LifeWorks

Grenada National Insurance Scheme

13th Actuarial Review of the National Insurance Fund as of December 31, 2021

June 29, 2022

FINAL REPORT

Table of Contents

Abbreviations and Acronyms

ECCB	Eastern Caribbean Central Bank
EIB	Employment Injury Benefits
EPA	Early Pension Age
GDP	Gross Domestic Product
ILO	International Labour Office
IPS	Investment Policy Statement
ISSA	International Social Security Association
IW	Insurable Wages
LTB	Long-term Benefits
NPA	Normal Pension Age
NIF	National Insurance Fund
NIS	National Insurance Scheme
OECD	Organisation for Economic Co-operation & Development
R-E Ratio	Reserve Expenditure Ratio
STB	Short-term Benefits
SVG	St. Vincent & The Grenadines
TFR	Total Fertility Rate

Introduction

The Grenada National Insurance Scheme (NIS) began operations in April 1983. The NIS currently covers all employed and self-employed persons 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 are invested locally and abroad in various types of securities.

This is the report of the 13th Actuarial Review of the National Insurance Fund and, in accordance with Section 22 of the Grenada National Insurance Act, 1983, it is being prepared three years after the 12th Actuarial Review. This report is being prepared for the Board.

The main purpose of periodic actuarial reviews is to determine if the National Insurance system in Grenada 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 National Insurance Act, periodic actuarial reviews should be conducted. The next actuarial review of the National Insurance Fund is due as of December 31, 2024.

We wish to thank Mr. Dorsett Cromwell, Director, Ms. Cindian St. Bernard, Deputy Director, Ms. Marsha Lewis, Statistical Officer, and all other members of the National Insurance staff who provided data and otherwise assisted with this review.

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

Executive Summary

The National Insurance Scheme (NIS) 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 National Insurance Fund (NIF). They also provide policy recommendations for changes designed to ensure that a suitable balance between benefit adequacy and financial sustainability is achieved for both current and future periods. This is the report of the 13th Actuarial Review of the NIF and has been conducted as of December 31st, 2021. It covers the 3-year period 2019 to 2021.

Experience During The Review Period

While the COVID-19 pandemic has had far-reaching human, social and economic impacts, the effect on National Insurance Fund finances was limited primarily to contribution income being lower than it otherwise would have been in 2020 and 2021. The 2% increase in contribution rate that took effect in January 2020 offset most of the effect of lower total wages. To provide income support to the thousands of persons who became unemployed, a total of $5.8 million was paid out in temporary unemployment assistance benefits in 2020 and 2021. Highlights of other relevant experience during 2019 to 2021 include:

- The number of NIS contributors prior to 2020 was around 55,000. In 2020 and 2021, it was just under 50,000. There are over 2,000 persons aged 60 to 69 who receive a pension while continuing to work but not fully contributing given current rules.
- The number of pensioners increased from 9,000 in 2018 to 11,000 in 2021.
- Age pension accounts for 75% of total benefit expenditure.
- Annual benefit expenditure increased by 31% between 2018 and 2021 and total benefit expenditure exceeded contribution income in all years. However, strong investment returns resulted in the Fund experiencing a surplus each year.
- There were notable increases in the portion of investments held in equities and short-term deposits while the portion held in bonds decreased.
- Total NIF reserves at the end of 2021 were $1.014 billion.

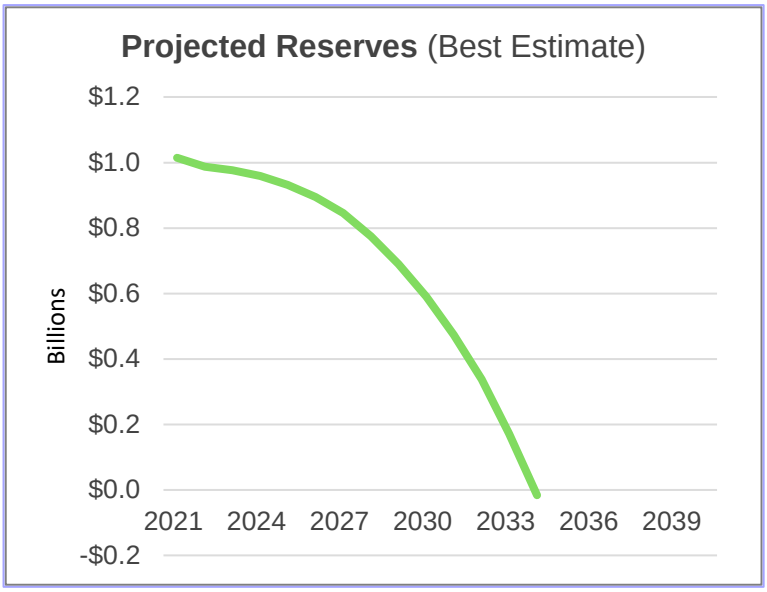
Main Findings & Projection Results

This report's assessment of NIS 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. Pensions have not been increased since 2006. Therefore, the pension initially awarded to most has lost some of its purchasing power. Cumulative inflation since 2006 is estimated at 26%. Even though the wage ceiling has not been increased since 2014, only 5% of insureds earn more than $5,000

per month. Participation rates among self-employed persons and informal sector workers continues to be very low which could be the main reason that one-third of new 60 year-olds qualify for a lump sum grant instead of a lifetime pension.

Although the portion of Fund investments held in cash and deposits is higher than near-term liquidity demands suggest, investments are generally well diversified: - 19% of investments are held in Government of Grenada debt and 47% of investments outside of Grenada. Administrative costs are low when compared to others in the OECS. The NIS is up to date with preparing audited financial statements and actuarial reviews which are all available on its website.

60-year projections of NIS income, expenditure and reserves, under three distinct population and economic growth scenarios, are presented in this report. Possible impacts of the pandemic have been considered in the outlook for Grenada and the selection of assumptions for the projections. As shown in the chart below, reserves are projected to be depleted in 2034 under the *Best Estimate* scenario if the contribution rate is not increased and/or benefit reforms not made.



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

(a) higher contributions, and

(b) special transfers from government.

At the current stage of Fund finances, higher investment returns will have little material impact on reserves.

Projections were also made under two different sets of assumptions – one optimistic and one pessimistic.

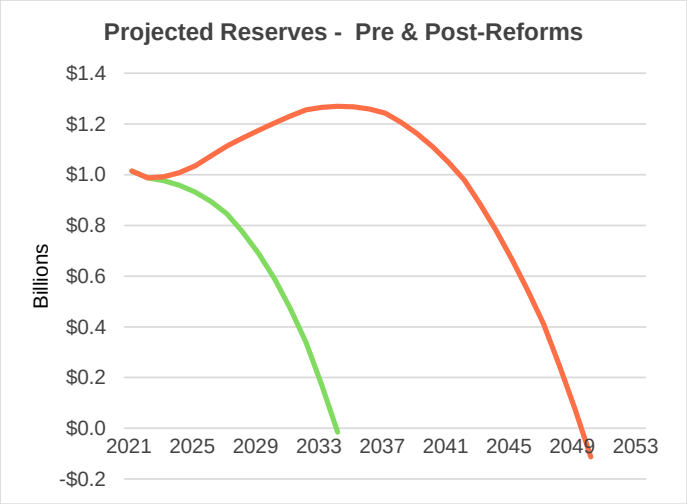
Following are key results, expressed in ranges, for the three projection sets:

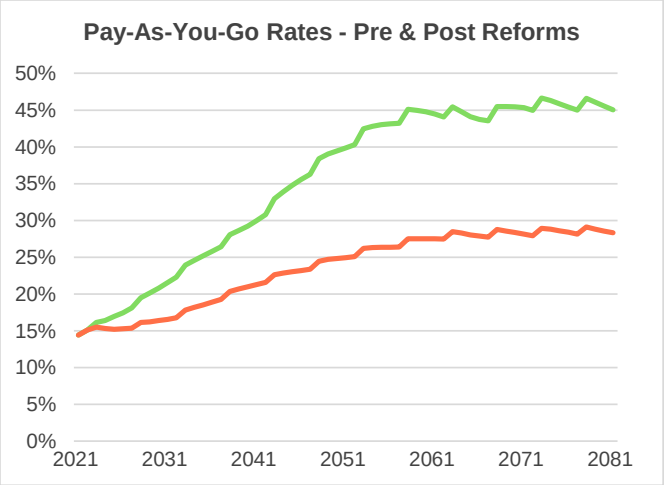
1. Total expenditure will exceed total income in all years, except in 2022 and 2023 if equity investments perform very well.
2. The Fund will be depleted between 2033 and 2035.
3. The pay-as-you-go rate in 2034, around the time the Fund is projected to be depleted, will be between 24% and 26%.

These results are consistent with those of the 12th Actuarial Review. Successive actuarial reviews have shown that the Fund is not financially sustainable over the medium and long-terms at current benefit provisions and contribution rate.

Grenada is the only OECS territory that still has 60 as its pensionable age; all others that started with age 60 either now are at age 65 or are gradually increasing to 65. With no change since inception, the Age pension remains heavily weighted to the first 10 years of contributions such that half of the maximum pension is earned in the first 10 years and the other half over the next 30 years. Further, Age pensioners can work and earn a high income with no impact on their pension.

If started in 2023, reforms to Age pension similar to those made by other countries, could result in a significant change in the outlook for the National Insurance Fund as shown below: – Fund depletion postponed by almost 20 years and much lower costs in the medium and long-terms.





The reforms producing the above results are (i) an increase in pensionable age to 65, (ii) changes to the Age pension formula such that average new pensions are 20% lower, (iii) Age pension changed to a Retirement pension up to at least age 65, and (iv) contribution rate increases to 15%.

Recommendations

As Fund depletion looms, immediate mitigating measures are required. Ideally, the burden felt by these measures should be shared by all, including those who are already in receipt of a pension. Even though pensions have not been increased in over fifteen years any increase granted soon need not fully compensate fully for inflation given the projected state of the Fund.

To ensure that measures aimed at extending the life of the Fund are well thought through, the Board should immediately prepare a Funding Policy and a Benefits Policy. At a high level, these policies will provide explicit documentation of what the NIS seeks to accomplish, what circumstances it wishes to avoid, and where objectives conflict, what takes priority. Specifically,

- The Benefits Policy should include the purpose and goals of each benefit and justification for its eligibility rules and amounts paid. It should also include the desired level for the minimum pension as well as how pensions are adjusted to offset the effects of inflation. (See Section 6.2)
- The Funding Policy should include specific targets such as the minimum number of years that reserves should remain positive along with how much, and when, the contribution rate should be increased to achieve stated goals. Work on developing a Funding Policy was ongoing at the time of preparing this report. (See Section 6.1)

The Board should also update its Risk Policy to go along with its recently updated Investment Policy.

Critical to ensuring sustainability for at least the next 25 to 30 years are a contribution rate increase and reforms to Age pension. While parametric reforms to Age pension should focus on (i) reducing average new pension amounts and (ii) pensions starting at a later age, there are several options within each parametric reform that can be considered. (See Chapter 7)

In the absence of agreed funding targets, specific recommendations for a minimum level of Age pension reforms are:

1. Increase normal pension age to at least 65 and introduce a concept of a reduced early pension starting at age 60.
2. Persons under normal pension age who continue to work should not be allowed to collect their Age pension.
3. Revise the way average insurable wages are determined for pension calculations so that pension replacement rates are explicitly progressive; that is, for the same number of contributions, lower income persons will receive a slightly higher replacement rate than higher income persons. The alternative approach of a more linear accrual rate benefit schedule would affect lower income insured persons more than it would higher income insured persons. (See Figure 7.1)

Other recommendations made in this report are:

4. Implement a planned schedule of increases that will result in the contribution rate being at least 15% in 2030.
5. Increase minimum pension amounts by up to 25%. If larger pension amounts will also be increased to offset the effects of inflation, the amount of time that has elapsed since pension award should determine the rate of increase. (See Section 6.2.3)
6. Introduce the permanent unemployment benefit that was presented to stakeholders in early 2022.
7. Implement the new approach for self-employed persons and informal sector workers to easily pay contributions and receive benefits from the NIS that was presented to stakeholders in early 2022.
8. Improve contribution compliance through effective linkages with government departments that issue permits to businesses and self-employed persons, and enforce existing laws for those who are delinquent.
9. Create a comprehensive set of Good Governance Guidelines. (See Chapter 8)

Implementing the above recommendations will not be easy to do or for stakeholders to accept. It is therefore recommended that appropriate consultations be held.

If major reforms are not made soon, the National Insurance Fund could enter a crisis state within the next ten years where draconian measures will be required. Even if all of the recommendations made above are fully accepted and implemented soon, additional contribution rate increases will be required to ensure the continued payment of benefits without government support. Policymakers should therefore not depend on “hoped-for” results but instead adopt rational responses for the specific challenges that lie ahead.

Summary of Report's Recommendations

The following table classifies the many recommendations made in this report into three priority categories. While all recommendations are considered important and necessary, some may be delayed temporarily if further dialogue with stakeholders is considered necessary.

High Priority

1. Implement Age pension reforms starting as early as 2023 in line with options discussed in Chapter 7. The most effective changes will be increasing pensionable age to at least 65 and introducing a progressive method of calculating pensions such that replacement rates are slightly lower for higher income insureds than for lower income insureds.
2. Increase the contribution rate gradually to 15%.
3. Increase minimum pension amounts.
4. Add Unemployment benefit.
5. Introduce the new approach for Self-employed contributions.
6. Introduce automatic annual wage ceiling adjustments.
7. Create two new polices – Funding Policy, Benefits Policy, and update the Risk Policy.
8. Approve the recently revised Investment Policy Statement and implement annual reviews with an emphasis on cash flow management.
9. Perform a comprehensive analysis of contribution compliance among employers of varying size and sectors and together with Government, implement new approaches to increasing compliance.

Medium Priority

1. Create a comprehensive set of Good Governance Guidelines

Low Priority

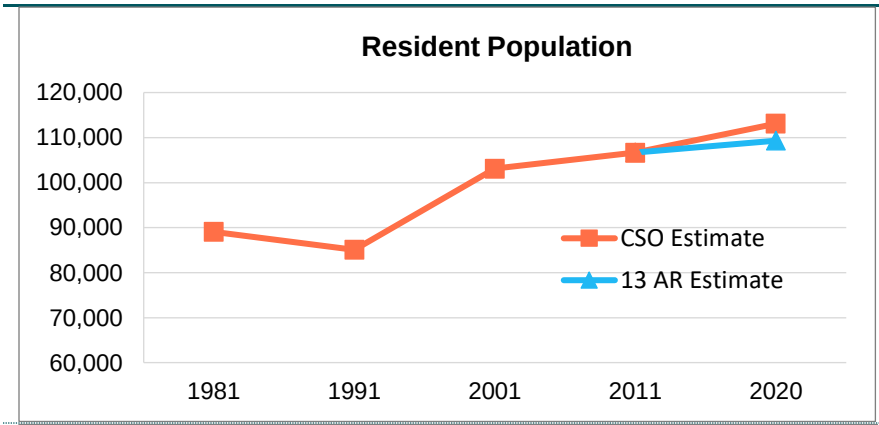
1. Transfer reserves from the Employment Injury Benefit branch to the Long-term Benefit branch and revise the allocation of contributions between the three branches. Alternatively, eliminate the use of branches within the NIF.

Chapter 1 Historical Experience

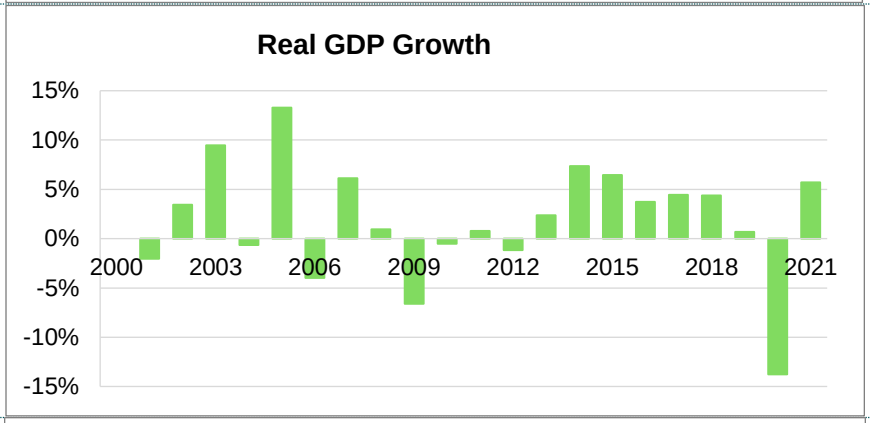
Social security systems do not operate in a vacuum but instead are intrinsically linked to population changes and economic fortunes. Through the use of charts, this chapter illustrates the evolution of Grenada's population, economy and NIS demographic and financial factors.

1.1 Population & Economy

Figure 1.1. Population 1981 to 2020, GDP Growth & Inflation, 2000 to 2021

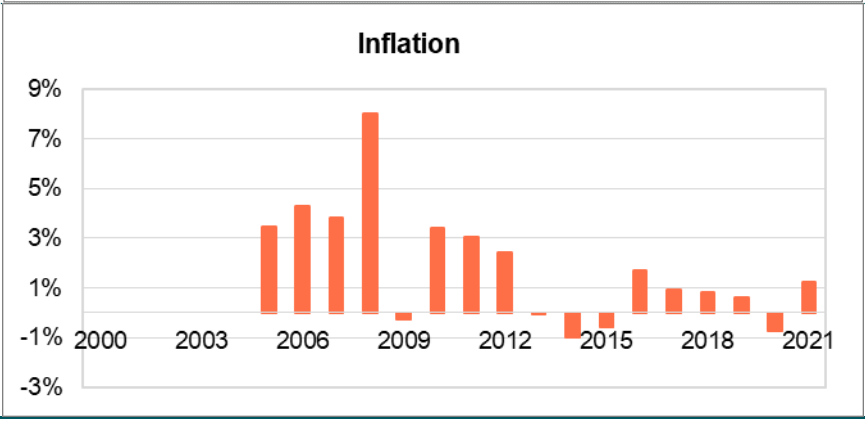


Grenada has experienced moderate population growth even though there has been net outward migration for decades. No census was taken in 2021. CSO estimates, which assume zero migration, place the 2020 population at 113,135. For this review, the 2020 population is estimated at 109,337.



During the 20 years prior to COVID-19 average 10 and 20-year real GDP growth rates were 2.8% and 2.3% respectively.

In 2020 real GDP is estimated to have fallen by 13.8% and grown by 5.7% in 2021.

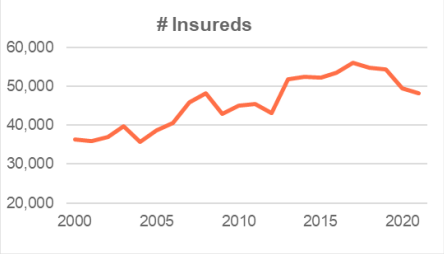


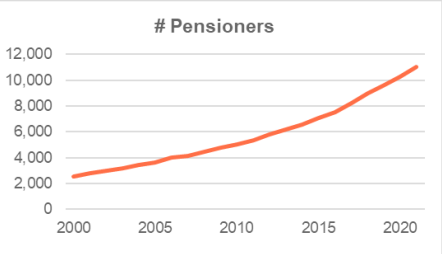
Since 2009 inflation has been relatively low averaging 1.0%.

