specific labour force participation rates in 2023 and 2083.

Table B.4. Age-Specific & Total Labour Force Participation Rates

Age	Males			Females		
	2022	2037	2052	2022	2037	2052
17	36%	36%	36%	32%	32%	32%
22	90%	90%	90%	85%	85%	85%
27	92%	92%	92%	90%	90%	90%
32	94%	94%	94%	92%	92%	92%
37	96%	96%	96%	95%	95%	95%
42	97%	97%	97%	96%	96%	96%
47	98%	97%	97%	97%	96%	96%
52	98%	98%	98%	95%	96%	97%
57	92%	97%	98%	83%	89%	95%
62	69%	88%	92%	53%	68%	83%
67	27%	63%	69%	23%	38%	53%

The projected real GDP divided by the projected labour productivity per worker gives the number of employed persons required to produce total output. Unemployment is then measured as the difference between the projected labour force and employment.

Estimates of increases in the total wages as well as the average wage earned are required. Annual average real wage increases are assumed equal to the assumed increase in labour productivity as it is expected that wages will almost adjust to efficiency levels over time. The inflation assumption affects nominal average wage increases. Actual assumptions for each scenario are found in Table 5.1.

B.2 Projection of Social Security Income & Expenditure

This actuarial review addresses all Social Security Fund revenue and expenditure items. For Short-term benefits, income and expenditure are projected as a percentage of insurable wages. Projections of pensions are performed following a year-by-year cohort methodology. For each year up to 2083, the number of contributors and pensioners, and the dollar value of contributions, benefits and administrative expenditure, is estimated.

Once the projections of the insured (covered) population, as described in the previous section, are complete, contribution income is then determined from the projected total insurable wages, the contribution rate and contribution density. Contribution density refers to the average number of weeks of contributions persons make during a year.

Benefit amounts are obtained through contingency factors based primarily on Scheme experience and applied to the population entitled to benefits. The yield on reserves is assumed to remain constant throughout the projection period. Social Security's administrative expenses are modelled as a percentage of insurable earnings. Finally, the end-of-year reserve is the beginning-of-year reserve plus the net result of cash inflow and outflow.

B.3 Social Security Population Data and Assumptions

The data required for the valuation of the Social Security Fund is extensive. As of December 31st, 2023, required data includes the insured population by active and inactive status, the distribution of insurable wages among contributors, the distribution of paid and credited contributions and pensions in payment, all segregated by age and sex.

Scheme specific assumptions such as the incidence of invalidity, the distribution of retirement by age, density and collection of contributions, are determined with reference to the application of the Scheme's provisions and historical experience.

Projecting investment income requires information of the existing assets at the valuation date and past performance of each class. Future expectations of changes in asset mix and expected rates of return on each asset type together allow for long-term rate of return expectations.

Details of Social Security specific input data and the key assumptions used in this report are provided in tables B.5 through B.9.

Table B.5. 2023 Active Insured Population, Earnings & Past Credits

Age	# of Active Insureds		Average Weekly Insurable Earnings		Average # of Years of Past Contributions	
	Male	Female	Male	Female	Male	Female
15 - 19	409	412	$411	$412	1.0	0.9
20 - 24	1,559	1,747	$526	$535	3.0	2.9
25 - 29	1,820	1,982	$641	$647	6.1	6.3
30 - 34	1,860	2,110	$745	$760	9.4	9.9
35 - 39	1,737	2,032	$812	$828	12.3	13.8
40 - 44	1,643	1,952	$872	$851	15.6	17.8
45 - 49	1,412	1,734	$878	$878	18.7	21.2
50 - 54	1,232	1,518	$917	$807	22.1	24.2
55 - 59	1,184	1,292	$870	$742	25.0	27.5
60 - 61	548	568	$808	$677	27.2	30.1
62+	732	652	$780	$684	27.2	30.1
All Ages	14,136	15,999	$764	$742	12.7	14.2