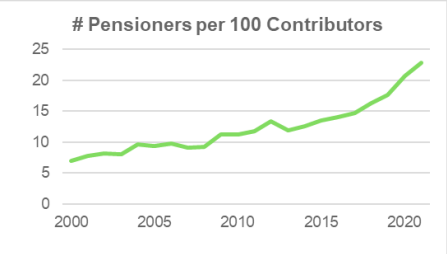
1.2 National Insurance Fund Experience

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

Figure 1.2. Insured Persons (Contributors) & Pensioners, 2000 to 2020



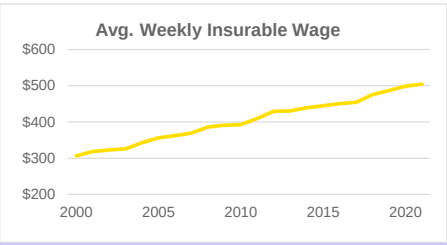


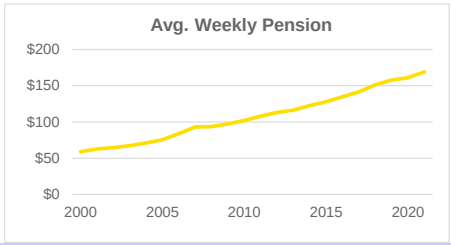


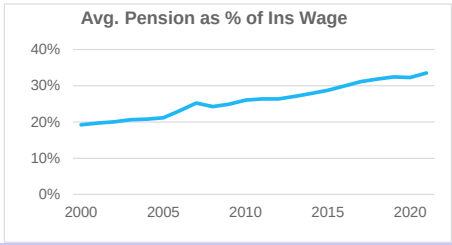
While the number of contributors (insured persons) has generally increased over the past 21 years, there were temporary decreases during recessionary periods. The COVID-19 pandemic led to a decrease of almost 5,000 in 2020, and a further 1,200 in 2021.	The number of pensions in payment continued to increase each year as expected.	In the last 21 years, the number of pensioners for each contributor has increased three-fold. The inverse of this is the support ratio. In 2021, there were 4.4 contributors for each pensioner compared with 14.2 contributors for each pensioner in 2000.

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

Figure 1.3. Average Insurable Wages & Average Pensions, 2000 to 2020





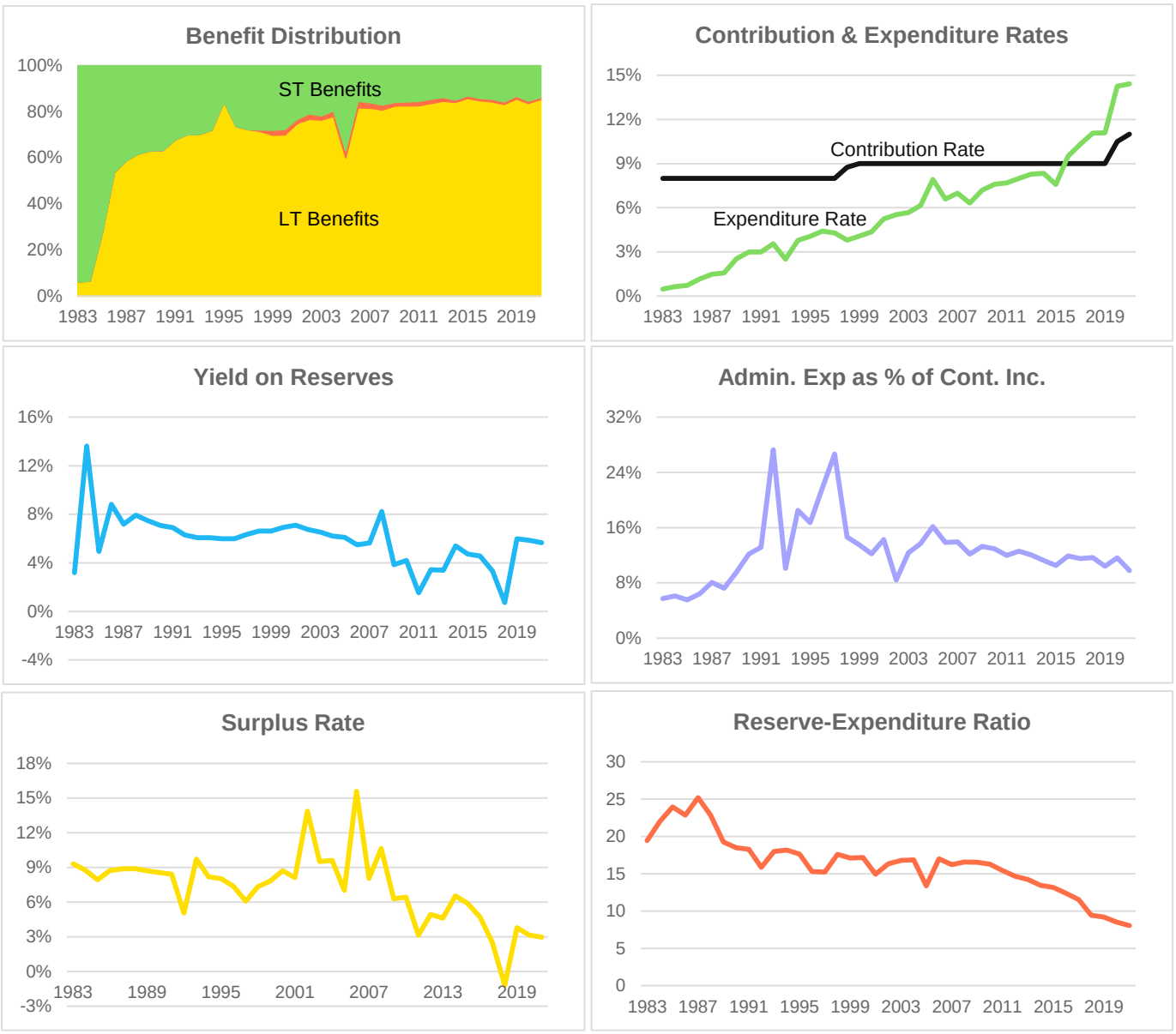


The average insurable wage has generally increased over the past 21 years.	The average pension amount for all benefits has steadily increased. This is due to new pensioners having a higher average pension each year.	Average pensions divided by average insurable earnings is often referred to as the replacement ratio. This ratio has increased by more than 50% over the past twenty years even though pensions have not been adjusted since 2006.

For the NIS, the COVID-19 impact was limited primarily to contribution income with fewer contributors, a reduction in the average number of weeks of contributions made and a slight reduction in average insurable wages during weeks worked.

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

Figure 1.4. NIS Financial Experience, 1983 to 2021



Only 3 years of contributions were initially required for an Age pension. As a result, the proportion of Short-term benefits quickly declined, except when unemployment assistance was paid after Hurricane Ivan in 2005. (top left chart). Pensions now account for almost 90% of benefit expenditure. With the increase in pensions, total expenditure as a percentage of insurable wages gradually increased (top right chart). This is the typical evolution of a partially funded social security system. Since 2016, total expenditure has exceeded contribution income each year.

Investment returns have been lower in the last ten years due to general market conditions. Over this period, they have also been volatile due to a growing portion of investments being held in equities (middle left chart). Administrative costs as a percent of contribution income, (middle right chart), have declined gradually over the past 15 years.

The main consequences of expenditure growing faster that contributions and low investment returns, are illustrated in the two lower charts: - a sharp decline in the surplus ratio and a continued decline in the

reserve-expenditure ratio. The surplus ratio represents net cash flows relative to total insurable wages. For the NIS first 25 years, net positive cash flows, which increase reserves, exceeded 6% of insurable wages per year. In the 3-year review period, the surplus ratio averaged only 3.3%. The reserve-expenditure ratio continues to decrease gradually as expenditure increases at a faster rate than reserves.

Following are values for several key indicators as of 2015, 2018 and 2021, along with a brief analysis of the changes that have occurred.

Table 1.1. National Insurance - Performance Indicators

	2015	2018	2021	Comments
1. Contribution Rate	9.0%	9.0%	11.0%	Increased January 2020
2. Expenditure Rate	7.6%	11.1%	14.6%	Higher in 2021 due to reduced insurable wages (COVID-19 effect)
3. Benefits as % of GDP	2.2%	2.8%	3.8%	Higher in 2021 due to reduced GDP
4. Reserve-Expenditure Ratio	13.2	9.4	8.1	Steady decline contiues
5. 3-year average nominal yield on reserves	4.5%	2.9%	5.8%	Higher yeilds in latest review period.
6. 3-year average real yield on reserves (net of inflation)	5.0%	1.8%	5.4%	Grenada has experienced very low inflation for more than a decade.
7. Administrative Expenses (3-yr average) as: ▪ % of Contributions ▪ % of Conts. + Benefits ▪ % of Insurable Wages	 11.3% 6.3% 1.0%	 11.7% 5.8% 1.1%	 10.6% 4.8% 1.1%	Gradual declines over the past 6 years
8. # of Contributors Per Pensioner	7.4	6.1	4.4	Number of pensioners increasing more quickly than the number of contributors.
9. Avg. Pension as % of Avg. Insurable Wage	29%	32%	34%	Gradual increases as expected.

Due to reduced employment and total wages in 2021, some 2021 indicators are higher/lower than would be expected during a year of “normal” employment. The general trends, however, for all indicators are consistent with prevailing economic conditions and expectations for an aging National Insurance system.

Chapter 2 NIS Experience Since the 12th Actuarial Review

2.1 Amendments to Act & Regulations

The following amendments were made to various Regulations during 2019 to 2021.

1. The formula for determining average insurable earnings for the payment of maternity benefit was revised so that only weeks worked and while on leave would be considered instead of 30 weeks.
2. The prescribed time for claiming Sickness and Maternity benefits was increased from 4 days and 3 weeks, respectively, to 3 months.
3. Contribution rate adjustments as follows:

Table 2.1. Contribution Rate Historical Adjustment

Effective Date	Employer	Employee	Total
Prior to Jan. 2020	5%	4%	9%
Jan. to Mar. 2020	6%	5%	11%
April to Jul. 2020	5%	4%	9%
After Jul 2020	6%	5%	11%

Note. Contribution rates for self-employed persons are combined employer & employee rates.

4. Unemployment Assistance benefit was introduced in April 2020 to provide income support for those whose employment was affected following the onset of the COVID-19 pandemic. Following are key provisions for the assistance:
   - Eligible requirements: employed immediately prior to April 1, 2020, with at least 8 weeks of contributions in the prior 13 weeks and unemployed for at least 2 weeks.
   - Benefit amount: $330 per month.
   - Benefit Duration: Starting May 1, 2020, initially for 6 months or until the payment of $10 million. The benefit period was subsequently increased to 9 months.

2.2 National Insurance Fund Experience

For the National Insurance Fund, the COVID-19 impact was limited primarily to contribution income as thousands of workers were left out-of-work or working reduced hours/days for varying periods. Reduced contributions from lower wages were offset by the 2% increase in contribution rate which was temporarily suspended for 3 months in 2020. Unexpected benefit payouts of $4.7 million and $1.1 million in 2020 and 2021, respectively, were made in temporary Unemployment assistance benefits.

Following are summary income and expenditure amounts for 2019 to 2021. A more detailed version of National Insurance Fund finances for these years may be found in Appendix D.

Table 2.2. Summary of NIF Finances, 2019 – 2021 (millions of $'s)

	2019	2020	2021
Income			
Contributions	85.0	85.6	96.1
Investment (**incl** Impairment provisions)	54.9	55.4	55.2
Other	0.4	0.7	0.5
Total Income	**140.3**	**141.7**	**151.8**
Expenditure			
Benefits	95.9	106.2	116.5
Administrative	8.8	10.0	9.4
Total Expenditure	**104.7**	**116.1**	**125.9**
Excess of Income over Expenditure	35.6	25.6	25.9
Reserves (end of year)	**962.8**	**988.3**	**1,014.2**

1. Totals may be off due to rounding
2. The presentation of income and expenditure above is different from audited financial statements.
   - Net investment income includes unrealised gains & losses, gains on revaluatiuon of propertyand credit loss expense.
   - Other income includes surcharges and interest on contrbutions

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

(i) The 2% contribution rate increase which applied for 9 months in 2020 had greater impact on contribution income than the reduction in employment due to the onset of the pandemic, as there was a slight increase in contributions in 2020 compared with 2019.

(ii) While benefits increased each year as expected, investment income and administrative costs experienced small changes.

(iii) Even though benefit expenditure exceeded contribution income each year, the Fund experienced a surplus given the strong investment performance in the review period, primarily due to unrealized equity gains. On a cash basis, however, $14 million of deposits had to be liquidated in 2021 to meet benefit obligations.

Over the period 2019 to 2021, credit loss expenses totaling $3.9 million were incurred.

At the end of 2021, the NIF had $34.0 million of un-invested assets comprising:

- Contributions receivable: $13.7 million
- Property & Equipment: $20.3 million

2.3 Benefit Branches & Other Reserves

While the summary of Grenada NIS finances presented in the previous section shows total income and expenditure, internal accounting procedures separate finances into three branches representing the three major types of National Insurance benefits – long-term, 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. 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 2019 to 2021 may be found in Appendix E. Recommendations for changing the allocation rates for contribution between the branches are made in section 6.6.2.

2.4 Experience Compared with Projections of 12th Actuarial Review

In the 12th Actuarial Review, separate projections were prepared for each of the three benefit branches. Shown below is a comparison of actual cumulative experience over the 3-year period with the projections of the "base scenario" for all branches combined.

Table 2.3. Projections from 12th Actuarial Review Compared With Actual Experience

	2019-2021 Projected (millions of $'s)	**2019-2021 Actual** (millions of $'s)	**% Difference**
Contribution Income	258.3	266.7	3% above projected
Investment Income	58.3	165.5	184% above projected
Benefit Expenditure	335.6	318.5	8% below projected
Administrative Expenditure	31.5	28.2	10% below projected
2021 Year-end Reserves	876.7	1,014.2	16% above projected
Reserve-Expenditure Ratio (end of period)	7.9	8.1	

The significant difference in investment income was the main reason for 2021 reserves being higher than projected.

2.5 Investments

At the end of 2021, National Insurance Fund investments (cash and cash equivalents included) stood at $967 million up from $913 million at the end of 2018. The relationship between investments and reserves, which measures how efficiently available funds are invested averaged over 97% over the 3-year review period. This is very high and indicates that almost all available assets are invested.

During the review period, the average yield on investments was 6.0% and the average yield on reserves was 5.8%. With inflation averaging 0.4% per annum, the average real rate of return on reserves was 5.4%.

The following table provides a summary of the investment mix of the National Insurance Fund at year-ends 2018 and 2021.

Table 2.4. Summary of Cash & Investments, Year-end 2021 & 2018 (millions of $'s)

Investment Category	2021		2018	
	$'s	%	$'s	%
Deposits	226.9	23.5%	134.9	15.6%
Loans	55.1	5.7%	57.5	6.7%
Bonds	263.9	27.3%	387.5	44.8%
Equities	313.4	32.4%	182.2	21.1%
Real Estate	107.7	11.1%	102.1	11.8%
Total	**967.0**	**100.0%**	**864.2**	**100.0%**

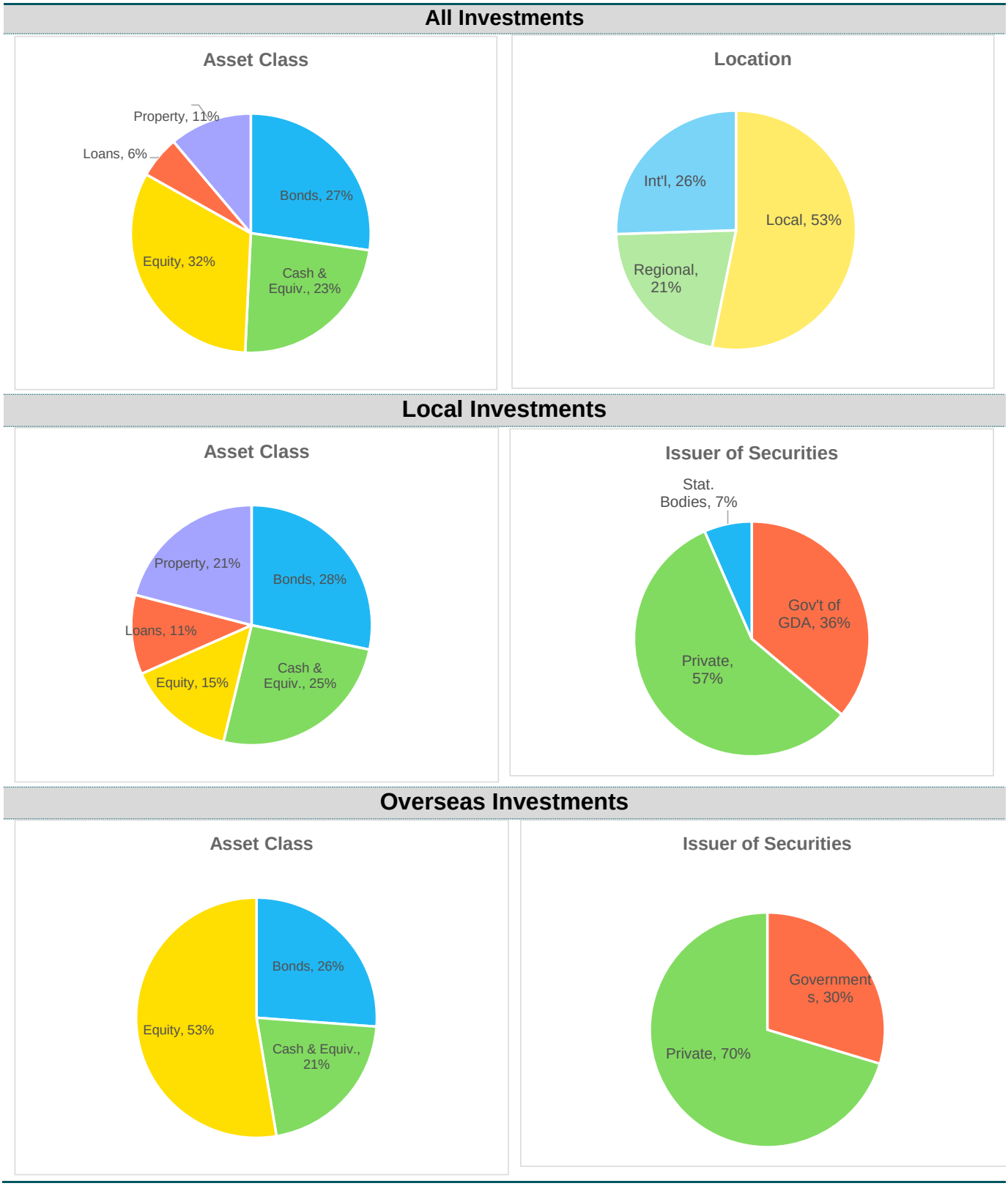
Notes: Totals may be off due to rounding

Following is a summary of material changes in investment allocations during the review period: -

- Significant decrease in bonds, and
- Significant increase in deposits and equities.

Diversification is a critical component in the investment of National Insurance 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 NIF investments as of December 2021.

Figure 2.1. Investments, December 2021



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

- By asset class: - although a large portion is being held in short-term cash equivalents, the mix of investments is considered suitable for the NIF, with equities (32%) representing the largest share.
- By location: - close to 50% of investments are outside of Grenada.
- By issuer: - 19% of investments are with Government of Grenada and an additional 3% with local statutory bodies. 14% of investments are issued by Caribbean & Latin American governments.
- By maturity: - with the Fund's obligations being mostly long-term and current cash flows just barely adequate to meet expenditure, 23% in cash and short-term deposits is high.

NIF investments are guided by an Investment Policy Statement (IPS) that was approved in 2016. This IPS sets out investment objectives and guidelines for the Fund and defines the management structure and monitoring procedures for both internal and external investment management. The IPS also includes a desired asset allocation policy for the Fund. A new IPS prepared in 2021 with revised asset allocations is awaiting approval by the Board.

The following table compares the asset mix on December 31, 2021, with the acceptable ranges found in the unapproved 2021 IPS for key asset classes and locations. As shown, amounts held in cash and cash equivalents, and real estate, are well above targets while fixed income and equities are below targets. A gradual rebalancing of investments should occur over the next few years to the new targets that are considered appropriate given the projected state of the Fund. Specific plans to reduce real estate holdings should be given priority. Since cash flow demands are likely to change in the next few years, target asset allocations should be reviewed annually.

Table 2.5. Asset Mix Compared to IPS Strategic Allocation, Dec. 2021

Asset Class/Region	Actual	Overall Target	Variance
Cash & Equivalents	23%	10% - 12%	Well above
Fixed Income	33%	40% - 45%	Below
Equities	32%	40% - 43%	Below
Real Estate	11%	5% - 7%	Well above
Government of Grenada	19%	15% - 20%	In line
Regional	21%	16% – 20%	Slightly above
International	26%	28% - 35%	Slightly below

Note: Totals are not intended to add to 100%

Chapter 3 Assessment of Performance & System Design

Social security systems must balance benefit adequacy with 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 Grenada National Insurance 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 NIS 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 NIS'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, which relates to keeping operating and management costs low while delivering quality service.

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 have been reviewed. While some mention is made of Short-term and Employment Injury benefits, this analysis focuses primarily on pensions which accounted for 85% of NIF benefit expenditure in 2021.

3.1.1 Coverage

With NIS 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 NIS pension. The following eight estimates provide a broad analysis of current coverage levels:

Table 3.1. Metrics Used to Assess NIS Coverage Levels

Metric	Estimate	Current Level
1. Employed workers contributing to the NIS	90%	Good
2. Average # of weekly contributions per annum (pre-COVID)	65% to 70%	Low
3. Self-employed persons contributing	1 in 13	Very Low
4. Contributors that have their wages fully covered by the NIS	96%	Good
5. Elderly resident population receiving an NIS pension^	52%	Low
6. New Age benefit awards paid as a grant (2019 to 2021)	35%	Low
7. Deaths resulting in funeral grants (2019 to 2020)	54%	Low
8. Births resulting in maternity grants (2019 to 2020)	59%	Low

^Assumes 5% of pensioners live outside of Grenada

The first two metrics indicate that while contributions are being made for most employed, they are only being made for two-thirds of the year. Although some businesses are still seasonal, this low average suggests that many employers are not paying for all months. The low proportion of self-employed persons that contribute requires urgent attention.

Although the wage ceiling has not been increased since 2014, most contributors have their wages fully covered. For this reason, the current wage ceiling is considered to be at an adequate level.

Metrics 5 through 8 are all lower than expected after nearly 40 years of operations and more than likely point to low compliance among informal sector workers and some within the formal sector as noted above.

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 minimum contributory pension is currently $201 per month and has not been increased since 2006. At approximately 10% of the average insurable wage, this is considered low. Cumulative price inflation since then has been 26%. Increasing minimum pension rates is discussed in Chapter 6.

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 the NIS 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 National Insurance 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 40 years.

The ceiling has been fixed at $5,000 since 2014. In 2021, around 96% of workers' wages were 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 National Insurance pensions in OECD countries, the Grenada NIS provides relatively high replacement rates. The significant difference between pensions in old age in Grenada 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 Grenada are reasonable.

National Insurance 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.

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. At the time of preparing this report the introduction of a modest unemployment benefit appears likely.

3.1.3 Financial Sustainability

Assessing the sustainability of a national pension system is complicated. Given the perpetual nature of these systems, some of the rules that apply to private pension systems are not appropriate. Therefore, whether current reserves plus future contributions at the current contribution rate are sufficient to meet future expenditure should not be used to determine long-term sustainability. Instead, assessing sustainability involves looking at the cost of the system now and in the future, and considering whether or not employers and workers in the future will be able to afford the cost. A definition of financial sustainability that has become widely used in National Insurance discussions is whether the pension system is able to meet the needs of current generations without compromising the needs of future generations.

By design, the NIF is partially funded, and the current contribution rate and accumulated reserves are expected to be adequate to meet all obligations for approximately 10 to 15 more years. However, with contributions alone no longer sufficient to meet expenditure, increasing portions of investment income will be needed to pay benefits and then eventually investments will have to be liquidated. This is a natural progression for partially funded national pension systems.

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 not growing as fast as they have in previous years, and reduced rates of return on investments in this new low interest rate environment, contributions will have to account for the greater portion of future Fund income.

Based on regional and international comparisons the NIS provides a relatively generous benefits package for a moderate contribution rate and thus its financial sustainability is questionable. The key challenge for current and future Boards and governments regarding financial sustainability is determining when will be the right time to increase the contribution rate and/or reduce benefit promises. No significant reforms to benefits aimed at enhancing sustainability have been made since inception.

3.1.4 Administrative Efficiency

An average of 11% of contribution income, 4.8% of contributions plus benefits, or 1.1% of insurable wages, was spent on operating expenses over the three-year review period. By regional standards, this is very good.

Regarding effectiveness of its operation, it appears that the NIS performs well at adjudicating claims and paying benefits in a timely manner. As noted earlier, collecting contributions, especially from the informal sector continues to be a challenge. The NIS consistently meets its statutory obligations of annual audited financial statements and triennial actuarial reviews.

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 Grenada NIS with other Social Security and National Insurance schemes in the OECS in several key areas.

Table 3.2. Grenada NIS Compared with Other NI & SS Systems in the OECS

Contribution rate	At 11%, Grenada is lower than Antigua-Barbuda (14%) and Dominica (13.25%), same rate as Montserrat but higher than Anguilla, St. Lucia, and St. Vincent & The Grenadines (SVG) which are at 10%. Both Dominica and Montserrat are gradually increasing their rate to 15%.
Wage ceiling	Only Montserrat ($4,000) and SVG ($4,333) have a lower wage ceiling while St. Lucia has the same $5,000 per month ceiling.
Benefits package	Minor differences only
Pensionable age	Grenada (60), St. Kitts-Nevis (62) and Anguilla (65) remain unchanged since inception. Antigua-Barbuda, Dominica, and SVG 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.
Minimum pension	Only Dominica ($158 pm) has a lower rate than Grenada's $201 pm. Higher minimums are found in St. Lucia ($300 pm), SVG ($303 pm), Montserrat ($333 pm), Antigua-Barbuda ($350 pm), St. Kitts-Nevis ($430) and Anguilla ($715 pm).
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 National Insurance Fund finances. Therefore, to best assess the Fund's long-term costs and sustainability, projections of Grenada'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

Grenada has experienced net out-migration for decades. Fertility rates continue to decline well below replacement rate while life expectancy appears to be increasing.

4.1.1 Assumptions

Projections of Grenada's population begin with the results of the 2011 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 Grenada and is the most volatile of the three factors.

The 2011 population census placed Grenada's population at 106,669. Grenada's Central Statistics Office has published population estimates up to 2020, using 2011 as the base. However, while these estimates account for actual births and deaths, they do not account for migration. For this report, net outward migration since 2011 has been assumed. As a result, this report's 2020 population estimate of 109,337 is lower than the CSO's 113,135 estimate.

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. Grenada's TFR was estimated at around 1.8 over the period 2019 to 2021. For these projections it is assumed that TFR's in Grenada will be decline to 1.7 in 2025 and remain constant thereafter.

The United Nations Latin America life table and the number of deaths in the past few years suggest life expectancy at birth in 2021 of around 74 for males and 77 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. For this report, net outward migration is assumed throughout the projection period.

Given the impact of COVID-19 and the uncertainty surrounding the next few years, economic growth assumptions for 2021 to 2025 are taken from ECCB estimates. 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

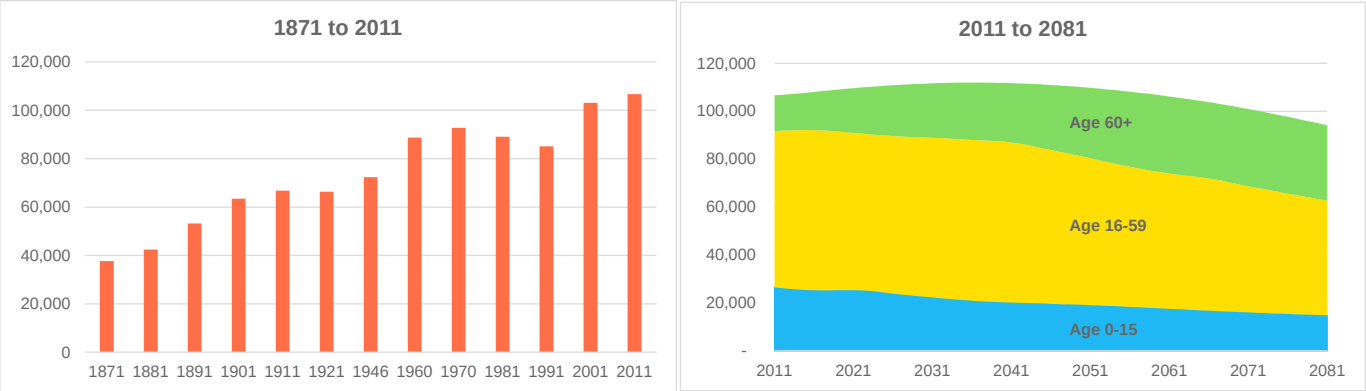
	13th Actuarial Review
Total Fertility Rate	1.8 decreasing to 1.7 in 2025
Mortality Improvements^	Slow
Net In-Migration Per Annum	500 in 2011 decreasing to 300 in 2021, then to 200 in 2025 and 100 in 2045
Real GDP Growth Rates	5.5%, 4.5%, 3.5%, 2.5% , 2.5% 1.5% (2022 to 2027), 1.5% declining to 0.5% in 2037, 0.5% pa thereafter
Real Increase in Wages (Productivity)	1.0%
Inflation (all years)	5% in 2022, 2.5% in 2023 to 2026, 2.0% threafter

^ UN mortality improvement rates

4.1.2 Projection Results

The two charts in Figure 4.1 illustrate Grenada's population from 1871 to 2011 and the projected population under the assumptions presented above. From the 2011 Census population of 106,669 and the estimated mid-2020 population of 109,337, Grenada's population is projected to increase over the next 15 years and then slowly decrease thereafter. These projections are similar to those of the 12th Actuarial Review.

Figure 4.1. Historical & Projected Grenada Populations



Numercial details of these projections may be found in Apendix C.

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

For the NIF, 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 National Insurance Fund Projections

Best Estimate National Insurance Fund demographic and financial projections have been modeled using the best-estimate population results, best estimate NIF-specific assumptions and the contribution and benefit provisions that were in place on January 1, 2022.

4.2.1 Assumptions

Key National Insurance assumptions are shown below.

Table 4.2. National Insurance *Best Estimate* Assumptions

	13th Review
Avg. Contribution Rate	11.0%
Insurable Wage Ceiling	To $5,000 per month in 2025 then increases by change in average wages thereafter
Short-term Benefits as a % of Insurable Wages	Increasing from 1.55% to 1.6% of IW over 10 years
Employment Injury Benefits	Increasing from 0.1% to 0.15% of IW over 10 years
Pension Increases	10% in 2023, 5% every 5 years starting in 2028
Long-term Yield on Reserves	4.0% (1% in 2022)
Admin. Expenses as a % of Insurable Wages	Decreasing from 1.1% to 1.0% of IW over 10 years

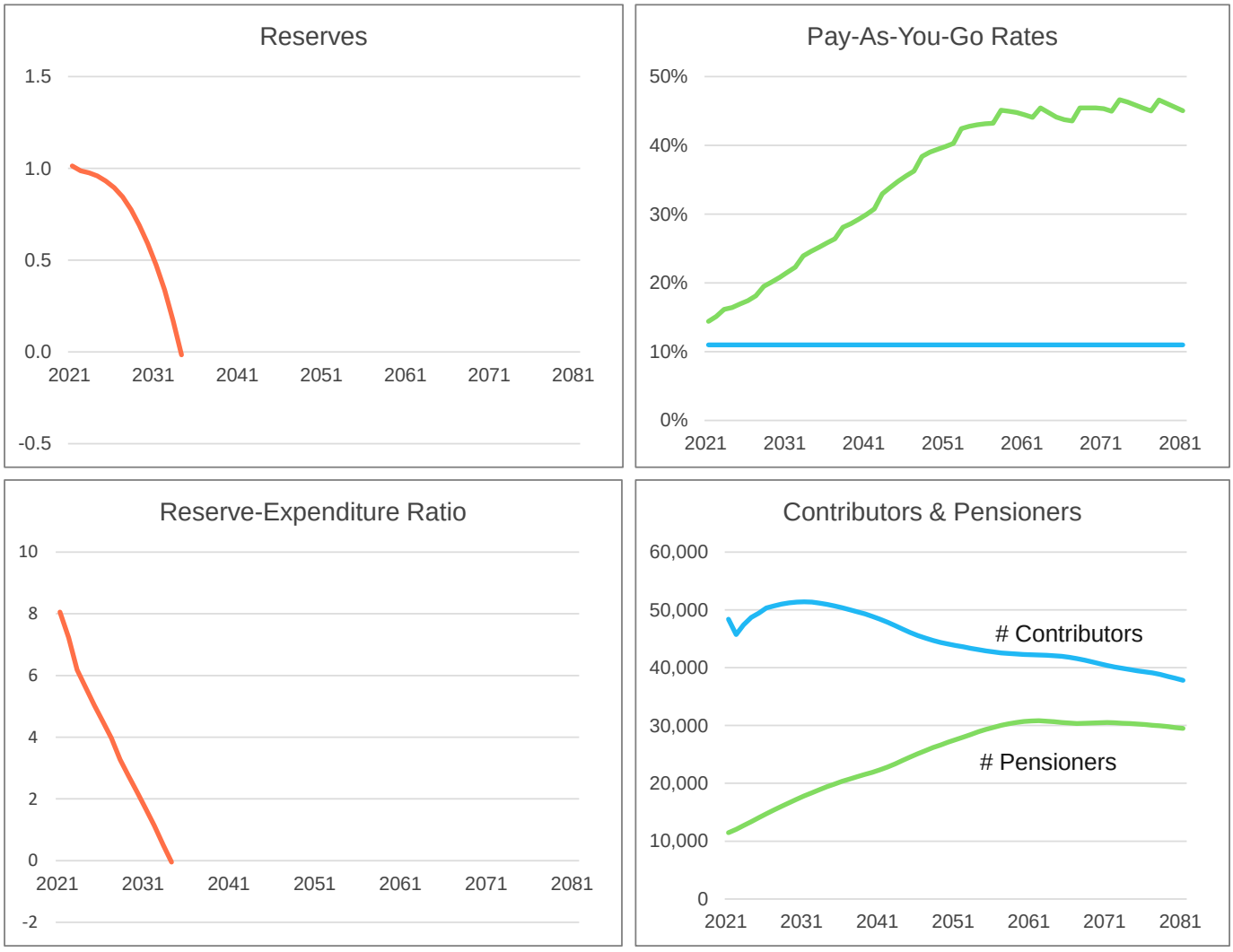
It should be noted that the assumptions and rates in the above table are not targets which National Insurance should aim to achieve but instead are the assumptions on which the projections are based.

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.

4.4.2 Projection Results

For this report, the projections for the three benefit branches are combined. Reserves as of December 2021 were $1.014 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. NIF Projections – *Best Estimate* Scenario

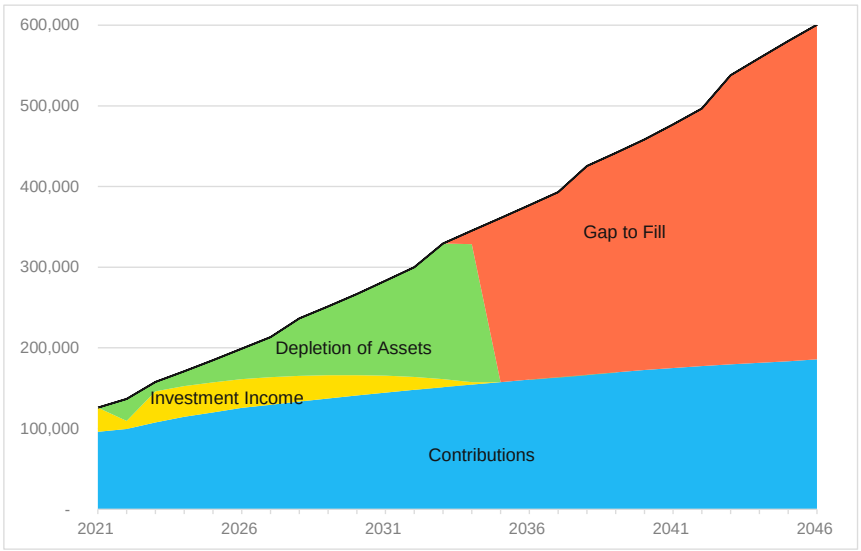


The key results of these projections are summarised as follows:

1. Expenditure is expected to exceed total income in all years.
2. Reserves are projected to be exhausted in 2034.
3. When reserves are exhausted, annual expenditure relative to total insurable wages (pay-as-you-go rate) will be around 25%. The contribution rate will therefore have to be increased to this level to meet total expenditure.
4. The pay-as-you-go rate will increase to over 30% in the early 2040's and over 40% in the early 2050's.
5. The number of contributors (under age 60) for each pension in payment is expected to fall from 3.8 in 2022 to 1.3 in 2081.

The following chart illustrates how the sources of financing expenditure will change as the Fund moves from a state of expenditure being 37% more than contributions in 2022 to 2.2 times contributions when reserves are exhausted in 2034.

Figure 4.3. Sources of Financing Expenditure, 2022 to 2045



1. In 2021, $30 million of the $55.2 million in investment income (yellow section) was required to meet expenditure.
2. With expenditure projected to exceed contributions (blue section) plus investment income every year, assets will have to be liquidated to help meet expenditure (green section).
3. As more and more assets are liquidated to meet expenditure they will eventually run out (2034). If the contribution rate is not increased, the income shortfall (orange section) in 2035 is estimated at 13.8% of insurable wages. The required contribution rate would then have to be around 26%.

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	Cash Inflows				Cash Outflows				Reserves	
	Contribution Income	Investment Income	Other Income	Total	Benefits & Pensions	Admin. Expenses	Total	Surplus/ (Deficit)	End of Year	R-E Ratio
2019	85.0	54.9	0.4	**140.3**	95.9	8.8	**104.7**	**35.6**	**963**	9.2
2020	85.6	55.4	0.7	**141.7**	106.2	10.0	**116.1**	**25.6**	**988**	8.5
2021	96.1	55.2	0.5	**151.8**	116.5	9.4	**125.9**	**25.9**	**1,014**	8.1
2022	99.5	10.0	0.5	**110.0**	126.7	10.0	**136.6**	**(26.6)**	**988**	7.2
2023	107.6	38.5	0.5	**146.7**	147.1	10.7	**157.8**	**(11.2)**	**976**	6.2
2024	114.7	38.0	0.6	**153.2**	159.6	11.4	**171.0**	**(17.8)**	**959**	5.6
2025	120.0	37.1	0.6	**157.7**	173.0	11.8	**184.8**	**(27.1)**	**932**	5.0
2026	125.5	35.8	0.6	**162.0**	186.6	12.3	**198.9**	**(36.9)**	**895**	4.5
2027	129.4	34.1	0.6	**164.2**	200.5	12.7	**213.2**	**(49.0)**	**846**	4.0
2031	144.6	20.9	0.7	**166.2**	269.5	13.9	**283.3**	**(117.1)**	**473**	1.7
2041	175.1	(72.1)	0.9	**103.9**	461.0	16.0	**477.0**	**(373.1)**	**-2,026**	(4.2)
2051	198.6	(303.7)	1.0	**(104.1)**	701.6	18.1	**719.6**	**(823.7)**	**-8,158**	(11.3)
2061	232.5	(747.2)	1.2	**(513.5)**	918.5	21.1	**939.7**	**(1,453.2)**	**-19,783**	(21.1)
2071	271.0	(1,476.4)	1.4	**(1,204.0)**	1,092.2	24.6	**1,116.8**	**(2,320.8)**	**-38,812**	(34.8)
2081	313.2	(2,624.3)	1.6	**(2,309.5)**	1,254.3	28.5	**1,282.7**	**(3,592.2)**	**-68,720**	(53.6)

Negative reserves indicate the indebtedness of the Fund and negative investment income is the current cost of servicing that debt.