Table B.6. Pensions in Payment - December 2023

Age	Old-Age Benefit		Invalidity Benefit		Survivors Benefits		Disablement & Death		Assistance	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
0 - 4	-	-	-	-	9	5	-	-	-	-
5 - 9	-	-	-	-	29	29	-	-	-	-
10 - 14	-	-	-	-	80	76	3	-	-	-
15 - 19	-	-	-	-	63	67	2	1	1	-
20 - 24	-	-	-	-	-	-	-	-	2	3
25 - 29	-	-	3	3	-	-	2	-	5	3
30 - 34	-	-	9	4	1	-	-	-	4	3
35 - 39	-	-	9	4	-	1	3	-	13	4
40 - 44	-	-	22	16	-	3	2	6	9	4
45 - 49	-	-	14	14	3	11	5	2	9	9
50 - 54	-	-	32	52	10	24	10	2	6	5
55 - 59	-	-	67	52	18	72	10	5	5	4
60 - 64	814	898	25	38	34	88	6	4	10	10
65 - 69	1,094	1,296	-	-	55	129	2	4	15	19
70 - 74	616	628	-	-	31	101	1	4	18	18
75 - 79	273	323	-	-	34	98	2	1	9	17
80 - 84	117	165	-	-	18	70	-	2	8	24
85 - 89	61	77	-	-	14	52	-	-	5	18
90 - 94	22	46	-	-	2	41	-	-	1	15
95 - 99	2	10	-	-	3	22	-	1	4	4
100+	-	-	-	-	-	-	-	-	-	-
# of Pensioners	2,999	3,443	181	183	404	889	48	32	124	160
Avg Weekly Pension	$374	$317	$230	$240	$261	$397	$704	$758	$255	$255

The following table shows assumed density factors, or the average portion of the year for which contributions are made. These rates are assumed to remain constant for all years.

Table B.7. Density of Contributions

Age	Males	Females
17	35%	19%
22	49%	60%
27	79%	76%
32	85%	80%
37	87%	84%
42	89%	87%
47	90%	87%
52	90%	87%
57	89%	86%
62	89%	88%

The following table shows the expected incidence rates of insured persons qualifying for Invalidity benefit which is assumed for all projection years.

Table B.8. Rates of Entry into Invalidity

Age	Males	Females
17	-	-
22	-	0.161
27	0.621	0.297
32	1.099	0.869
37	1.639	0.446
42	2.098	1.484
47	2.137	1.801
52	5.677	5.878
57	8.520	6.078
62	11.363	6.277

Table B.9 shows the assumed probability of Survivor benefit claims grouped by the age of the deceased.

Table B.9. Probability of a Deceased Having Eligible Survivors

Age	Males	Females
17	-	-
22	0.09	0.07
27	0.32	0.23
32	0.43	0.43
37	0.36	0.68
42	0.39	0.74
47	0.58	0.52
52	0.71	0.38
57	0.77	0.34
62	0.68	0.32
67	0.39	0.33
72	0.19	0.29
77	0.16	0.17
82	0.11	0.08
87	0.04	0.03

Appendix C Projection Results – Alternate Scenarios

Table C.1. Projected St. Christopher & Nevis Population, All Scenarios

Year	All Ages	0-15		16-61		62+		Age Depend. Ratio
2022	51,320	10,417	20.3%	34,229	66.7%	6,674	13.0%	0.19
Best Estimate								
2032	52,914	8,979	17.0%	34,275	64.8%	9,660	18.3%	0.28
2042	53,130	8,106	15.3%	33,065	62.2%	11,959	22.5%	0.36
2052	52,363	7,250	13.8%	31,266	59.7%	13,848	26.4%	0.44
2062	51,295	6,785	13.2%	28,911	56.4%	15,599	30.4%	0.54
2072	49,730	6,473	13.0%	27,614	55.5%	15,644	31.5%	0.57
2082	47,648	6,121	12.8%	26,189	55.0%	15,338	32.2%	0.59
Optimistic								
2032	53,180	9,300	17.5%	34,270	64.4%	9,611	18.1%	0.28
2042	53,996	8,964	16.6%	33,291	61.7%	11,741	21.7%	0.35
2052	54,187	8,235	15.2%	32,554	60.1%	13,398	24.7%	0.41
2062	54,758	8,130	14.8%	31,639	57.8%	14,989	27.4%	0.47
2072	55,216	8,295	15.0%	31,855	57.7%	15,067	27.3%	0.47
2082	55,278	8,241	14.9%	31,963	57.8%	15,073	27.3%	0.47
Pessimistic								
2032	52,615	8,653	16.4%	34,273	65.1%	9,690	18.4%	0.28
2042	52,164	7,238	13.9%	32,818	62.9%	12,108	23.2%	0.37
2052	50,358	6,272	12.5%	29,930	59.4%	14,156	28.1%	0.47
2062	47,648	5,513	11.6%	26,122	54.8%	16,013	33.6%	0.61
2072	44,161	4,816	10.9%	23,328	52.8%	16,017	36.3%	0.69
2082	40,129	4,239	10.6%	20,449	51.0%	15,441	38.5%	0.76

Table C.2. Projected Cash Flows & Reserves, Pessimistic Scenario (millions of $'s)