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

Year	Pensions, Grants & Benefits						Benefits as a % of:	
	Age	Invalidity	Survivors	Prov. Fund	Short-term	Emp. Injury	Insurable Wages	GDP
2019	72.8	3.4	4.7	1.0	12.7	1.2	10.1%	2.9%
2020	79.6	3.4	4.9	0.9	16.3	1.1	13.0%	3.8%
2021	89.0	3.7	5.8	0.8	16.2	1.0	13.3%	3.8%
2022	98.3	4.1	6.4	0.7	16.0	1.1	14.0%	3.8%
2023	117.7	5.0	7.3	0.6	15.2	1.3	15.0%	4.2%
2024	128.2	5.5	7.7	0.5	16.3	1.4	15.3%	4.3%
2025	139.9	6.0	8.1	0.4	17.1	1.5	15.9%	4.5%
2026	151.6	6.6	8.5	0.4	17.9	1.6	16.4%	4.7%
2027	163.9	7.1	8.9	0.3	18.5	1.7	17.0%	4.9%
2031	225.2	9.8	11.2	0.2	21.0	2.1	20.5%	6.0%
2041	397.3	16.7	18.8	0.0	25.5	2.6	29.0%	8.7%
2051	617.4	23.0	29.3	-	28.9	3.0	38.9%	11.4%
2061	813.3	26.3	41.5	-	33.8	3.6	43.5%	12.9%
2071	964.3	32.0	52.2	-	39.4	4.2	44.3%	13.2%
2081	1,105.4	37.7	60.7	-	45.6	4.8	44.0%	13.0%

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	Prov. Fund	Death & Disablement		
2019	54,443	7,717	564	1,342	539	29	**10,191**	**5.3**
2020	49,570	8,276	567	1,398	467	31	**10,739**	**4.6**
2021	48,371	8,893	572	1,535	408	31	**11,439**	**4.2**
2022	45,739	9,453	583	1,590	377	31	**12,033**	**3.8**
2023	47,417	10,024	625	1,671	325	33	**12,678**	**3.7**
2024	48,671	10,630	674	1,743	280	36	**13,362**	**3.6**
2025	49,461	11,244	726	1,810	239	39	**14,058**	**3.5**
2026	50,328	11,839	781	1,874	203	42	**14,739**	**3.4**
2027	50,668	12,415	837	1,931	172	45	**15,400**	**3.3**
2031	51,384	14,483	1,059	2,128	80	57	**17,806**	**2.9**
2041	48,389	18,043	1,519	2,680	5	89	**22,337**	**2.2**
2051	43,844	22,498	1,700	3,233	-	115	**27,547**	**1.6**
2061	42,222	25,444	1,605	3,613	-	128	**30,790**	**1.4**
2071	40,380	25,099	1,592	3,679	-	141	**30,511**	**1.3**
2081	37,813	24,291	1,539	3,508	-	148	**29,487**	**1.3**

# of Contributors from 2022 to 2081 excludes those 60 and over

4.2.3 General Average Premium

For National Insurance 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 National Insurance benefits package. For the *Best Estimate* projections, the general average premium is 32%.

4.2.4 Actuarial Balance

Another measure of the financial sustainability of a National Insurance 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 National Insurance Fund, the deficiency expressed in dollars and as a percentage of GDP is shown in Table 4.6.

Table 4.6. Actuarial Balance 2021 – 2081 ($'s in millions)

	2021 Year-end Reserves	1,014
Plus	PV of Future Contributions	4,068
Minus	PV of Future Expenditure	11,830
Equal	PV of Surplus/(Shortfall)	(6,747)
	Actuarial Balance (% of Insurable Wages)	(18.2%)
	Actuarial Balance (% of GDP)	203%

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 18.2% indicates that the average contribution rate would have to be increased to 29% for the entire period in order for reserves to last up to 2081.

4.3 Comparison with Results of the 12th Actuarial Review

The following table shows a comparison between key projection results from the 12th Actuarial Review and this Review. Even though the projections of the 12th Actuarial Review were made for only the Long-term Benefits Branch separately, they still provide for a reasonable comparison.

Table 4.7. Summary Results of 13th Review Compared With 12th Review

	13th Actuarial Review	12th Actuarial Review
Expenditure First Exceeds Total Income	All years	All years
Reserves Depleted	2034	2032 to 2034
Pay-as-you-go rate in 2078 (all branches)	47%	44%

As shown above the timing of projected Fund depletion of this 13th Review is in line with the 12th Actuarial Review but projected long-term costs are slightly higher in this review given the smaller projected Grenada population in the long-term.

4.4 Sensitivity Analysis – NIS Factors

Given the extensive set of assumptions required for projecting NIF 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 National Insurance assumptions are presented in the following chapter. However, certain National Insurance factors such as yield on reserves and contribution collection rates will also impact the Fund's outlook. The change in long-term costs for differences in these factors is shown in the following table.

Table 4.8. Sensitivity Tests – NIS Factors

Assumption	Differs from *Best Estimate*	Reserve Ratio in 2031	Reserves Depleted
Best Estimate		1.7	2034
Long-term Yield on Reserves (4.0%)	+1%	2.0	2035
	-1%	1.4	2033
Contribution Collections (no effect on benefits)	+2%	1.8	2035
	-2%	1.6	2034
Pension Increases	None	2.9	2036
One-time Shock in 2026	$20m payout & 10% reduction in contributions in 2026 & 2027	1.5	2034

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 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 and generous pensions will have on future expenditure assuming no reforms are made.

Chapter 5 Alternative Scenarios

Best Estimate projections up to 2081 presented in the previous chapter provide estimates of future National Insurance 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 NIS-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 & National InsuranceAssumptions

	Optimistic	***Best Estimate***	***Pessimistic***
Ultimate Total Fertility Rate	1.8	1.7	1.5
Mortality Improvements^	Very Slow	Slow	Medium
Net Out Migration Per Annum	200 less than under *Best Estimate*	500 in 2011 decreasing to 300 in 2021, then to 200 in 2025 and 100 in 2045	100 more than under *Best Estimate*
Real GDP Growth	½% higher in each year	5.5%, 4.5%, 3.5%, 2.5% , 2.5% 1.5% (2022 to 2027), 1.5% declining to 0.5% in 2037, 0.5% pa thereafter	½% lower in each year
Real Increase In Wages (p.a.)	0.75%	0.5%	0.25%
Collection Of Contributions	+2%	-	-2%
Long-term Yield on Reserves	5.0%	4.0%	3.0%

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

Figure 5.1. Projection Results – All Scenarios

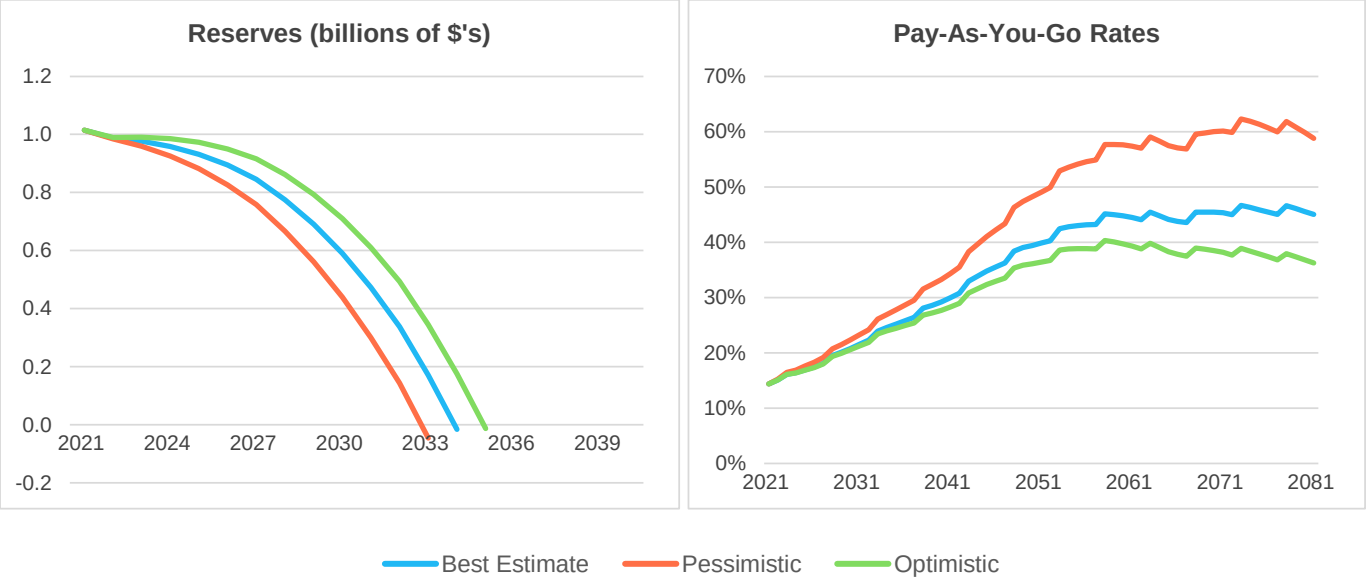


Table 5.2. Summary Results – All Scenarios

	Optimistic	*Best Estimate*	Pessimistic
Expenditure Exceeds Total Income	All years except possibly 2022	All years	All years
Reserves Depleted	2035	2034	2033
General Average Premium	28.1%	32.0%	38.8%
Pay-as-you-go rate in 2034 (around time Fund expected to be depleted)	24.5%	24.6%	25.6%
# of Contributors per pensioner – 2041	2.3	2.2	1.9

Chapter 6 Adequacy, Affordability & Sustainability

NIF sustainability is inextricably linked to the local economy for contributions and to a lesser extent, investment returns. The COVID-19 pandemic caused an economic and labour market shock in 2020 and much uncertainty remains regarding its medium and long-term effects on economic performance. However, if the next decade sees sustained positive economic growth with increasing employment and wage levels, as experienced prior to 2020, the first of the four ingredients considered necessary for long-term NIS success, a “good economy”, will be in place. The other three ingredients, over which NIS policymakers have greater control are:

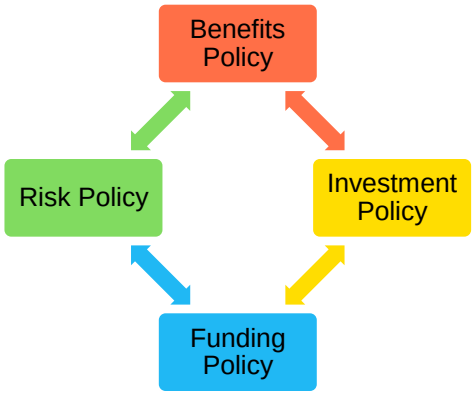
1. Good design – a system that provides relevant, equitable and affordable benefits that are consistent with prevailing socio-economic and labour market conditions, other employment linked benefits and available technology.
2. Efficient & effective administrative systems – low cost, timely and transparent claims processing and benefit payments.
3. Honest & responsible government (good governance) – proactive and prudent decision making in the best long-term interest of Grenada at all governance levels.

Shortly after the COVID-19 pandemic began to affect employment, the Government of Grenada and the NIS introduced income support programs to deal with unexpected income losses. Recent experience with COVID-19 and that of previous natural disasters and economic shocks, provides Government and the NIS with an ideal opportunity to re-think all income support programs including those found in labour legislation. Health care should also be included.

The first step in the process should be the creation of an explicit Benefits Policy and an explicit Funding Policy. For the NIS, each of these policies, should clearly state what the NIS is trying to achieve as well as what it is trying to avoid. Conflicting priorities such as benefit adequacy, contribution affordability and Fund sustainability, must then be balanced so that the final result will be a system that is able to adjust to periodic shocks while remaining on a steady path to long-term sustainability.

The final two components of a comprehensive review of the NIS should lead to creation of a Risk Policy and approval of the recently updated Investment Policy. These four policies, Benefits, Funding, Investments and Risk, should then form a new Governance Policy for the NIS that contains best practices and rational responses to specific potential outcomes. The interconnectedness of four polices and their contents are illustrated in Figure 6.1.

Figure 6.1. Interconnected Policies for a Relevant & Sustainable NIF

<table>
<tr>
<td>Benefits Policy
• What are we trying to accomplish?
• What are we trying to avoid?
• Where objectives conflict, what are our priorities?</td>
<td colspan="2"> 
</td>
<td>Funding Policy
• What are we trying to accomplish?
• What are we trying to avoid?
• Where objectives conflict, what are our priorities?</td>
</tr>
<tr>
<td>Risk Policy
• Potential risks
• Prior incidents
• Likelihood of occurrence
• “Treatment Plan” – how to avoid & how to handle
• Track risk management successes & failures</td>
<td colspan="2">With the above policies in place, the NIS would then be able to adopt an outcome-focused approach to decision making, where it is designed and managed around objectives, preferences and “what ifs”. Instead of hoping for positive results, leaders should prepare rational responses to specific potential outcomes such as severe economic downturns, natural disasters and the next pandemic.</td>
<td>Investment Policy
• Where to invest?
• How will conflicting investment objectives (yield, liquidity, safety, social utility) be balanced?
• What if we suffer losses?</td>
</tr>
</table>

The remainder of this chapter contains discussions and recommendations on design and features of these policies geared towards ensuring relevance, benefit adequacy and long-term sustainability. The following chapter contains analysis of specific reform measures aimed at achieving these objectives.

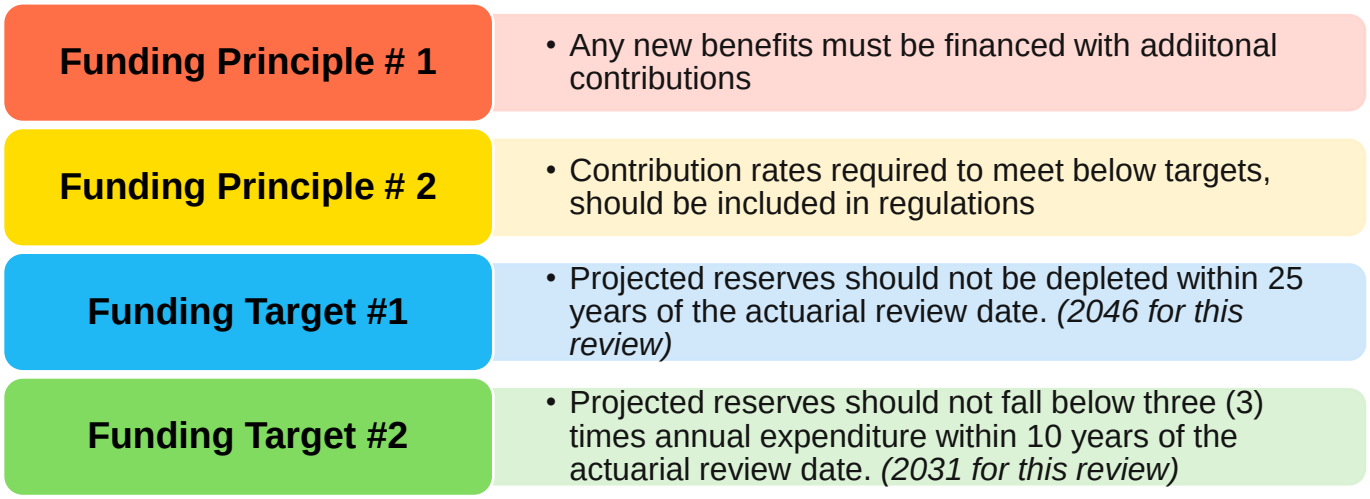
6.1 Funding Policy

At the time of preparing this report the NIS is in the process of developing explicit funding targets. Currently, there is no requirement for specific actions such as increasing the contributing rate or amending benefit provisions, when a certain funding level is either reached or projected by the actuary. Funding targets and prescribed actions will help ensure that future rate increases are gradual and predictable.

It is strongly recommended that a formal funding policy be established. Such a policy would have medium and/or long-term funding objectives and then guided by actuarial advice, a rate adjustment strategy would be devised.

Given the projected depletion of reserves within 15 years from the time of writing this report, the options for funding targets are few. For inclusion in the first Funding Policy, the following principles and targets are suggested for consideration.

Figure 6.2. Funding Policy Priorities & Triggers



With targets set based on the number of years from each review date, the target year will be always moving but the minimum number of future years that Fund sustainability is expected, remains constant; 25 years in the above example.

Following are three sets of contribution rate increase schedules, none of which meet the above recommended funding targets. In each case, the first increase is assumed to take effect in January 2023. These assume no changes to benefit provisions.

Table 6.1. Sample Contribution Rate Adjustment Schedules

Contribution Rate Increase Schedule	Reserves Depleted	R-E Ratio in 2031	Target #1 Met?	Target #2 Met?
½% increase each year for 8 years ***(15% in 2030)***	2038	2.7	X	X
1% increase for each year for 4 years ***(15% in 2026)***	2039	3.1	X	X
1% increase each year for 6 years ***(17% in 2028)***	2041	3.6	X	√

As shown above, rate increases to 15% starting in 2023 would be insufficient to ensure that the Fund was not depleted within 25 years. Even with the rate increased to 17% with annual 1% adjustments, only one of the two above-mentioned funding targets would be met.

6.2 Benefits Policy

It is also recommended that a Benefits Policy be created. A comprehensive Benefits Policy should include specific objectives, priorities and circumstances to be avoided for each NIS benefit. It should specifically consider benefit adequacy, equity and affordability. Analysis presented in Chapter 3 showed that benefits are adequate and equitable while projection results presented in Chapter 4 suggest that current benefits may be unaffordable. With such a conflict it may be necessary to reduce some benefits in the future.

Age pensions account for 75% of total benefit expenditure and thus any meaningful change to future benefit costs must focus primarily on Age pension provisions. The provisions and specific parameters that would result in reductions in long-term costs are those that would result in reducing future pay-as-you-go (PAYG) rates. The following formula breaks down PAYG costs for pensions into two fractions and four components.

Figure 6.3. Components of The Age Pension Pay-As-You-Go Rate

$$\text{Expenditure as a \% of Insurable Wages } \textit{(pay-as-you-go rate)} = \frac{\text{Total Pension Expenditure}}{\text{Total Insurable Wages}}$$

$$= \frac{\text{\# Pensioners x Avg. Pension}}{\text{\# Contributors x Avg. Ins. Wage}}$$

$$= \underbrace{\frac{\text{\# Pensioners}}{\text{\# Contributors}}}_{\textit{Demographic Ratio}} \times \underbrace{\frac{\text{Avg. Pension}}{\text{Avg. Ins. Wage}}}_{\textit{Replacement Ratio}}$$

To reduce future pay-as-you-go rates, one or both of the two ratios (demographic and replacement) would need to be lower than under the status quo scenario. The following table summarises the means by which each ratio could be reduced over time.

Table 6.2. Options for Reducing Long-term Pension Costs

	Demographic Ratio	Replacement Ratio
Economic growth	√	√
Award pensions at a later age	√	
Award pensions only if retired	√	
Make it more difficult to qualify	√	
Reduce average new pension amount (Slower pension accruals, progressive accrual rates, longer period for average wages, career average formula)		√
No, or smaller, pension increases		√

Figure 6.4. Contributors Over Age 60

The large number of persons 60 and over who continue to work after being awarded their Age pension provides strong justification for an increase in the pensionable age and the non-payment of pension until they stop work or reach a higher age such as 65 or 67.

Age	# Contributors	Avg. Insurable Wages	Avg. # Weeks	Avg. Monthly Pension
60	508	$2,447	35.8	$15,586
61 to 65	1,071	$2,385	33.8	$12,401
66 to 70	385	$2,336	29.1	$9,766
71 to 75	145	$2,263	26.5	$7,460
76 to 80	58	$2,530	23.9	$6,598
81+	16	$1,183	23.5	$ 3,445
All 60 & Over	**2,183**	**$2,378**	**32.6**	**$12,129**

1. In 2021, there were 2,183 insured persons who worked while collecting an Age pension.
2. Their average insurable wage was higher than the average insurable wages for all insured persons and they contributed for nearly as many weeks during the course of the year.
3. Contributions from these persons are made only for employment injury benefits at a rate of 1% of insurable wages.
4. If the NIS did not award an Age pension to persons who continued to work until age 65 at the earliest, there would be additional contributions collected and a significant reduction in Age pensions paid out.

6.2.1 Age Pension

Following is a list of specific reforms that could be made to Age pension that will lead to reductions in the demographic and/or replacement ratios.

Table 6.3. Options for Reducing Long-term Age Pension Costs

Reform Measures	Current Provision	Possible Changes	Rationale
Award pensions at a later age	▪ Pensionable Age is 60 (unchanged since inception)	▪ Increase gradually to 65 or 67, keeping 60 as the first age for reduced pensions ▪ Increase gradually to 65 with no early pension provision	▪ Many 60+ year olds continue to work. ▪ Starting later reduces the number of years pension is paid
Pension accrual rates	▪ 30% after 10 years, 40% after 20 years, 60% after 40 years (unchanged since inception)	▪ 15% or 20% after 10 years increasing at the same rate until 60% after 40 or 45 years	▪ Heavy weighting for first 10 years needed at inception to provide adequate pensions 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 ▪ Substantially retired - earnings no more than a certain threshold, say 50% of pre-retirement earnings or 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 after 60
Make the pension formula explicitly progressive – lower pension rate for higher income levels	▪ The benefit rate and wages used are the same regardless of income level	▪ Lower benefit rate for income above a certain amount or ▪ "Adjusted" wages where less than 100% of income above a certain amount is considered	▪ Ensure that the impact on pension amounts for those with lower incomes is less than on those with higher incomes
Longer reference period for wages used in pension calculations	▪ Best 5 years	▪ Best 7 years ▪ Best 10 years	▪ 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.

6.2.2 Contingent Benefits and Automatic Adjustment Stabilizers

Recommendations made above, call for individual Benefits and Funding Policies. However, these two polices are interconnected as conflicts will arise when a desired level of benefits results in required contributions that exceed those permitted or desirable by the Funding policy. Two ways of dealing with such conflicting objectives are contingent benefits and automatic adjustment stabilizers. Practical examples of each are shown below.

Table 6.4. Contingent Benefits and Automatic Adjustment Stabilizers

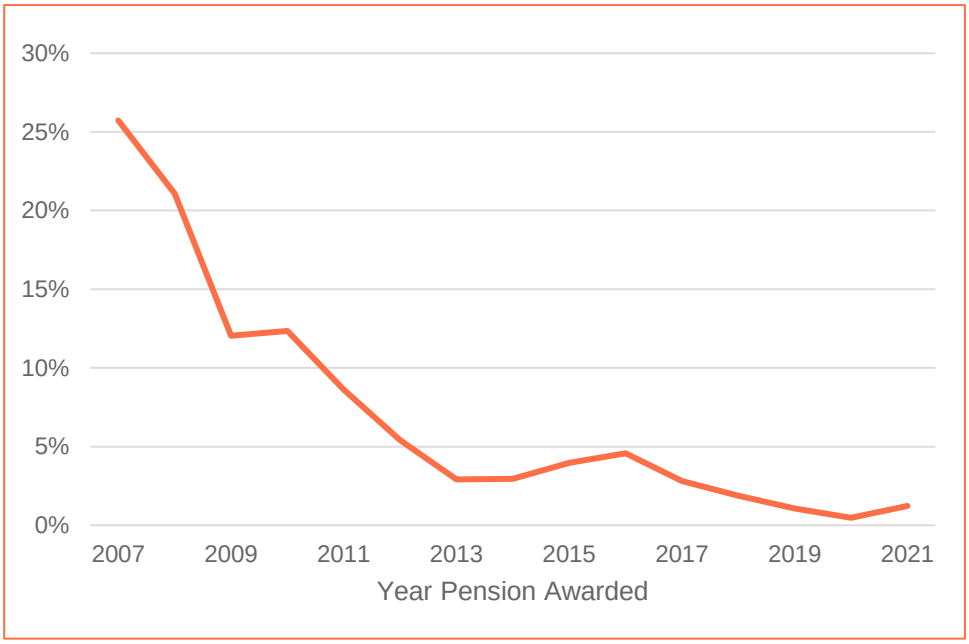
Contingent Benefits	Automatic Stabilizers
▪ Pension increases deferred for several years if certain conditions/targets not met ▪ 90% of the regular new pension amount is guaranteed but the remaining 10% is only paid if projections meet certain targets ▪ If person in receipt of two pensions, the smaller one will be reduced or suspended	▪ If projections fall short of minimum funding levels or required contribution rates exceed set rates, benefits have to be reduced so that objectives are met. For example: ○ Pensionable age will increase ○ Negative adjustment for pension amounts for new awards

While these examples may seem extreme as they hurt existing pensioners, they provide protection to current contributors who could be forced to pay much higher contribution rates or receive substantially lower benefits.

6.2.3 Adjustments to Pensions, Grants and Wage Ceiling

Pensions have not been increased since 2006. Although inflation has been relatively low since then, cumulative inflation over the past 15 years is estimated at 25.7% as shown below.

Figure 6.5. Cumulative Effect of Inflation Since 2006



The minimum pension of $201 per month, which also has not been adjusted since 2006, is only 10% of average insurable wages. If it were to be adjusted in 2022 to compensate fully for inflation since 2006, the new rate would be $251 per month.

The wage ceiling, which was last adjusted in 2014, now covers the wages of 95% of workers. While a pension adjustment is long overdue, the wage ceiling is considered to still be at an acceptable level and thus an increase is not required.

Regular adjustments to the ceiling and pensions in payment ensure that the NIS does not lose relevance for both higher paid workers and pensioners. Since the NIS Act & Regulations are silent regarding ceiling and pension adjustments, adjustments are made on an ad hoc basis, usually after actuarial advice.

There are three general approaches to adjusting pensions and the many fixed dollar rates such as the earnings ceiling, minimum pension rates, Funeral and Maternity grants. These are described below.

Table 6.5. Ceiling & Pension Adjustment Approaches

Adjustment Type	Description
1) Ad Hoc Adjustments	Law does not contain any provisions for periodic review.
2) Adjustment in Principle	Law provides for periodic review without specifying procedure, mechanism or degree of adjustment.
3) Systematic or Automatic Adjustment	Law prescribes the procedure, mechanism and degree of adjustment

Social security systems in The Bahamas, Barbados and the BVI provide for automatic wage ceiling and pension/grant adjustments.

The manner in which future pension and wage ceiling increases occur should be included in the Funding and Benefits policies recommended earlier in this chapter. Given the significant time since the last pension increase and the effect of inflation on the pension amount of those awarded many years ago, the minimum pension should be increased. Further, the next across-the-board pension adjustment should vary by length of time since the pension was awarded using as a guide the cumulative inflation effect shown in Figure 6.5. This will ensure that those who were awarded more recently do not receive adjustments in excess of the impact inflation had on the pension.

Since the wage ceiling is now at an appropriate level, annual automatic adjustments in line with wage growth are recommended. This will ensure that the current level of insurance coverage is maintained over time.

6.2.4 Paternity Benefit

Anguilla is the only Caribbean country which provides for both paternity leave in labour legislation and a complementary social security paternity benefit. Following are highlights of the paternity leave and paternity benefits in Anguilla:

Table 6.6. Paternity Leave & Paternity Benefits in Anguilla

Labour law Eligibility & Entitlements	National Insurance Eligibility & Entitlements
• Father of the baby or husband of the baby's mother is eligible for paternity leave but not more than one month in any 12-month period. • Leave must be taken between the day of birth and 16 weeks after. • Maximum leave is 4 consecutive weeks with the employer obligated to pay for at least 2 of those weeks. • The amount payable is basic wage/ remuneration less the amount payable as a National Insurance Paternity benefit.	• Payable to the father of the baby or husband of the baby's mother who has been granted paternity leave. • Payable for 2 consecutive weeks between the date of confinement and 16 weeks following the child's birth. • Benefit rate 65% (same as for maternity)

If the NIS wishes to add a Paternity benefit it should be added following the inclusion of paternity leave provisions in labour law. Further, since National Insurance 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 Employment Act provides for 3 months' maternity leave and 40% of pay for 2 months or 8 weeks. The NIS Maternity allowance benefit rate is 65% and the maximum benefit period is 12 weeks. Should the NIS 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 an NIS Paternity benefit should be consistent with the maximum paternity leave permitted in new legislation.

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.

Under the assumption that the rate for Paternity benefit will be 65%, the cost of a Paternity allowance/benefit would be linked to two factors – the maximum duration and the percentage of fathers who will claim the allowance. Maternity allowance payouts averaged $2.1 million per annum in recent years and the average duration just under 12 weeks. A much shorter maximum duration would be expected for paternity leave.

During 2019 to 2021, just under 60% of births resulted in the payment of a Maternity Grant and 50% of births led to a Maternity Allowance award. Even if the Employment Act provides for paternity leave and pay as it now does for maternity, the proportion of men who will take that leave is likely to be small, even if they were to receive a combined 100% of regular pay from the employer and NIS. On average, men

earn more than women and therefore the average weekly allowance will likely be up to 12% higher for Paternity benefit than for Maternity benefit.

Following are cost estimates for a Paternity benefit under several scenarios, all of which assume that eligible males earn 15% more than eligible females.

Table 6.7. Estimated NIS Paternity Benefit Costs

Portion of births with a Paternity benefit claim	10% of Births		25% of Births	
Avg # weeks paid	2	4	2	4
Estimated Costs	$80,000	$160,000	$200,000	$400,000

$100,000 of benefit costs is approximately 0.01% of insurable wages so the highest estimate above equates to 0.04% of insurable wages. By comparison, Maternity allowance costs have averaged 0.24% of insurable wages in recent years. Therefore, if the maximum benefit period is 4 weeks, the cost increase will not be material.

7.3.2 Survivors Pension

There are several issues related to Survivors benefits that need to be reviewed with the goal of ensuring that there are no anomalies or inconsistencies, and that the provisions are consistent with current social norms and can be enforced. These are summarised below.

Table 6.8. Survivors Benefit Issues To Be Reviewed

Issue	Consequence/ Implications	Recommendations
1. Anomaly re the duplication of Age & Survivors Benefits. (Appears to be an oversight in drafting of the 2010 amendments.)	Insured in receipt of Survivors pension who subsequently turns 60 can qualify for an Age pension but not an Age grant.	Allow the duplication of Age and Survivors such that grants are always payable in full and the Survivors pension is paid at 50% if the insured also qualifies for an Age pension.
2. For initial award the child must be under 16 but eligibility for payment extends to 21 if still in school.	This inconsistency results in a child who is between 16 and 21, and still attending school when the parent dies, not being eligible.	Allow children between ages 16 and 21 who are still in school when their parent dies to qualify if other conditions met.
3. Survivors' pensions payable to a widow, widower or parent should be automatically suspended if the individual remarries. (Common law marriages included).	This is both difficult to administer and not necessarily consistent with current motives for marriage.	Remove remarriage as a disqualifying event for the ongoing payment of Survivors pension to an adult.

These changes would affect only a few individuals and thus not result in a material increase in benefit costs.

6.3 Investment Policy

A sound governance framework is paramount for the effective and proper investment of National Insurance Funds and investment policy statements are designed to guide decision making. The NIS has an “Investment Policy Statement” which was updated in 2021 but not yet approved. This document explicitly covers the area of governance and includes objectives, operational and oversight responsibilities of the Investment Committee, Investment Department and consultants. A target asset allocation is also included.

Projection results in Chapter 4 show that the Fund will soon enter a stage where some reserves will have to be liquidated to meet monthly expenditure. As a result, investments should be managed in a prudent manner, focusing primarily on long-term safety and stability, targeting moderate rates of return as opposed to higher returns from riskier investments. While supporting local private sector initiatives could enhance economic growth, the NIS should be cautious about participating in projects where its liquidity needs in the next fifteen to twenty years may not be consistent with the investment. It should also be noted that when funds are invested locally there is an implicit dependence on the output and productivity of future generations. Therefore, there is still opportunity for investing a greater portion of the Fund overseas.

The Investment Policy Statement which was last revised in 2021 should be approved by the Board at the earliest opportunity. Further, the possibility of having to liquidate an increasing amount of investments each year, an annual review of the Investment Policy, before the start of each financial year, is strongly recommended. At a minimum, this review should include the following:

1. Cash flow projections for at least 2 years as part of the budget process.
2. Documenting answers to the following practical questions. This will ensure that responses to possible eventualities are predictable and well thought through.
    a. In what order will assets be liquidated in the forthcoming year if cash is needed to meet benefits and administrative costs? All investments should be included in this list and limits may be placed on any particular investment if it is desirable to keep a portion of it.
    b. What specific types of assets will be considered if surplus funds become available for new investments?
    c. What specific types of assets will **not** be considered if surplus funds become available for new investments?

Advance consideration of critical issues as suggested above will enable for more effective decision making.

6.4 Risk Policy

The projections presented earlier indicate that under current contribution rate and benefit provisions the NIF will be depleted within the next 15 years. Specific measures to delay Fund depletion have been presented in this report. There remains, however, several risks that could result in Fund depletion even sooner than projected as well as NIS not providing adequate benefits to Grenada residents. Many of these risks are briefly discussed in the following table.

Table 6.9 Risks & Risk Mitigation Strategies

Risk Item	Mitigation Strategies/Reactions
Inadequate cash to meet benefit obligations	• Regularly updated cash flow projections with worst case scenarios • Appropriate levels of liquid assets at all times
Fund depleted sooner than projected	• Funding policy (when and by how much to increase contribution rate and make other adjustments) • Better compliance • Higher rate of return on investments with appropriate risks • Benefits policy (appropriate benefits each with relevant qualifying conditions and benefit formula and amount) • Lower administrative costs
Growing # of elderly without a pension	• Better enforcement of compliance among both businesses/employers and Self-employed persons
Benefits being inadequate	• Agree on the ideal level of the wage ceiling and adjust it regularly • Periodic pension adjustments to offset the effect of inflation
Inability to convert investments into cash if needed	• This risk increases as the portion of Fund investments allocated to real estate increases so re-assess current level of real estate holdings. • Closely monitor economic performance and financial position of the governments in which the Fund has investments
Unexpected call on NIF to provide income support (e.g., COVID-19)	• Add a permanent Unemployment benefit to the NIS benefit package • Pre-identified maximum amount of Fund that can be allocated to unexpected purposes • Proper case made by government for why any support should be financed by the NIS as well as strict guidelines on how much, to whom and for how long the temporary support would be provided
Reputational	• Periodic pension adjustments to maintain relevance of pensions • Enact reforms early to avoid draconian changes later

This list of risks is not exhaustive, but it includes many high-level issues that could negatively affect the NIS and Grenada. The Board is encouraged to establish a formal Risk Policy that identifies the various risks that could cause the NIS to not meet its objectives or the Fund to fall short of the projections presented in this report as well as, include rational responses to events that may occur.

6.5 Other Matters

6.6.1 Contribution Compliance

While only one in thirteen self-employed persons (SEPs) contributes to the NIS, the following metrics suggest that many employed persons either do not contribute at all or make sporadic contributions.

Table 6.10. Metrics That Suggest Lower Compliance Rates than Expected

1. Average # of weekly contributions per annum (pre-COVID)	65% to 70%
2. Self-employed persons contributing	1 in 13
3. Elderly resident population receiving an NIS pension^	52%
4. New Age benefit awards paid as a grant (2019 to 2021)	35%
5. Deaths resulting in funeral grants for which only 50 weekly contributions are required (2019 to 2020)	54%
6. Births resulting in maternity grants (2019 to 2020)	59%

^Assumes 5% of pensioners live outside of Grenada

While a comprehensive analysis of private sector contribution compliance has not been made for this report, it is recommended that one be conducted to see how compliance rates vary by sector and employer size.

A new approach to SEP contributions is expected to be introduced soon. SEPs will be able to contribute with full flexibility without any forms or any specific amount due for a given period and be able to make payments without having to visit an NIS office. Instead, they will have the entire calendar year to make target contributions based on their usual income.

While it is hoped that there will be significant improvement in the number of SEPs who regularly contribute, Government should introduce the following measures to support the NIS in increasing the portion of elderly Grenadians that will have reliable income support in old age:

(a) Make NIS 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.

6.6.2 Branch Allocations & Transfer of Reserves

As of December 2021, reserves of the Short-term and Employment Injury branches were 0.7 and 21 times annual expenditure, respectively. The overfunded position of the Employment Injury Benefit branch is a result of expenditure being consistently less than the percentage of contribution income allocated. Therefore, a reallocation of contribution income and the transfer of reserves from this branch to the Long-term Benefits branch should be made. The Short-term Benefits branch suffered deficits in each of 2019 to 2021 due in part to temporary unemployment assistance and spikes in Sickness benefit due to COVID-19 related quarantine periods.

Table 6.11. Benefit Branch Reserves, Contribution Allocation & Expenditure

Benefit Branch	Dec. 2021 Reserves	Reserve-Expenditure Ratio		Current Contribution Allocation^	Projected Expenditure
		2021	Target		
Short-term	$13.0m	0.7	1.0	1.9% of IW	1.6% to 2.0%
Employment Injury	$25.6m	21.1	2.0	0.3% of IW	0.15% to 0.2%

^ Allocation rates used for financial statement differ from those in Financial & Accounting Regulatgions

The allocation of contribution income in financial statements for 2018 to 2021 are those recommended in the 12th Actuarial Review, not those in the Financial & Accounting Regulations. The recommended changes to the allocation of contribution and transfer of reserves between branches are shown in table 6.12.

Table 6.12 Recommended Changes to Contribution Allocation & Reserve Transfers

Benefit Branch	Contribution Income Allocation		Reserve Transfer
	Current	Recommended	
Short-term	1.9%	1.9%	-
Employment Injury	0.3%	0.2%	$23 mil. to LTB Branch
Long-term	8.8%	8.9%	$23 mil. from EIB Branch
All	**11.0%**	**11.0%**	

It should be noted that since these branches are only sub-accounts within the National Insurance 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 National Insurance Fund. These adjustments are for internal accounting purposes only and are consistent with the manner that the NIS has elected to finance and account for the various types of benefits. Therefore, the Board could consider eliminating the use of branches for internal accounting.