Year	Inflows			Outflows				Reserves	
	Contribution Income	Investment Income	Total	Benefits	Admin. & Other Expenses	Total	Surplus/ (Deficit)	End of Year	# of times current year's expenditure
2021	86.1	57.7	**143.8**	120.4	15.6	**136.0**	**7.8**	**1,714**	12.6
2022	99.5	28.6	**128.1**	131.4	14.9	**146.2**	**(18.1)**	**1,695**	11.6
2023	109.5	62.9	**172.5**	140.9	16.0	**156.9**	**15.6**	**1,711**	10.9
2024	111.1	50.5	**161.5**	153.2	16.2	**169.4**	**(7.9)**	**1,703**	10.1
2025	113.4	41.8	**155.2**	162.6	16.8	**179.4**	**(24.2)**	**1,679**	9.4
2026	119.1	41.1	**160.2**	172.1	17.8	**189.9**	**(29.7)**	**1,649**	8.7
2027	123.1	40.2	**163.3**	189.6	18.6	**208.2**	**(44.9)**	**1,604**	7.7
2028	127.0	38.9	**165.9**	205.2	19.3	**224.5**	**(58.6)**	**1,546**	6.9
2029	131.0	37.3	**168.2**	222.3	20.1	**242.4**	**(74.1)**	**1,472**	6.1
2030	133.1	35.2	**168.3**	240.0	20.5	**260.5**	**(92.2)**	**1,379**	5.3
2031	135.2	32.7	**167.9**	258.2	20.9	**279.2**	**(111.3)**	**1,268**	4.5
2032	137.3	29.7	**167.0**	277.0	21.4	**298.4**	**(131.4)**	**1,137**	3.8
2033	139.3	26.2	**165.5**	296.1	21.8	**317.8**	**(152)**	**984**	3.1
2038	146.3	0.1	**146.5**	398.0	23.4	**421.4**	**(275)**	**(132)**	(0.3)
2043	153.8	(42.9)	**110.9**	512.4	25.2	**537.6**	**(427)**	**(1,951)**	(3.6)
2048	161.7	(106.1)	**55.6**	630.2	27.2	**657.4**	**(602)**	**(4,602)**	(7.0)
2053	169.2	(192.6)	**(23.4)**	751.7	29.2	**780.9**	**(804)**	**(8,206)**	(10.5)
2063	195.8	(443.0)	**(247.1)**	938.5	34.9	**973.4**	**(1,221)**	**(18,553)**	(19.1)
2073	219.3	(806.3)	**(587.0)**	1,114.2	40.4	**1,154.6**	**(1,742)**	**(33,527)**	(29.0)
2083	250.7	(1,309.9)	**(1,059.3)**	1,272.4	47.3	**1,319.7**	**(2,379)**	**(54,245)**	(41.1)

Table C.3. Projected Benefit Expenditure– Pessimistic Scenario (millions of $'s)

Year	Pensions & Grants				Short-term Benefits	Employment Injury Benefits	Benefits as a % of Ins. Wages
	Old Age	Invalidity	Survivors	Assistance			
2021	96.1	4.7	4.7	1.0	12.5	1.3	15.4%
2022	106.1	4.5	5.0	1.0	13.6	1.2	14.5%
2023	114.1	4.5	5.3	0.8	14.9	1.3	14.2%
2024	124.2	4.8	6.3	1.2	15.3	1.4	15.0%
2025	132.3	5.1	6.7	1.1	15.8	1.5	15.5%
2026	140.3	5.5	7.2	1.1	16.6	1.6	15.6%
2027	155.7	6.2	7.9	1.0	17.1	1.7	16.6%
2028	169.5	6.7	8.5	1.0	17.7	1.8	17.4%
2029	184.8	7.3	9.0	1.0	18.2	2.0	18.3%
2030	201.0	7.8	9.6	0.9	18.5	2.1	19.4%
2031	217.8	8.3	10.2	0.9	18.8	2.2	20.6%
2032	235.1	8.8	10.9	0.9	19.1	2.3	21.8%
2033	252.6	9.3	11.5	0.9	19.4	2.4	22.9%
2038	346.9	11.7	15.2	0.7	20.4	3.0	29.3%
2043	453.9	13.7	19.3	0.6	21.4	3.4	35.9%
2048	564.7	15.2	23.5	0.5	22.5	3.9	42.0%
2053	680.4	15.5	27.7	0.5	23.5	4.1	47.9%
2063	853.4	17.6	35.2	0.3	27.2	4.7	51.7%
2073	1,017.4	19.5	41.3	0.2	30.5	5.3	54.8%
2083	1,162.9	22.6	45.9	0.1	34.9	6.1	54.7%