Chapter 7 Age Pension Reforms

The National Insurance Scheme has held reform discussions with stakeholders before. In 2020, the contribution rate was increased from 9% to 11% but no significant amendments have yet been made to materially reduce the long-term costs of benefits. Other OECS countries have made extensive reforms with Age pension being the primary focus. Common changes to Age pension include:

(a) Increase the pensionable age to 65;

(b) Increase the number of years over which wages are averaged for pension calculations;

(c) Revise the schedule of accrual rates to eliminate the heavy weighting for the first 10 years and instead have a more gradual increase to the maximum 60% after 40 years; and

(d) Change from an “Age” benefit to a “Retirement” benefit so that one’s employment or income status after pensionable age is reached affects whether the pension is payable.

St. Kitts-Nevis (62) and Grenada (60) remain the only two OECS territories in which the pensionable age have not been increased and remain below 65. All others are either already at 65, or gradually approaching 65. Pensionable age in Barbados is now 67.

All reforms need not result in reduced benefits. Anguilla recently added a Paternity benefit. While several countries, including Grenada, introduced temporary unemployment benefits in 2020 during COVID-19 lockdowns and, prior to that, after devasting hurricanes, only the Bahamas (2008) has added a permanent unemployment benefit since Barbados did so over 30 years ago.

Adjustments to the wage ceiling are not considered reforms as such adjustments should be made regularly to ensure that the system does not lose relevance for higher income earners. Putting in place automatic adjustments to the wage ceiling and pensions in payment would be considered a significant reform as it removes the arbitrary and often politically motivated bases for such adjustments. The Bahamas, Barbados and the BVI have automatic pension and wage ceiling adjustments.

Had reforms taken place 10 to 15 years ago, pensionable age would now have been 65 instead of 60. Had these pensioners received a reduced pension, NIS pension expenditure would have been lower. Had these persons not been awarded pension given their continued employment, contribution income would have been higher and benefit expenditure lower.

Contributions by over-60 workers in 2021 provide strong justification for an increase in the pensionable age and change from an Age pension to a Retirement pension.

7.1 Reform Objectives

To ensure a successful discussion, decision making and implementation of reforms, it is recommended that high level goals and objectives be formally stated so that the reasons for each change are clear. The following table includes examples of two sets of objectives – (i) what the NIS wishes to achieve and (ii) what the NIS wishes to avoid, from the reform exercise.

Table 7.1. Sample Reform Objectives

What is the NIS trying to ACHIEVE	What is the NIS trying to AVOID
a) Postpone projected Fund depletion for at least 30 years (2051) b) Benefits that are consistent with prevailing socio-economic conditions ○ Residents in better health at older ages than they were 40 years ago and the desire by most to work beyond age 60 ○ Both spouses working and earning their own pensions ○ Men participate in child-care after birth ○ Unemployment results in loss of income similar to sickness and maternity c) Equitable and smooth transition from current provisions to new provisions d) Easy for NIS officials to explain and easy for the population to understand	a) Contribution rates of above 20% within the next 30 years b) If the pension age increases, those close to 60 at the time of the change are not significantly affected c) Any single issue for which there is widespread disagreement not delaying the introduction of other changes d) False information relating to any of the reforms and their potential effects

For the financial/sustainability objectives, reducing future costs and increasing contributions are the only two options available. For objectives that seek to improve access/coverage, equity and relevance, the options are more subjective.

The remainder of this chapter considers the various reform measures that should be considered and for most, a list of issues/questions for which decisions will be required is presented.

Terminology

Explaining proposed changes, and the terms used to do so, are critical to reducing negative initial reactions. For example, if pensionable age is to increase from 60 to 65, but 60 will remain as the age at which Age pension at a reduced rate will be first payable, new terms need to be used when referring to age 60 and age 65. While “pensionable age” has been used by some countries for the increasing age for unreduced pensions, this could be misleading as it is important that the option of claiming at age 60 is not forgotten in the discussions. For the remainder of this report, the following terms are used:

- Early Pension Age (EPA) – first age at which at which an Age/Retirement pension is first payable
- Normal Pension Age (NPA) – first age at which an unreduced (full) Age/Retirement pension is payable

7.2 Age Pension Reforms

As mentioned above, there are several changes to Age pension that should be considered because they meet multiple objectives; they are consistent with socio-economic changes since 1983, they would improve benefit design and they would reduce long-term costs. For each of these reform measures, a discussion of the issue for which a decision would be required and reasonable options, are provided.

7.2.1 Increase in Pensionable Age

The reform with the greatest financial benefit, both from a contribution and benefit perspective, is an increase in the age at which unreduced Age pensions are first awarded.

Table 7.2. Normal Pension Age Increase - Issues, Options and Implications

Consideration	Options	Implications/Considerations
Ultimate Pensionable Age	▪ 65 ▪ 67	Barbados is now at 67 while most others in the Caribbean have opted for 65.
How quickly to get to the ultimate Pensionable Age	▪ 6 years ▪ 9 years ▪ 12 years	Under a traditional approach, the fastest adjustment recommended would be 1 year every 2 years. With a quicker increase, no one under 60 will qualify until the final age is reached. Under an alternate approach described below, a quicker transition could be achieved with no one having to wait beyond age 60.
Should 60 remain as an early pensionable age	▪ Yes ▪ No	Anguilla and the BVI have a single pensionable age - 65. Others who increased from 60 have kept 60 as the first age for reduced pensions although Montserrat recently eliminated the early Age pension. Keeping age 60 will allow persons to qualify at the age they always expected.
Size of the early retirement reduction factor	▪ ½% per month ▪ $^2/_3$% per month	The larger the reduction factor the smaller the pension. A larger factor will serve as a deterrent for those considering early take-up. 6% to 7% per year is considered “actuarially equivalent”
Can someone claim before normal pension age and get the Minimum Pension?	▪ Yes ▪ No	The current minimum pension is $201 p.m. If the reduced pension works out to be $175, should it be awarded at the early age or make the person wait until the earlier of earning a $201 p.m. pension (by formula) or reaching NPA?
Should someone working after 60th birthday be awarded Age pension?	▪ Yes ▪ No	Possible to create an income threshold above which pension will not be paid so lower income earners can keep their pension but higher income earners will have to wait until a certain age.
Labour Laws	▪ Silent ▪ Prescriptive	While labour laws could be revised to ensure that workers are not forced to retire at 60, employers should be encouraged to revise their retirement ages in line with the schedule of increases adopted for National Insurance Age pensions.
Names for first age and age for full benefits	▪ Early Pension Age ▪ Normal Pension Age ▪ Pensionable Age	

Increasing normal pensionable age to 65 can be achieved in at least two ways as described below:

(i) Increase by one year every 2 years which would result in age 65 being reached in the eighth year after the first change. There will be a specific normal pensionable age that lasts for 2 years until age 65 is reached. (See Table 7.2.A below which also shows the applicable reduction factors that would apply in each year and age at time of award.)

(ii) Increase to 65 immediately with a fixed schedule of pension reduction factors that will apply depending on the year and age that an insured person elects to claim. Instead of referring to a pensionable age in a particular year, age 60 would be early pensionable age, age 65 would always be normal pensionable age, and there would be readily available reduction factors that would allow insureds to easily confirm what rates would apply in any year. (See Table 7.2.B below which provides for full transition to age 65 in the fifth year after the first change.)

Table 7.2.A. Traditional Approach

Claim Year	Pens. Age	Reduction Factors at Age of Claim					
		60	61	62	63	64	65
2023	**61**	-6%	0%	0%	0%	0%	0%
2024	**61**	-6%	0%	0%	0%	0%	0%
2025	**62**	-12%	-6%	0%	0%	0%	0%
2026	**62**	-12%	-6%	0%	0%	0%	0%
2027	**63**	-18%	-12%	-6%	0%	0%	0%
2028	**63**	-18%	-12%	-6%	0%	0%	0%
2029	**64**	-24%	-18%	-12%	-6%	0%	0%
2030	**64**	-24%	-18%	-12%	-6%	0%	0%
2031+	**65**	-30%	-24%	-18%	-12%	-6%	0%

Table 7.2.B. Alternate Approach

Claim Year	Reduction Factors at Age of Claim					
	60	61	62	63	64	65
2023	-5%	0%	0%	0%	0%	0%
2024	-10%	-5%	0%	0%	0%	0%
2025	-15%	-10%	-5%	0%	0%	0%
2026	-20%	-15%	-10%	-5%	0%	0%
2027	-25%	-20%	-15%	-10%	-5%	0%
2028+	-30%	-24%	-18%	-12%	-6%	0%

7.2.2 Pension Accrual Rates

NIS pensions are designed to replace a certain portion of pre-retirement income that increases as the number of years of participation increases. The benefit replacement rate is the factor that has most impact on the size of the initial monthly pension. (The other factor is the average insurable wages which is discussed next.) Current benefit replacement rates increase from 30% after 10 years (500 weeks) of contributions to 60% after 40 years (2,000 weeks) of contributions. Therefore, half of the maximum benefit is earned after only 10 years of contributions. Following are key decision points for this change.

Table 7.3. Accrual Rates - Issues, Options and Implications

Question	Reasonable Options	Implications/Considerations
What should be the maximum pension rate?	▪ 60% ▪ 55%	Lower accrual rates will make initial pensions smaller, reduce long-tern costs and make the NIS more affordable for the long-term.
How many years (weekly contributions) required to earn maximum percent	▪ 40 (2,000) ▪ 45 (2,250)	If the period if increased from 40 to 45 years, this will result in a slight decrease in new pensions for those with less than 45 years of contributions.
Replacement rate for first 10 years (500 contributions)	▪ 30% ▪ 25% ▪ 20% ▪ 15%	A higher replacement rate was adopted at inception so those close to 50 when the scheme started would get a meaningful pension after only 10 years. This is no longer necessary.

7.2.3 Average Wage used for Calculating Initial Pension Amount

The number of years over which insurable wages are based and for benefit calculations is critical to ensuring equity among insured persons with varying earning patterns. While wages for most insureds increase gradually over time, until their retirement, some have years of low or no earnings mid-career, while others see their earnings decline as they get older. The current rule is “best 5 years” ever. Using 5 years is acceptable given that the wage ceiling has not increased for many years. The most equitable approach, however, is an indexed career-earnings approach where earnings over one’s entire career affect their ultimate pension benefit.

Table 7.4. Wages used for Pension Calculations - Issues, Options and Implications

Consideration	Reasonable Options	Implications/Considerations
# years used	▪ 7 ▪ 10 ▪ Full career with drop out years	Beyond 10 years, it may be necessary to incorporate indexation so that old wages are bumped up to current values. After a ceiling increase, a longer period is desirable as benefits will increase significantly after only a few years of contributions for those with higher incomes.

7.2.4 "Age" Pension or "Retirement" Pension

One key goal of National Insurance benefits is to replace lost income. For pensions to the elderly, there is usually however, an age at which, pensions are payable regardless of whether employment has reduced. As shown earlier, a large percentage of 60-year-olds continue to work regularly. For those who remain, their average wage only decreases slightly each year. These individuals are currently receiving an Age pension along with a salary.

Table 7.5. Age or Retirement Pension - Issues, Options, and Implications

Consideration	Reasonable Options	Implications/Considerations
Should pension eligibility be affected by income	▪ Yes ▪ No	If "yes", several other decisions required.
If based on "retirement" what is an appropriate income threshold beyond which benefit denied?	▪ Any income ▪ 50% of avg IW ▪ 50% of ceiling ▪ "Claw back" approach (a set number of cents of pension deducted for every $1 income above threshold)	This threshold could be a simple way of allowing lower income persons to qualify for pension even if they have employment income. "Claw back" example: if monthly income above $3,000, pension reduced by $0.50 for every $1 in income above $3,000.
If age for full pension increased and 60 kept for reduced pension, should the income test application vary by age?	▪ Yes – income test applied only below age for full pension ▪ No – income test applied at all ages below a fixed age	Even if the income test is applied after age 60, there should be a certain age above which the income test is not applied. This could be as high as 67 or 70, even if pensionable age is set at 65.
Would the income test apply to pensioners living overseas?	▪ Yes ▪ No	If it will be difficult or impossible to verify employment status and/or income level, pensions could be denied or suspended if living outside Grenada while under Normal Pension Age.
If full contributions are paid but only partial pension is paid, will the pension be re-calculated when employment cease	▪ Yes ▪ No	While "no" may be considered unfair by some, "yes" could be quite complicated to administer.
If changed to a "Retirement" benefit, would those already in payment be affected?	▪ Yes ▪ No	"Yes" would mean a possible reduction in pension amount for some pensioners upon implementation. "No" would mean some pensioners with same employment income and pension amount but different start date would be treated differently.

If an income test is included, once employment ceases, the person should receive their full pension.

Figure 7.1. Progressive Pensions

Pension Reforms Must Not Disproportionately Affect Those with Lower Incomes

An analysis of new Age pension awards shows that lower income insured persons average fewer contributions over their career than do higher income persons. While some of the reforms described above have been implemented elsewhere and may be administratively simple to implement in Grenada, reforms should not result in benefits being more regressive than they are today. It is therefore recommended that any combination of reforms being considered specifically assess whether lower income insured persons would be negatively affected more than higher income insureds.

The United States Social Security system has an explicitly progressive pension formula where decreasing benefit rates are applied to higher levels of income. Applicable monthly amounts and benefit rates in 2022 are as follows:

90% of the first $1,024 + 32% of the next $5,148 + 15% of other covered income.

With this approach, someone who earns $2,000 per month has a replacement rate of 62% while someone who earns $5,000 per month has a 51% replacement rate.

With an ultimate goal of reducing average new pensions, a slightly different approach but with a similar result, could be adopted in Grenada. Keeping the existing schedule of accrual rates, two possible approaches to calculating *adjusted* insurable wages for pension purposes are:

a) 100% of the first $1,000 per month plus 70% of insurable wages above $1,000
b) 100% of the first $1,500 per month plus 75% of insurable wages above $1,500

From the data analysed, the average new pension amount would be 18% and 11% lower, respectively, with larger reductions for higher income pensioners as intended.

Note: The above dollar amounts and percentages are illustrative only and should be determined based on the desired level of reduction in new average pensions and benefit progressivity.

Adopting this approach to pension calculations will introduce a new dollar value parameter, which like the wage ceiling, should be increased at regular intervals.

7.3 Impact of Age Pension Reforms on Future Sustainability

As shown above there are several options for reforms, each with its own effect on future long-term costs. The single change that will have most impact on future costs is increasing pensionable age from 60. A combination of several other changes would also have a material impact on future costs. To illustrate the effect of reforms on long-term sustainability, the projected change in Fund outlook is presented using different sets of reform scenarios that focus on two things:

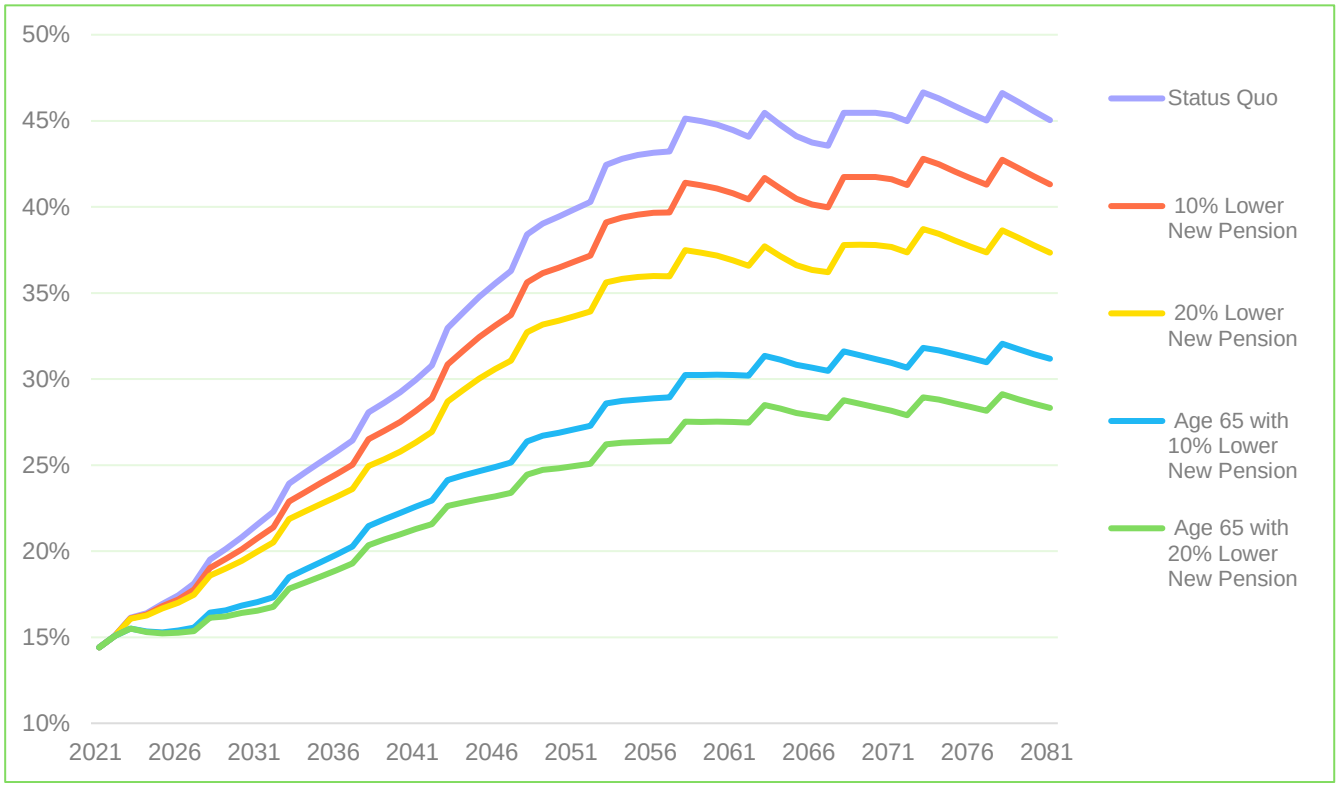
a) The percentage reduction in average new Age pension amount (gradually over 5 years), and

b) Pensionable age increasing from 60 to 65 by 1 year every 2 years (61 in 2023 to 65 in 2031) with age 60 kept as first age for reduced pension.

Two different levels of reduced new Age pension amounts, 10% and 20%, are modelled, with and without the pensionable age change.

The ultimate objectives of reforms are to prevent the fund from depletion in the next 15 to 20 years and to reduce the long-term costs of benefits as measured by the Pay-as-you-go rate. The following chart shows the projected PAYG rates for the Status Quo scenario (Chapter 4) and the four reform scenarios modelled.

Figure 7.1. Projected PAYG Rates, Status Quo, and Reform Scenarios



Increasing pensionable age to 65 more quickly/slowly than modelled above, would result in PAYG rates being lower/higher than those shown above for each scenario. Not providing an early pension option as pensionable age increases to 65 would result in lower PAYG costs.

Since contribution rate increases will also be required, the effects of the modeled reforms together with the contribution rate increasing to 15% over 4 years (2023 to 2026), are shown below.

Table 7.6. Effect of Modelled Reforms on Fund Depletion and PAYG Rates

Scenario	Average New Age Pension	Pensionable Age	No Cont. Rate Incr.		Cont. Rate to 15%		PAYG Rate	
			R-E Ratio in 2031	Fund Depleted	R-E Ratio in 2031	Fund Depleted	2040	2060
Best Estimate	100%	60	1.7	2034	3.1	2039	29%	45%
1	10% smaller	Stays at 60	1.9	2035	3.4	2040	28%	41%
2	20% smaller	Stays at 60	2.1	2035	3.7	2041	26%	37%
3	10% smaller	Incr. to 65	3.3	2039	5.1	2047	22%	30%
4	20% smaller	Incr. to 65	3.5	2040	5.4	2050	21%	28%

The following conclusions can be drawn from the results shown above:

- Smaller average new pensions reduce future PAYG rates but have little impact on when the Fund will be depleted.
- A contribution rate increase defers Fund depletion by a few years but does not reduce long-term costs.
- Increasing pensionable age to 65 only extends the life of the Fund for four to nine years but significantly reduces future PAYG rates
- A combination of increased contribution rates, gradual increase in pensionable age to 65 and a reduction in average new pension amounts produces a material change in outlook that meets the funding objectives suggested in Section 6.1

Chapter 8 Good Governance

A very influential but often invisible contributor to the state of public sector agencies is political interference and the failure to adopt and follow good governance practices. For example, poor governance practices and political interference at many regional social security schemes have resulted in overstaffing, poor investment diversification, delays in implementing recommended reforms, and the failure to table in Parliament and publish key reports that outline the state of the fund's current and future finances.

To assist social security schemes like the Grenada NIS, the International Social Security Association (ISSA) in 2011 published *ISSA Good Governance Guidelines for Social Security Institutions*. These guidelines provide ISSA member organizations with guiding principles and practical guidelines on good governance. They also present a virtual checklist of essential elements that help engender and support good governance within the institution. It is strongly recommended that the Board adopt the principles and guidelines included in ISSA's *Good Governance Guidelines* and initiate steps to ensure that good governance practices are commonplace in all aspects of the Social Security's administration and operations.

ISSA Good Governance Guidelines

ISSA defines governance as:

> *"The manner in which the vested authority uses its powers to achieve the institution's objectives, including its powers to design, implement and innovate the organisation's policies, rules, systems and processes, and to engage and involve stakeholders."*

ISSA's *Good Governance Guidelines* further suggests that "good governance implies that the exercise of the vested authority is accountable, transparent, predictable, participative and dynamic." It describes these five principles as follows:

Accountability is the ability to hold legally responsible the officials who are in charge of the institution for managing the program prudently, efficiently and equitably.

Transparency is the availability and accessibility of accurate, essential and timely information to stakeholders and in reference to the decision-making process, promotes honesty, integrity and competence, and discourages wrongdoing.

Predictability refers to the consistent application of the law, policies, rules and regulations. Surprises and sudden changes in contribution rates, benefit entitlements or other features could undermine the credibility of the programme.

Participation refers to the active education, engagement and effective involvement of stakeholders to ensure the protection of their interests.

The principle of *dynamism* is defined as the element of positive change in governance. While the first four principles of governance may well be applied in the context of maintaining the status quo, dynamism

refers to changing and improving by doing things more efficiently and equitably, and by responding to the evolving needs of insured persons.

In addition to outlining in detail the five good governance principles as they specifically relate to Boards and Management, the *ISSA Good Governance Guidelines* include further guidelines in six specific areas that are of common concern to social security institutions. These guidelines, which support and promote the good governance principles listed above, are provided for the following areas:

a) Actuarial soundness

b) Enforcing the prudent person principle in investment management

c) Prevention and control of corruption and fraud

d) Service standards

e) Staffing policies & performance appraisals

f) Investments in Information and Communication Technology infrastructure

The third component of the ISSA Good Governance Guidelines is the "Questionnaire on Good Governance." Through hundreds of specific multiple-choice questions on general governance practices of the Board and Management as it relates to the five principles and six specific areas of social security administration, institutions are able to determine the extent to which they practice good governance and where improvements are required. Completion of this document will be the ideal start to the Board's adoption of ISSA's recommended good governance principles and guidelines.

A Good Governance Guidelines manual that is localized for NIS could include specific sections that deal with the following:

a) Powers of the Minister

b) Functions and duties of the Board

c) Terms of reference for the Chairman, Executive Director and Committees of the Board

d) Board Member orientation

e) Board Member code of conduct

f) Disclosure of information

ISSA is the world's leading organization bringing together national social security administrations and agencies. It provides information, research, expert advice and platforms for members to build and promote dynamic social security systems. As a member organisation the NIS should take full advantage of the extensive work of the ISSA and make full use of the Good Governance Guidelines, Investment Guidelines, along with other tools and research designed to strengthen various aspects of its administration.

Statement of Actuarial Opinion

It is our opinion that for this report of the 13th Actuarial Review of the National Insurance 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 National Insurance Programs.

LifeWorks

Derek Osborne
Fellow of the Society of Actuaries
Partner

Simone Balkissoon
Fellow of the Institute of Actuaries
Principal

June 29, 2022

References

Financial Statements of the National Insurance Fund
National Insurance Act & Regulations and Amendments
NIS Investment Policy & Guidelines
Report of the 12th Actuarial Review of the National Insurance Fund, ILO, 2019
Various reports and publications by the Grenada Central Statistical office

Appendix A Summary of Contribution & Benefit Provisions

Following is a general description of the coverage, contributions and benefit provisions of the Grenada National Insurance Scheme as of January 1st, 2022.

A.1 Contingencies Covered & Benefits Provided

Grenada National Insurance provides for the following benefits:

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

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

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

A.1.1 Insured Persons

The Scheme covers employed, self-employed and voluntary insured persons from ages 16 to 59 as follows:

(a) employed persons in the private and public sector are covered for all contingencies;

(b) self-employed persons are covered for all contingencies;

(c) voluntary insured persons are covered for long-term benefits and funeral grant only.

Contributions by self-employed persons are mandatory. Employed persons aged 60 and over and under 16 (holiday workers) are covered for Employment Injury benefits only.

A.1.2 Insurable Earnings and Contributions

In addition to salary, insurable earnings include overtime pay, cost of living allowance, commissions, gratuities and service charge payments.

Earnings that are covered for the purpose of determining contributions and benefits, are limited to $1,160 per week or $5,000 per month. The monthly ceiling on insurable earnings has increased as follows:

1983 – 1995	$1,250
1995 – 1998	$2,500
1998 – 2010	$3,000
2010 – 2011	$3,500
2012 – 2013	$4,250
2014 to present	$5,000

Contributions are computed as a percentage of insurable earnings. The contribution rate is 11, 5% paid by the employee and 6% by the employer, 11% for the self-employed. A contribution rate of 1% is payable by the employer on behalf of workers who are aged 60 or over and those under 16 on holiday jobs. Voluntary contributors pay at 6.75% of insurable earnings.

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: 60. The pension is not dependent on retirement from the workforce.

AMOUNT OF BENEFIT: 30% average insurable earnings over the best 5 years, plus 1% for every set of 50 weeks credited over 500. Effective 2008, the number of years of wages to be averaged will be 5.

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

MINIMUM PENSION: EC$46.40 per week. The minimum pension also applies to Invalidity Pension.

(b) AGE GRANT

CONTRIBUTION REQUIREMENT: 50 but less than 500 paid or credited weekly contributions.

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

AMOUNT OF BENEFIT: 5 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 60,
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.

DURATION OF PENSION: Payable as long as invalidity continues.

(d) INVALIDITY GRANT

CONTRIBUTION REQUIREMENT: 50 contributions weeks, paid or credited.

ELIGIBILITY: Other than for not meeting the contribution requirements, the person must be eligible for Invalidity Pension.

AMOUNT OF BENEFIT: Calculated in same manner as for Age Grant.

(e) 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: Widows or widowers must have been married to or living with the deceased for at least 3 years.

Children up to age 16, or 18 if in full-time education, or invalid of any age, who are maintained by or living with the deceased at the time of death.

Parents who were wholly or mainly maintained by the deceased and the spouse and/or children have not exhausted the maximum amount payable.

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

- Widow or widower: 75%;
- Child: 25%;
- Full orphan or invalid orphan: 50%;
- Parent: 25%
- Minimum child benefit: EC$19.70 per week
- Minimum benefit for orphan/invalid: EC$19.70 per week
- Maximum family benefit: 100% of Invalidity /Age pension. However, minimum pension(s) cannot prevent more than 100%.

DURATION OF BENEFIT:

Widows and Widowers pension:

i. For life, if at the date of death, he/she was either at least 50 or less than 50 but invalid and married for at least 3 years.

ii. For 1 year only, if at the date of the spouse's death he/she was less than 50 and not an invalid, or he/she was at least 50 but married for less than 3 years.

iii. For as long as he/she continues to wholly or partly maintain children of the deceased, if not being remarried.

Widow(er)s who may also be entitled to an Age pension will receive 100% of the Age pension plus 50% of the Survivors' pension.

For dependant children, the pension will be paid up to age 16, or 21 if in full-time education, or until recovery from invalidity.

(f) SURVIVORS' GRANT

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

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

A.2.2 Short-Term Benefits

(a) SICKNESS BENEFIT

CONTRIBUTION REQUIREMENTS: 13 paid contribution weeks with at least 8 weeks in the last 13. The insured must be under age 60, must have been engaged in insurable employment immediately at the onset of the illness.

WAITING PERIOD: 4 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. May extend another 26 weeks if at least 150 paid contributions and at least 75 paid or credited contributions in the last 3 years.

(b) MATERNITY ALLOWANCE

CONTRIBUTION REQUIREMENT: 30 paid contribution weeks with at least 20 weeks in the 30-week period immediately preceding either (i) the week that is 6 weeks before the expected week of confinement, or (ii) the week from which the Allowance is claimed.

AMOUNT OF BENEFIT: 65% of average weekly insurable earnings during the last 30 weeks. (At least $522 in total).

DURATION OF BENEFIT: 12 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: $522. The Maternity Grant has increased as follows:

1994 – 1998	$400
1998 – 2006	$450
2007 – present	$522

(d) FUNERAL GRANT

ELIGIBILITY: An insured person who has paid at least 50 contributions, or was in receipt of or was entitled to a benefit, or who was insured for at least 8 weeks during the last 13 weeks. A grant is also payable in respect of the death of the spouse or a dependant child. Note that when death results from employment injury, no prior contributions are required and only one grant may be paid.

AMOUNT OF GRANT: $2,320 for the insured, $1,740 for an uninsured spouse, and $870 for a dependent child. The funeral grant for the insured has been increased on an ad-hoc basis as follows:

1979 – 1983	$300
1984 – 1988	$500
1988 – 1995	$1,000
1995 – 1997	$1,600
1998 – 2006	$2,000
2007 – present	$2,320

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: 70% 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: 52 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: Percentage of average insurable earnings by reference to percentage loss of faculty suffered. If the degree of disablement is 30 per cent or more, a weekly benefit amount of the Injury Benefit amount times the degree of disablement is paid.

If the degree of disablement is less than 30 per cent, a grant equal to 365 times the weekly Injury Benefit rate times the degree of disablement is paid. If the period of disablement is expected to be less than 7 years, the amount of the Grant is the number of weeks of disablement expected times the amount of the weekly Injury Benefit.

Constant Care Allowance

If the degree of disablement is 100 per cent and a full-time attendant is required, a Constant Attendance Allowance of an additional 50 per cent of the Disablement Benefit is paid.

(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: Medical, surgical, dental, hospital and nursing services, medicines, prosthetic devices and transportation costs incurred as a result of an employment injury or prescribed disease.

A.2.4 CARICOM National Insurance Agreement

Grenada is a signatory to the CARICOM Agreement on National Insurance. 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 Grenada and the National Insurance 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 Grenada's future demographic and economic environment. Next, projection factors specifically related to National Insurance 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 Grenada population has been projected beginning with totals obtained from the results of the 2011 national census and by applying appropriate mortality, fertility and migration assumptions. For the *Best Estimate* scenario, the total fertility rate is assumed to decline to 1.7. 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	2021	Ultimate Fertility Rates		
		Optimistic	Best Estimate	Pessimistic
15 - 19	0.021	0.021	0.020	0.017
20 - 24	0.083	0.084	0.079	0.070
25 - 29	0.085	0.086	0.081	0.072
30 - 34	0.075	0.076	0.072	0.063
35 - 39	0.059	0.059	0.056	0.049
40 - 44	0.023	0.023	0.022	0.020
45 - 49	0.010	0.010	0.010	0.009
TFR	**1.78**	**1.80**	**1.70**	**1.50**

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 Grenada. 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 60 for sample years are provided in Tables B.2 and B.3.

Table B.2. Sample Mortality Rates & Life Expectancies

Age	Males			Females		
	2021	2051	2081	2021	2051	2081
0	0.0279	0.0051	0.0041	0.0046	0.0041	0.0050
5	0.0006	0.0003	0.0001	0.0002	0.0001	0.0001
15	0.0004	0.0004	0.0002	0.0003	0.0001	0.0001
25	0.0008	0.0010	0.0009	0.0010	0.0007	0.0002
35	0.0013	0.0010	0.0009	0.0010	0.0007	0.0004
45	0.0026	0.0024	0.0020	0.0022	0.0016	0.0015
55	0.0066	0.0064	0.0054	0.0059	0.0045	0.0039
65	0.0173	0.0160	0.0129	0.0145	0.0104	0.0092
75	0.0449	0.0451	0.0373	0.0412	0.0301	0.0248
85	0.1115	0.1261	0.1153	0.1208	0.0953	0.0701
95	0.2509	0.2832	0.2742	0.2788	0.2478	0.2097
Life Expectancy at:						
Birth	**74.0**	**76.3**	**78.0**	**77.1**	**80.2**	**82.4**
Age 60	**20.0**	**20.3**	**21.6**	**20.9**	**23.2**	**24.8**

Table B.3. Life Expectancies At Age 60

	2021	2081		
		Optimistic	Best Estimate	Pessimistic
Male	20.0	20.4	21.6	23.2
Female	20.9	22.8	24.8	24.9

For the *Best Estimate* scenario, net outward migration is assumed to change to net inward migration only in the Optimistic scenario. The Optimistic and Pessimistic scenarios assume 100 fewer and 200 more net migrants per year, respectively.

Table B.4. Net Migration

Age	2021			2030			2045+		
	Opt.	Best Est.	Pess.	Opt.	Best Est.	Pess.	Opt.	Best Est.	Pess.
0 - 9	(8)	(25)	(33)	2	(14)	(23)	8	(8)	(16)
10 - 19	(8)	(23)	(31)	2	(13)	(21)	8	(8)	(15)
20 - 29	(46)	(139)	(185)	12	(81)	(127)	46	(46)	(93)
30 - 39	(27)	(81)	(108)	7	(47)	(74)	27	(27)	(54)
40 - 49	(8)	(24)	(32)	2	(14)	(22)	8	(8)	(16)
50 - 59	(2)	(6)	(9)	1	(4)	(6)	2	(2)	(4)
60 - 69	(1)	(2)	(2)	0	(1)	(1)	1	(1)	(1)
70+	(0)	(0)	(1)	0	(0)	(0)	0	(0)	(0)
All Ages	**(100)**	**(300)**	**(400)**	**25**	**(175)**	**(275)**	**100**	**(100)**	**(200)**

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 females are assumed to gradually approach the rates in 2021 for males of the same age. No changes are assumed to male age-specific participation rates. Table B.5 below shows the assumed age-specific labour force participation rates in 2021 and 2081.

Table B.5. Age-Specific & Total Labour Force Participation Rates

Age	Males		Females	
	2021	2081	2021	2081
17	25%	25%	17%	25%
22	88%	88%	78%	88%
27	97%	97%	87%	97%
32	96%	96%	92%	96%
37	97%	97%	92%	97%
42	97%	97%	92%	97%
47	97%	97%	92%	97%
52	91%	91%	83%	91%
57	87%	87%	72%	87%
62	62%	62%	52%	62%

Year	Males	Females
2021	81%	73%
2026	79%	72%
2031	80%	74%
2041	81%	78%
2051	79%	77%
2061	78%	77%
2071	79%	78%

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 4.1.

B.2 Projection of National Insurance Income & Expenditure

This actuarial review addresses all National Insurance 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 2081, 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. National Insurance'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 National Insurance Population Data and Assumptions

The data required for the valuation of the National Insurance Fund is extensive. As of December 31st, 2021, 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 National Insurance specific input data and the key assumptions used in this report are provided in tables B.6 through B.10.

Table B.6. 2021 Active Insured Population, Earnings & Past Credits

Age	# of Active Insureds		Average Monthly Insurable Earnings		Average # of Years of Past Contributions	
	Male	Female	Male	Female	Male	Female
15 - 19	561	503	934	1,076	0.2	0.1
20 - 24	2,648	2,876	1,396	1,187	1.6	1.7
25 - 29	3,020	3,456	1,819	1,405	4.1	4.5
30 - 34	3,206	3,728	2,127	1,701	6.5	7.4
35 - 39	3,066	3,742	2,447	1,863	9.2	10.0
40 - 44	2,224	2,578	2,719	2,132	12.1	13.3
45 - 49	2,062	2,259	2,776	2,282	14.7	15.5
50 - 54	1,972	1,997	2,894	2,390	17.5	18.0
55 - 59	1,938	1,935	2,770	2,346	19.0	19.8
60 - 64	1,131	1,030	2,554	2,204	19.2	19.2
65+	500	404	2,378	2,304	17.7	16.8
All Ages	**22,328**	**24,508**	**2,462**	**1,963**	**10.1**	**10.4**

Table B.7. Pensions in Payment - December 2021

Age	Age Pensions		Invalidity Pension		Survivors Pensions		Provident Fund	
	Male	Female	Male	Female	Male	Female	Male	Female
0 - 4	-	-	-	-	16	15	-	-
5 - 9	-	-	-	-	42	46	-	-
10 - 14	-	-	-	-	116	86	-	-
15 - 19	-	-	-	-	75	88	-	-
20 - 24	-	-	-	-	3	1	-	-
25 - 29	-	-	-	1	2	4	-	-
30 - 34	-	-	2	4	1	1	-	-
35 - 39	-	-	5	9	3	9	-	-
40 - 44	-	-	14	2	3	5	-	-
45 - 49	-	-	20	18	2	7	-	-
50 - 54	-	-	34	34	15	29	-	-
55 - 59	-	-	78	65	18	71	-	-
60 - 64	1,806	2,000	49	57	47	131	-	-
65 - 69	1,130	1,172	36	40	25	130	-	-
70 - 74	673	682	19	31	29	155	3	2
75 - 79	357	384	11	22	22	123	9	37
80 - 84	203	249	5	9	11	97	43	79
85 - 89	77	80	1	6	5	59	44	82
90 - 94	30	46	-	-	5	29	24	58
95 - 99	1	3	-	-	1	8	3	20
# of Pensioners	**4,277**	**4,616**	**274**	**298**	**441**	**1,094**	**126**	**278**
Avg Monthly Pension	**$ 864**	**$ 733**	**$ 621**	**$ 470**	**$ 286**	**$ 371**	**$ 134**	**$ 134**

The following table shows assumed density factors, or the average portion of the year for which contributions are made. Rates for years after 2023 are assumed to remain unchanged.

Table B.8. Density of Contributions

Age	Males		Females	
	2022	2023+	2022	2023+
17	32%	32%	29%	30%
22	56%	58%	58%	59%
27	67%	69%	66%	67%
32	69%	71%	68%	69%
37	71%	73%	66%	67%
42	72%	74%	68%	70%
47	72%	73%	71%	72%
52	73%	74%	76%	77%
57	72%	74%	76%	77%

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

Table B.9. Rates of Entry into Invalidity

Age	Males	Females
17	-	-
22	-	-
27	0.177	0.154
32	0.665	0.715
37	1.392	1.853
42	1.559	3.413
47	3.880	4.014
52	5.139	6.944
57	13.072	12.403

Table B.10 shows the assumed probability of Survivor benefit claims and the average ages of new claimants, grouped by the age of the deceased.