Table C.4. Projected Contributors & Pensioners, Pessimistic Scenario

Year	# of Contributors	# of Pensioners					Total # of Pensioners	Ratio of Contributors to Pensioners
		Age	Invalidity	Survivors	Death & Disablement	Assistance		
2021	27,664	5,612	373	1,091	86	328	**7,490**	**3.7**
2022	29,140	6,020	404	1,111	84	300	**7,919**	**3.7**
2023	30,146	6,442	364	1,293	80	284	**8,463**	**3.6**
2024	28,014	6,735	373	1,341	86	270	**8,805**	**3.2**
2025	27,933	7,029	373	1,373	86	258	**9,120**	**3.1**
2026	27,862	7,313	379	1,411	88	247	**9,437**	**3.0**
2027	27,793	7,605	390	1,441	90	236	**9,762**	**2.8**
2028	27,718	7,936	402	1,464	92	226	**10,120**	**2.7**
2029	27,632	8,284	416	1,478	95	215	**10,487**	**2.6**
2030	27,471	8,626	422	1,486	97	206	**10,837**	**2.5**
2031	27,296	8,954	431	1,491	99	197	**11,172**	**2.4**
2032	27,111	9,268	442	1,498	101	188	**11,496**	**2.4**
2033	26,906	9,566	449	1,504	103	180	**11,802**	**2.3**
2038	25,806	10,916	491	1,561	112	144	**13,224**	**2.0**
2043	24,993	11,998	517	1,620	119	114	**14,368**	**1.7**
2048	24,256	12,699	521	1,657	120	90	**15,088**	**1.6**
2053	23,568	13,294	493	1,668	116	72	**15,642**	**1.5**
2063	21,241	13,295	471	1,621	112	44	**15,543**	**1.4**
2073	18,545	12,785	415	1,502	100	22	**14,824**	**1.3**
2083	16,383	11,734	372	1,332	90	8	**13,536**	**1.2**

Note: # of contributors in 2024 and onwards are those under age 62 who contribute at the full rate

Table C.5. Projected Cash Flows & Reserves, Optimistic Scenario (millions of $'s)

Year	Inflows			Outflows				Reserves	
	Contribution Income	Investment Income	Total	Benefits	Admin. & Other Expenses	Total	Surplus/ (Deficit)	End of Year	# of times current year's expenditure
2021	86.1	57.7	**143.8**	120.4	15.6	**136.0**	**7.8**	**1,714**	12.6
2022	99.5	28.6	**128.1**	131.4	14.9	**146.2**	**(18.1)**	**1,695**	11.6
2023	109.5	62.9	**172.5**	140.9	16.0	**156.9**	**15.6**	**1,711**	10.9
2024	116.6	75.8	**192.4**	153.5	16.2	**169.7**	**22.7**	**1,734**	10.2
2025	122.4	76.7	**199.1**	163.2	16.8	**180.0**	**19.1**	**1,753**	9.7
2026	130.9	77.5	**208.5**	173.2	17.8	**191.0**	**17.5**	**1,770**	9.3
2027	138.2	78.1	**216.3**	188.2	18.6	**206.8**	**9.6**	**1,780**	8.6
2028	145.6	78.4	**224.0**	202.9	19.3	**222.2**	**1.7**	**1,782**	8.0
2029	153.3	78.3	**231.5**	219.3	20.1	**239.4**	**(7.9)**	**1,774**	7.4
2030	157.6	77.6	**235.2**	236.4	20.5	**256.9**	**(21.7)**	**1,752**	6.8
2031	162.0	76.3	**238.3**	254.2	20.9	**275.1**	**(36.8)**	**1,715**	6.2
2032	166.4	74.4	**240.8**	272.6	21.4	**294.0**	**(53.2)**	**1,662**	5.7
2033	171.0	71.6	**242.7**	291.4	21.8	**313.1**	**(70)**	**1,592**	5.1
2038	191.4	44.8	**236.2**	392.9	23.4	**416.3**	**(180)**	**928**	2.2
2043	214.4	(10.9)	**203.5**	512.8	25.2	**538.0**	**(335)**	**(417)**	(0.8)
2048	241.3	(105.9)	**135.4**	645.0	27.2	**672.1**	**(537)**	**(2,677)**	(4.0)
2053	270.6	(251.9)	**18.6**	792.1	29.2	**821.3**	**(803)**	**(6,129)**	(7.5)
2063	348.9	(748.2)	**(399.3)**	1,048.8	34.9	**1,083.8**	**(1,483)**	**(17,747)**	(16.4)
2073	435.9	(1,620.0)	**(1,184.1)**	1,332.3	40.4	**1,372.7**	**(2,557)**	**(38,094)**	(27.8)
2083	550.3	(3,075.2)	**(2,524.9)**	1,631.3	47.3	**1,678.6**	**(4,204)**	**(71,984)**	(42.9)