Table B.10. Probability of a Deceased Having Eligible Survivors & Their Average Ages

Age	Males		Females	
	Probability of Eligible Spouse	Avg # of Eligible Children	Probability of Eligible Spouse	Avg # of Eligible Children
17	0%	-	0%	-
22	9%	0.0	0%	0.1
27	32%	0.1	0%	0.3
32	43%	0.5	7%	0.7
37	36%	0.9	23%	1.4
42	39%	1.4	28%	1.3
47	58%	1.3	13%	1.2
52	71%	0.8	13%	0.9
57	77%	0.5	36%	0.2
62	68%	0.6	41%	0.1
67	39%	0.2	17%	-
72	19%	0.2	3%	-
77	16%	0.2	3%	-
82	11%	0.1	2%	-
87	4%	0.0	1%	-

Appendix C Projection Results – Alternate Scenarios

Table C.1. Projected Grenada Population, All Scenarios

Year	All Ages	0-15		16-59		60+		Age Depend. Ratio
2011	106,667	26,489	24.8%	65,235	61.2%	14,943	14.0%	0.23
Best Estimate								
2021	109,228	25,263	23.1%	65,575	60.0%	18,390	16.8%	0.28
2031	111,053	22,185	20.0%	66,522	59.9%	22,346	20.1%	0.34
2041	111,140	19,967	18.0%	66,684	60.0%	24,488	22.0%	0.37
2051	109,049	18,925	17.4%	61,103	56.0%	29,021	26.6%	0.47
2061	105,256	17,483	16.6%	56,085	53.3%	31,688	30.1%	0.56
2071	99,845	15,973	16.0%	52,275	52.4%	31,596	31.6%	0.60
Optimistic								
2021	111,299	25,634	23.0%	67,339	60.5%	18,326	16.5%	0.27
2031	116,108	23,963	20.6%	70,050	60.3%	22,095	19.0%	0.32
2041	119,354	22,830	19.1%	72,281	60.6%	24,242	20.3%	0.34
2051	120,872	22,225	18.4%	69,067	57.1%	29,580	24.5%	0.43
2061	120,819	21,623	17.9%	66,005	54.6%	33,191	27.5%	0.50
2071	118,748	20,933	17.6%	64,469	54.3%	33,346	28.1%	0.52
Pessimistic								
2021	107,668	24,496	22.8%	64,707	60.1%	18,465	17.2%	0.29
2031	106,946	19,654	18.4%	64,731	60.5%	22,561	21.1%	0.35
2041	104,487	16,905	16.2%	62,826	60.1%	24,757	23.7%	0.39
2051	99,942	15,247	15.3%	55,172	55.2%	29,523	29.5%	0.54
2061	93,246	12,998	13.9%	48,076	51.6%	32,172	34.5%	0.67
2071	84,461	11,027	13.1%	41,644	49.3%	31,789	37.6%	0.76

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

Year	Cash Inflows				Cash Outflows				Reserves	
	Contribution Income	Investment Income	Other Income	Total	Benefits & Pensions	Admin. Expenses	Total	Surplus/ (Deficit)	End of Year	R-E Ratio
2019	85.0	54.9	0.4	**140.3**	95.9	8.8	**104.7**	**35.6**	**963**	9.2
2020	85.6	55.4	0.7	**141.7**	106.2	10.0	**116.1**	**25.6**	**988**	8.5
2021	96.1	55.2	0.5	**151.8**	116.5	9.4	**125.9**	**25.9**	**1,014**	8.1
2022	96.3	9.9	0.5	**106.8**	126.7	9.8	**136.6**	**(29.8)**	**984**	7.2
2023	103.0	28.7	0.5	**132.3**	147.0	10.5	**157.4**	**(25.1)**	**959**	6.1
2024	108.6	27.9	0.5	**137.0**	159.3	11.0	**170.3**	**(33.3)**	**926**	5.4
2025	112.4	26.7	0.6	**139.7**	172.5	11.3	**183.8**	**(44.1)**	**882**	4.8
2026	116.3	25.3	0.6	**142.2**	185.9	11.7	**197.6**	**(55.4)**	**827**	4.2
2027	119.6	23.4	0.6	**143.6**	199.8	11.9	**211.7**	**(68.1)**	**758**	3.6
2031	132.0	11.1	0.7	**143.7**	268.1	12.9	**281.1**	**(137.3)**	**306**	1.1
2041	154.8	(64.1)	0.8	**91.5**	461.4	14.4	**475.8**	**(384.3)**	**-2,362**	(5.0)
2051	169.0	(237.1)	0.8	**(67.3)**	712.3	15.7	**728.0**	**(795.3)**	**-8,423**	(11.6)
2061	191.7	(548.0)	1.0	**(355.4)**	932.1	17.8	**949.9**	**(1,305.2)**	**-19,196**	(20.2)
2071	216.3	(1,019.0)	1.1	**(801.6)**	1,086.9	20.1	**1,107.0**	**(1,908.6)**	**-35,433**	(32.0)
2081	246.1	(1,695.6)	1.2	**(1,448.3)**	1,200.3	22.8	**1,223.1**	**(2,671.4)**	**-58,707**	(48.0)

Negative reserves indicate the indebtedness of the Fund and negative investment income is the current cost of servicing that debt.

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

Year	Pensions, Grants & Benefits						Benefits as a % of:	
	Age	Invalidity	Survivors	Prov. Fund	Short-term	Emp. Injury	Insurable Wages	GDP
2019	72.8	3.4	4.7	1.0	12.7	1.2	10.1%	2.9%
2020	79.6	3.4	4.9	0.9	16.3	1.1	13.0%	3.8%
2021	89.0	3.7	5.8	0.8	16.2	1.0	13.3%	3.8%
2022	98.4	4.2	6.3	0.7	16.0	1.1	14.2%	3.8%
2023	117.9	5.1	7.3	0.6	14.9	1.2	15.4%	4.2%
2024	128.6	5.6	7.6	0.5	15.7	1.3	15.8%	4.3%
2025	140.2	6.1	8.0	0.4	16.3	1.4	16.5%	4.5%
2026	152.1	6.7	8.3	0.4	16.9	1.5	17.2%	4.6%
2027	164.5	7.2	8.7	0.3	17.5	1.6	18.0%	4.9%
2031	225.8	9.8	10.9	0.2	19.5	1.9	21.9%	6.0%
2041	401.1	16.6	18.3	0.0	23.0	2.4	32.1%	8.7%
2051	633.6	23.3	27.7	-	25.1	2.7	45.4%	11.6%
2061	835.9	27.0	37.7	-	28.4	3.0	52.4%	13.1%
2071	973.8	31.9	45.7	-	32.1	3.5	54.2%	13.1%
2081	1,073.9	34.8	51.2	-	36.5	3.9	52.6%	12.5%

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

Year	# of Contributors	# of Pensioners					Total # of Pensioners	Ratio of Contributors to Pensioners
		Age	Invalidity	Survivors	Prov. Fund	Death & Disablement		
2019	54,443	7,717	564	1,342	539	29	**10,191**	**5.3**
2020	49,570	8,276	567	1,398	467	31	**10,739**	**4.6**
2021	48,371	8,893	572	1,538	408	31	**11,442**	**4.2**
2022	45,222	9,464	587	1,581	377	31	**12,041**	**3.8**
2023	46,352	10,048	632	1,655	325	33	**12,694**	**3.7**
2024	47,037	10,666	684	1,719	280	36	**13,386**	**3.5**
2025	47,252	11,294	738	1,779	239	39	**14,089**	**3.4**
2026	47,528	11,904	793	1,836	203	42	**14,778**	**3.2**
2027	47,571	12,495	849	1,886	172	45	**15,446**	**3.1**
2031	47,157	14,619	1,063	2,064	80	56	**17,883**	**2.6**
2041	41,765	18,317	1,485	2,572	5	87	**22,466**	**1.9**
2051	35,368	22,912	1,672	2,997	-	111	**27,692**	**1.3**
2061	32,179	25,503	1,564	3,218	-	121	**30,406**	**1.1**
2071	29,136	24,378	1,468	3,131	-	127	**29,103**	**1.0**
2081	26,731	22,276	1,290	2,842	-	123	**26,532**	**1.0**

# of Contributors from 2022 to 2081 excludes those 60 and over

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

Year	Cash Inflows				Cash Outflows				Reserves	
	Contribution Income	Investment Income	Other Income	Total	Benefits & Pensions	Admin. Expenses	Total	Surplus/ (Deficit)	End of Year	R-E Ratio
2019	85.0	54.9	0.4	**140.3**	95.9	8.8	**104.7**	**35.6**	**963**	9.2
2020	85.6	55.4	0.7	**141.7**	106.2	10.0	**116.1**	**25.6**	**988**	8.5
2021	96.1	55.2	0.5	**151.8**	116.5	9.4	**125.9**	**25.9**	**1,014**	8.1
2022	101.5	10.0	0.5	**112.0**	126.6	10.0	**136.5**	**(24.5)**	**990**	7.3
2023	109.8	48.3	0.5	**158.6**	146.9	10.7	**157.6**	**1.0**	**991**	6.3
2024	117.0	48.2	0.6	**165.8**	159.3	11.4	**170.6**	**(4.8)**	**986**	5.8
2025	122.5	47.8	0.6	**170.9**	172.4	11.8	**184.3**	**(13.4)**	**973**	5.3
2026	128.1	46.9	0.6	**175.7**	185.8	12.3	**198.1**	**(22.5)**	**950**	4.8
2027	132.1	45.5	0.7	**178.3**	199.5	12.7	**212.2**	**(33.8)**	**916**	4.3
2031	148.5	32.3	0.7	**181.5**	267.1	14.0	**281.1**	**(99.6)**	**611**	2.2
2041	187.8	(74.7)	0.9	**114.0**	456.4	16.8	**473.2**	**(359.2)**	**-1,714**	(3.6)
2051	224.1	(367.2)	1.1	**(141.9)**	707.9	20.0	**727.9**	**(869.8)**	**-7,966**	(10.9)
2061	276.1	(977.0)	1.4	**(699.5)**	942.7	24.6	**967.3**	**(1,666.9)**	**-20,867**	(21.6)
2071	339.8	(2,062.1)	1.7	**(1,720.5)**	1,126.3	30.3	**1,156.6**	**(2,877.2)**	**-43,717**	(37.8)
2081	415.7	(3,910.4)	2.1	**(3,492.6)**	1,307.3	37.0	**1,344.4**	**(4,837.0)**	**-82,586**	(61.4)

Negative reserves indicate the indebtedness of the Fund and negative investment income is the current cost of servicing that debt.

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

Year	Pensions, Grants & Benefits						Benefits as a % of:	
	Age	Invalidity	Survivors	Prov. Fund	Short-term	Emp. Injury	Insurable Wages	GDP
2019	72.8	3.4	4.7	1.0	12.7	1.2	10.1%	2.9%
2020	79.6	3.4	4.9	0.9	16.3	1.1	13.0%	3.8%
2021	89.0	3.7	5.8	0.8	16.2	1.0	13.3%	3.8%
2022	98.2	4.1	6.4	0.7	16.0	1.1	14.0%	3.8%
2023	117.5	5.0	7.4	0.6	15.2	1.3	15.0%	4.2%
2024	127.9	5.4	7.8	0.5	16.3	1.4	15.3%	4.3%
2025	139.3	5.9	8.2	0.4	17.1	1.5	15.8%	4.5%
2026	150.8	6.4	8.6	0.4	17.9	1.6	16.3%	4.6%
2027	162.9	7.0	9.1	0.3	18.5	1.7	16.9%	4.9%
2031	222.7	9.5	11.6	0.2	21.1	2.1	20.2%	5.9%
2041	390.9	16.4	19.6	0.0	26.8	2.7	27.3%	8.6%
2051	619.0	23.3	30.3	-	32.0	3.3	35.4%	11.5%
2061	828.3	27.5	43.5	-	39.4	4.1	38.3%	13.2%
2071	982.3	34.2	56.2	-	48.5	5.1	37.2%	13.6%
2081	1,132.3	41.6	68.0	-	59.3	6.2	35.3%	13.6%

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

Year	# of Contributors	# of Pensioners					Total # of Pensioners	Ratio of Contributors to Pensioners
		Age	Invalidity	Survivors	Prov. Fund	Death & Disablement		
2019	54,443	7,717	564	1,342	539	29	**10,191**	**5.3**
2020	49,570	8,276	567	1,398	467	31	**10,739**	**4.6**
2021	48,371	8,893	572	1,538	408	31	**11,442**	**4.2**
2022	45,751	9,442	578	1,597	377	31	**12,024**	**3.8**
2023	47,427	10,001	617	1,686	325	33	**12,662**	**3.7**
2024	48,682	10,593	664	1,765	280	36	**13,337**	**3.7**
2025	49,472	11,190	714	1,840	239	39	**14,022**	**3.5**
2026	50,351	11,768	766	1,912	203	41	**14,691**	**3.4**
2027	50,639	12,324	819	1,978	172	44	**15,338**	**3.3**
2031	51,403	14,292	1,029	2,210	80	57	**17,668**	**2.9**
2041	50,004	17,585	1,480	2,808	5	89	**21,968**	**2.3**
2051	47,317	22,127	1,692	3,352	-	116	**27,288**	**1.7**
2061	47,509	25,135	1,626	3,781	-	132	**30,673**	**1.5**
2071	47,469	24,591	1,644	3,929	-	148	**30,311**	**1.6**
2081	47,222	23,696	1,629	3,855	-	159	**29,340**	**1.6**

# of Contributors from 2022 to 2081 excludes those 60 and over

Appendix D Income, Expenditure & Reserves, 2019–2021

	2019	2020	2021
Income			
Contribution Income	85.0	85.6	96.1
Investment Income	54.9	55.4	55.2
Other Income	0.4	0.7	0.5
Total Income	**140.3**	**141.7**	**151.8**
Expenditure			
Benefits			
Sickness Benefit	8.9	7.7	10.7
Maternity Benefit & Grant	2.6	2.5	2.6
Funeral Benefit	1.2	1.4	1.8
Age Pension & Grant	72.8	79.6	89.0
Invalidity Pension & Grant	3.4	3.4	3.7
Survivors Pension & Grant	4.7	4.9	5.8
Provident Fund	1.0	0.9	0.8
Medical Care	0.2	0.5	0.1
Injury Benefit	0.7	0.4	0.5
Disablement Pension	0.1	0.1	0.1
Death Benefit	0.1	0.1	0.1
Disablement Grant	0.1	0.1	0.1
Unemployment Assistance	-	4.7	1.1
Total Benefit Expenditure	**95.9**	**106.2**	**116.5**
Administrative Expenditure	**8.8**	**10.0**	**9.4**
Other Expenditure	**-**	**-**	**-**
Total Expenditure	**104.7**	**116.1**	**125.9**
Excess of Income over Expenditure	**35.6**	**25.6**	**25.9**
Reserves at End of Year	**962.8**	**988.3**	**1,014.2**
Short-Term Benefits Branch	16.3	13.6	13.0
Long-Term Benefits Branch	925.7	951.8	975.7
Employment Injury Benefits Branch	20.8	22.9	25.6

Totals may be off due to rounding.

Appendix E Benefit Experience & Analysis

E.1. Long-term Benefit Experience, 2019 – 2021

Table E.1. LTB Branch Expenditure As % of Insurable Wages, 2019 - 2021

Pension Type	2019	2020	2021
Age Pension & Grant	7.71%	9.77%	10.33%
Invalidity Pension & Grant	0.36%	0.42%	0.43%
Survivors' Pension & Grant	0.50%	0.59%	0.67%
Provident Fund	0.11%	0.11%	0.10%
All Benefits & Grants	**8.68%**	**10.90%**	**11.53%**
Administrative Expenses	0.77%	0.98%	0.87%
Total Branch Expenditure	**9.45%**	**11.87%**	**12.40%**

Table E.2. Pensions In Payment, Awarded & Terminated, 2019- 2021

Pension Type	Paid in Dec. 2018	Awarded 2019-21	Terminated 2019-21	# Paid in Dec. 2021	Avg. Monthly Pension	
					Dec. 2018	Dec. 2021
Age	6,871	2,478	456	8,893	$796	$796
Invalidity	535	474	437	572	$542	$543
Survivors	1,316	433	214	1,535	$347	$347
Provident Fund	590	-	182	408	$134	$134

E.2. Short-term Benefit Experience, 2019 – 2021

Table E.3. STB Branch Expenditure as % of Insurable Wages, 2019 - 2021

Pension Type	2019	2020	2021
Sickness Benefit	0.94%	0.95%	1.24%
Maternity Allowance	0.23%	0.25%	0.25%
Maternity Grant	0.05%	0.06%	0.06%
Funeral Grant	0.13%	0.17%	0.21%
Unemployment Assistance	-	0.57%	0.13%
All Benefits & Grants	**1.35%**	**2.00%**	**1.88%**
Administrative Expenses	0.14%	0.21%	0.19%
Total Branch Expenditure	**1.48%**	**2.21%**	**2.07%**

Table E.4. Sickness Benefit Experience, 2019 – 2021

Year Ended	# Claims Awarded per 1,000 Insureds	Average benefit Duration (days)	Average Weekly Benefit
2019	302	10.6	$305
2020	262	11.3	$315
2021	362	11.7	$312

Table E.5. Maternity Allowance Experience, 2019 – 2021

Year Ended	# Claims Awarded per 1,000 Insureds	Average Allowance Duration (days)	Average Weekly Allowance
2019	15.2	71.4	$218
2020	14.9	71.1	$232
2021	16.2	71.3	$230

Table E.6. Maternity Grant & Funeral Grant Experience, 2019 – 2021

Year Ended	# Births	# Grants Awarded	# Deaths	# Grants Awarded
2019	1,575	931	973	507
2020	1,540	896	1,033	572
2021	n/a	928	n/a	736

E.3. Injury Benefit Experience, 2019 – 2021

Table E.7. EIB Branch Expenditure as % of Insurable Wages, 2019 - 2021

Pension Type	2019	2020	2021
Medical	0.02%	0.06%	0.01%
Employment Injury	0.07%	0.05%	0.06%
Disablement Pension	0.01%	0.01%	0.01%
Death Benefit	0.01%	0.01%	0.01%
Disablement Grant	0.01%	0.01%	0.01%
Total Benefits & Grants	**0.12%**	**0.14%**	**0.11%**
Administrative Expenses	0.03%	0.03%	0.03%
Total Branch Expenditure	**0.16%**	**0.17%**	**0.14%**

Table E.8. Employment Injury Benefit Experience, 2019 - 2021

Year Ended	# Claims Awarded per 1,000 Insureds	Average Benefit Duration (days)	Average Weekly Benefit
2019	14.9	16.2	$307
2020	9.5	14.2	$332
2021	12.1	15.4	$356

Table E.9. Medical And Disablement Grant Experience, 2019 - 2021

Year Ended	# Medical Claims Awarded	# Disablement Grants Awarded
2019	418	11
2020	257	9
2021	247	6

Table E.10. Disablement & Death Benefits, Pensions In Payment, 2019 - 2021

Year Ended	Disablement Pensions	Death Benefit
2019	18	11
2020	18	13
2021	17	14

LifeWorks

Improving lives, improving business.

LifeWorks is a leading provider of technology-enabled HR services that deliver an integrated approach to employee wellbeing through our cloud-based platform. Our focus is providing world-class solutions to our clients to support the mental, physical, social and financial wellbeing of their people. By improving lives, we improve business. Our approach spans services in employee and family assistance, health and wellness, recognition, pension and benefits administration, retirement consulting, actuarial and investment services. LifeWorks employs approximately 6,000 employees who work with some 24,000 client organizations that use our services in 162 countries. LifeWorks is a publicly traded company on the Toronto Stock Exchange (TSX: MSI).

Website	**Twitter**	**LinkedIn**	**Instagram**
lifeworks.com	@lifeworks	LifeWorks	@lifeworks