Table C.6. Projected Benefit Expenditure– Optimistic Scenario (millions of $'s)

Year	Pensions & Grants				Short-term Benefits	Employment Injury Benefits	Benefits as a % of Ins. Wages
	Old Age	Invalidity	Survivors	Assistance			
2021	96.1	4.7	4.7	1.0	12.5	1.3	15.4%
2022	106.1	4.5	5.0	1.0	13.6	1.2	14.5%
2023	114.1	4.5	5.3	0.8	14.9	1.3	14.2%
2024	124.2	4.8	6.3	1.2	15.6	1.4	14.8%
2025	132.3	5.1	6.8	1.1	16.4	1.5	15.0%
2026	140.3	5.5	7.2	1.1	17.5	1.6	14.8%
2027	153.1	6.1	7.8	1.0	18.5	1.7	15.3%
2028	165.7	6.6	8.3	1.0	19.5	1.9	15.6%
2029	179.8	7.2	8.8	0.9	20.5	2.0	16.1%
2030	195.1	7.8	9.3	0.9	21.1	2.2	16.8%
2031	211.2	8.3	9.9	0.9	21.7	2.3	17.6%
2032	227.8	8.9	10.5	0.8	22.3	2.4	18.4%
2033	244.6	9.5	11.1	0.8	22.9	2.5	19.1%
2038	336.4	12.4	14.7	0.7	25.6	3.2	23.0%
2043	445.9	15.1	18.8	0.5	28.7	3.9	26.8%
2048	566.9	17.5	23.4	0.4	32.3	4.5	30.0%
2053	703.3	19.0	28.2	0.4	36.2	5.1	32.8%
2063	932.6	24.3	38.5	0.2	46.7	6.5	33.7%
2073	1,186.0	30.4	49.3	0.1	58.3	8.2	34.3%
2083	1,446.1	40.7	60.2	0.0	73.6	10.7	33.3%

Table C.7. Projected Contributors & Pensioners, Optimistic Scenario

Year	# of Contributors	# of Pensioners					Total # of Pensioners	Ratio of Contributors to Pensioners
		Age	Invalidity	Survivors	Death & Disablement	Assistance		
2021	27,664	5,612	373	1,091	86	328	**7,490**	**3.7**
2022	29,140	6,020	404	1,111	84	300	**7,919**	**3.7**
2023	30,146	6,442	364	1,293	80	284	**8,463**	**3.6**
2024	28,349	6,734	373	1,342	86	270	**8,805**	**3.2**
2025	28,609	7,027	373	1,374	86	258	**9,119**	**3.1**
2026	28,885	7,309	379	1,414	88	247	**9,436**	**3.1**
2027	29,168	7,599	391	1,446	90	236	**9,762**	**3.0**
2028	29,450	7,927	404	1,471	93	226	**10,120**	**2.9**
2029	29,726	8,271	418	1,489	96	215	**10,489**	**2.8**
2030	29,873	8,608	427	1,501	98	206	**10,839**	**2.8**
2031	30,008	8,931	437	1,511	100	197	**11,176**	**2.7**
2032	30,081	9,237	449	1,522	102	188	**11,500**	**2.6**
2033	30,021	9,528	459	1,535	105	180	**11,806**	**2.5**
2038	29,797	10,825	512	1,622	116	143	**13,218**	**2.3**
2043	29,823	11,855	549	1,712	125	114	**14,355**	**2.1**
2048	29,891	12,525	564	1,778	130	90	**15,087**	**2.0**
2053	29,777	13,154	550	1,817	128	72	**15,720**	**1.9**
2063	29,812	13,389	565	1,843	131	44	**15,973**	**1.9**
2073	29,669	13,507	565	1,829	131	22	**16,055**	**1.8**
2083	29,919	13,339	594	1,780	136	8	**15,856**	**1.9**

Note: # of contributors in 2024 and onwards are those under age 62 who contribution at the full rate

Appendix D Income, Expenditure & Reserves, 2021 – 2023

Millions of $'s

	2021	2022	2023
Income			
Contributions (net)	86.064	99.479	109.518
Investment	58.472	38.038	63.122
Impairment Recoveries	(1.563)	(10.215)	(1.182)
Other	0.810	0.792	1.003
Total Income	**143.782**	**128.095**	**172.461**
Expenditure			
Benefits			
Sickness Benefit	9.464	10.707	11.708
Maternity Allowance	1.953	1.845	2.015
Maternity Grant	0.194	0.166	0.167
Funeral Grant	0.900	0.8887	0.995
Age Pension	94.673	104.184	111.870
Invalidity Pension	4.740	4.500	4.478
Survivors' Pension	4.704	5.029	5.344
Age Grant	1.460	1.891	2.220
Age Assistance	0.625	0.624	0.538
Invalidity Assistance	0.378	0.328	0.273
Medical Expenses	0.035	0.076	0.046
Injury Benefit	0.437	0.383	0.449
Disablement Grant	-	-	-
Disablement Benefit	0.627	0.594	0.616
Death Benefit	0.157	0.141	0.140
Travel Expenses	-	0.003	-
Burial Grant	0.004	-	0.004
Constant Care	0.029	0.029	0.029
Total Benefit Expenditure	**120.379**	**131.387**	**140.893**
Administrative Expenditure	**15.610**	**14.857**	**16.009**
Total Expenditure	**135.989**	**146.244**	**156.902**
Other Comprehensive Income	**1.204**	**-**	**-**
Excess of Income over Expenditure	**7.793**	**(18.150)**	**15.559**
Reserves at End of Year	**1,713.614**	**1,695.465**	**1,711.023**
Short-term Benefits Reserves	181.843	187.159	197.125
Long-term Benefits Reserves	1,213.914	1,176.870	1,162.520
Employment Injury Reserves	299.619	313.198	333.140
Revaluation & Capital Reserves	18.238	18.238	18.238

Appendix E Benefit Branch Experience & Analysis

The Social Security Board (SSB) administers three types of social security benefits – long-term benefits or pensions, short-term benefits, and employment injury benefits. While the summary of Social Security Fund (SSF) finances presented in Chapter 2 and in Appendix D shows total income and expenditure, internal accounting procedures separate finances into three branches – long-term, short-term and employment injury. Each benefit is allocated to one of the three benefit branches and each benefit branch is allocated a certain percentage of contribution income, investment income and administrative costs.

Since these branches are only sub-accounts within the Social Security Fund, changes in the allocation of contribution and investment income, and transfer of reserves between branches, have no impact on the overall present or future funded position of the Social Security Fund. This method of internal accounting is consistent with the manner that the SSB initially elected to finance and account for the various types of benefits.

E.1 Contribution Allocations & Reserve Transfers

The three benefit types have different characteristics and financing mechanisms. The Short-term benefit (STB) and Employment Injury benefit (EIB) branches use a pay-as-you-go method of financing. Under this method current contributions are expected to closely match current benefits with only a small reserve. Therefore, the contribution allocation to these branches should approximate expected expenditure and reserve levels should be small, relative to annual expenditure. Long-term benefits, on the other hand, are partially pre-funded with the portion of the contribution rate not allocated to Short-term and Employment Injury benefits.

Table E.1. shows for each branch, contribution allocations, actual expenditure (as a percentage of insurable wages), 2023 year-end reserves and reserve-expenditure ratio.

Table E.1. Summary Branch Experience (% of Insurable Earnings)

Benefit Branch	Contribution $'s Allocated	Contribution Rate Allocated	Average Benefit Expenditure 2021 – 2023	2023 End of Year Reserves (millions)	2023 Reserve-Expenditure Ratio
Short-term	18.18%	2.0%	1.53%	$197.1	11.5
Employment Injury	9.09%	1.0%	0.14%	$333.1	166.4
Long-term	72.73%	8.0%	13.01%	$1,162.5	8.4
All Branches	100.00%	11.0%	14.69%	$1,692.8	10.9

Note: Reserve-Expenditure ratio is the size of the year-end reserve relative to total expenditure in that year.

The Short-term and Employment Injury branches were significantly overfunded at the end of 2023. The overfunded positions are due to expenditure being substantially less than the percentage of contribution income allocated and the investment income that is earned on these reserves. Therefore, reallocations of contribution income and the transfer of reserves from both branches to the Long-term benefits branch may be considered.

The recommended changes to the allocation of contribution and transfer of reserves between branches are shown in table E.2.

Table E.2. Recommended Changes to Contribution Allocation & Reserve Transfers

Benefit Branch	Contribution Income Allocation		Reserve Transfer
	Current	Recommended	
Short-term	2.0%	1.8%	$160 mil. to LTB Branch
Employment Injury	1.0%	0.2%	$320 mil. to LTB Branch
Long-term	8.0%	9.0%	$480 mil. from STB & EIB Branches
All	11.0%	11.0%	

It should be noted that changes in the allocation of contribution and investment income, and transfer of reserves between branches, have no impact on the overall present or future funded position of the Social Security Fund. These adjustments are for internal accounting purposes only and are consistent with the way the SSB elected to account for the various types of benefits when it was established.

E.2 Long-term Benefit Experience, 2021 – 2023

Table E.3. LTB Branch Expenditure as % of Insurable Wages, 2021-2023

Pension Type	2021	2022	2023
Age Pension	12.10%	11.52%	11.24%
Invalidity Pension	0.61%	0.50%	0.45%
Survivors' Pension	0.60%	0.56%	0.54%
Age Grant	0.19%	0.21%	0.22%
Assistance Pensions	0.13%	0.11%	0.08%
Total	13.62%	12.89%	12.53%

Table E.4. Pensions In Payment, Awarded & Terminated, 2020- 2023

Benefit Type	Paid in Dec. 2020	Awarded 2021-23	Terminated 2021-23	# Paid in Dec. 2023	Avg. Monthly Pension	
					Dec. 2020	Dec. 2023
Age	5,052	1,689	(299)	6,442	$1,424	$1,487
Invalidity	349	234	(219)	364	$1,076	$1,017
Survivors	1,175	416	(298)	1,293	$274	$354
Assistance	469	-	(179)	290	$255	$255

E.3 Short-term Benefit Experience, 2021 – 2023

Table E.5. STB Branch Expenditure as % of Insurable Wages, 2021 - 2023

Benefit Type	2021	2022	2023
Sickness Benefit	1.21%	1.18%	1.18%
Maternity Allowance & Grant	0.27%	0.22%	0.22%
Funeral Grant	0.12%	0.10%	0.10%
All Benefits & Grants	1.60%	1.50%	1.50%

Table E.6. Sickness & Maternity Benefit Experience, 2021 – 2023

Year Ended	Sickness Benefit			Maternity Allowance		
	# Claims Awarded per 1,000 Insureds	Average Benefit Duration (days)	Average Weekly Benefit	# Claims Awarded per 1,000 Insureds	Average Benefit Duration (days)	Average Weekly Benefit
2021	395	12.4	$489	14.8	81.2	$412
2022	422	12.0	$506	11.9	89.2	$417
2023	411	12.3	$538	11.9	86.4	$453

Table E.7. Maternity Grant & Funeral Grant Experience, 2021 – 2023

Year Ended	Maternity Grant		Funeral Grant	
	# Births	# Grants Awarded	# Deaths	# Grants Awarded
2021	624	414	459	362
2022	504	351	462	367
2023	486	371	482	400

E.4 Employment Injury Benefit Experience, 2021 – 2023

Table E.8. EIB Branch Expenditure as % of Insurable Wages, 2021 - 2023

Benefit Type	2021	2022	2023
Injury Benefit	0.06%	0.04%	0.05%
Medical & Travel Expenses	0.004%	0.009%	0.005%
Disablement Pension & Grant	0.08%	0.07%	0.06%
Death Pension	0.02%	0.02%	0.01%
All Benefits & Grants	0.16%	0.13%	0.13%

Table E.9. Injury Benefit Experience, 2021 – 2023

Year Ended	Injury Benefit		
	# Claims Awarded per 1,000 Insureds	Average Benefit Duration (days)	Average Weekly Benefit
2021	11.4	14.4	$677
2022	9.9	16.1	$577
2023	12.3	15.5	$549

Table E.10. Pensions In Payment, Awarded & Terminated, 2020- 2023

Benefit Type	Paid in Dec. 2020	Awarded 2021-23	Terminated 2021-23	# Paid in Dec. 2023	Avg. Monthly Pension	
					Dec 2020	Dec. 2023
Disablement	74	10	(23)	61	$779	$740
Death	20	-	(1)	19	$678	$678

Appendix F Unemployment Benefit

While almost all industrialised countries have some form of unemployment insurance, Barbados, The Bahamas, Grenada and the Turks & Caicos Islands are the only Caribbean countries with a permanent unemployment benefit (UEB). This benefit provides partial income replacement to eligible covered workers for short periods following involuntary unemployment. Like other contributory social security benefits, unemployment benefits are paid as a matter of right with no demonstration of need required.

In 2020, both the Government and the SSB established a temporary income support programme for workers who lost employment income as COVID-19 caused businesses closures across the Federation.

A detailed assessment of whether or not the introduction of an unemployment benefit is viable is beyond the scope of this review. However, a brief discussion of the purpose and design issues to be considered prior to implementing such a programme is presented below.

Unemployment insurance programmes have both primary and secondary objectives. The primary objectives involve assisting individual workers during periods of involuntary unemployment while the secondary objectives stress the promotion of economic efficiency and stability. Specifically, these objectives may be summarised as follows:

Table F.1. Objectives of Unemployment Insurance Programmes

Primary Objectives	Secondary Objectives
(1) Provide cash payments during involuntary unemployment, (2) Maintain to a substantial degree the unemployed worker's standard of living, (3) Provide time to find employment consistent with their skills and experience, (4) Help unemployed workers find jobs.	(1) Stabilise economy during recessions by enabling unemployed workers to maintain their personal income & consumption, (2) Promote better utilisation of labour by encouraging unemployed workers to find appropriate jobs and, where necessary, helping them to improve their job skills, (3) Help employers maintain a skilled work force as skilled workers are not forced to seek other jobs, and thus are free to return when they are called back.

When designing an unemployment benefit, the following issues should be considered:

Table F.2. Unemployment Benefits Design Considerations

Design Element	Typical Provision	Issues for Added Consideration
Who should be covered	▪ Employed persons - those most at risk of becoming involuntarily unemployed	▪ Should permanent civil servants be covered? (In Barbados they are not but, in The Bahamas and Grenada, they are) ▪ Self-employed persons are more difficult to cover but could be included with some differences
Definition of unemployment	▪ Lost job through no fault of your own and are available for and able to work, but can't find a job	▪ Unemployed could also include "partial unemployment" – working for reduced hours/days/income (Included in Barbados but not in Grenada and The Bahamas)
Eligibility Requirements	▪ Was employed in insurable employment ▪ Lost job through no fault of your own (a few exceptions may be allowed) ▪ Been without work and without pay for at least a certain # of days or weeks ▪ Worked and contributed to the SSB for the required # of weeks in one or more recent periods, or since the last UEB claim ▪ Ready, willing and capable of working ▪ Actively looking for work	▪ Could add an element of job-specific online training
Benefit Replacement rate	▪ Will depend on initial design objectives (currently 60% in Barbados, 40% in The Bahamas)	▪ Start with a modest rate first (e.g., 40% or 50%) and increase as experience unfolds
Maximum benefit duration	▪ Will depend on initial design (currently 26 weeks in Barbados, 13 weeks in The Bahamas)	▪ Start with say 13 weeks and increase as experience unfolds
Verified continued eligibility	▪ Thorough checks required to verify ongoing eligibility status	▪ Verification could be conducted within the SSB or by a 3rd party
Efficient integration of UEB with labour law (Severance/Redundancy)	▪ Avoid duplication and/or anomalies between UEB and benefits payable from the	▪ Amendments to the Labour law may be required

Design Element	Typical Provision	Issues for Added Consideration
	Severance Fund or employer if made redundant	
Contribution Rate	▪ Rate required based on benefit rules and funding objectives	▪ Rate reviewed triennially as part of actuarial review
Sharing of Contributions between workers and employer	▪ 50%/50% employer/employee	
Accounting for UEB	▪ Separate Fund (Barbados) or part of the STB Branch (The Bahamas)	▪ Could also be a new branch within the SSF
Funding objectives (adequacy of reserves)	▪ Build up enough reserves, even for times of "crisis" when a significant portion of workforce is unemployed for an extended period	▪ Addition of UEB should not compromise long-term sustainability of the SSF
Job-matching service (JMS)	▪ Place for employers to post available jobs and unemployed persons to register	▪ Registration with a JMS should be a prerequisite for claiming UEB. Claimant must sign a "Job Seeker Agreement" ▪ This service could also be used to confirm whether unemployed persons meet the conditions for ongoing eligibility

Rough estimates of the incidence of unemployment claims and the likely average duration suggest that a contribution rate of 0.3% to 0.7% of insurable earnings should be sufficient to meet expenditure for a scheme that replaces 50% of earnings for a maximum of 13 weeks.

The following matrix shows the contribution rates required for various combinations of unemployment incidence rates and average benefit durations for a 50% benefit rate.

Table F.3. Estimated UEB Costs For 50% Benefit Rate

Avg. Benefit Duration (weeks)	% of Eligible Insureds That Claim in A Year		
	2%	4%	6%
6	0.14%	0.27%	0.41%
8	0.18%	0.36%	0.54%
10	0.23%	0.45%	0.68%
12	0.27%	0.54%	0.81%
14	0.32%	0.63%	0.95%
16	0.36%	0.72%	1.09%