TELUS Health

10th Actuarial Review of the Montserrat Social Security Fund

as of March 31, 2024

September 2024

Table of Contents

Abbreviations and Acronyms

GDP	Gross Domestic Product
GOM	Government of Montserrat
ILO	International Labour Office
LTB	Long-term Benefits
PAYG	Pay-as-you-go
SIPP	Statement of Investment Policies & Procedures
SPCCU	St. Patrick's Cooperative credit Union
SS	Social Security
SSB	Social Security Board
SSF	Social Security Fund
TFR	Total Fertility Rate

Introduction

Montserrat Social Security began operations in July 1986. Prior to its inception, a National Provident Fund system was in place. Social Security currently covers 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 overseas in various types of securities and properties.

This is the report of the 10th Actuarial Review of Social Security Fund and is being prepared as at March 31st, 2024, three years after the 9th Actuarial Review. Section 17 of the Montserrat Social Security Act requires that actuarial reviews are conducted at 3-year intervals. Audited financial statements up to 2020 and unaudited statements for 2021 to 2024 were provided.

The main purpose of periodic actuarial reviews is to determine if the social security system in Montserrat 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, 30-year demographic and financial projections have been performed. It should be noted that these projections are dependent on the underlying data, methodology and assumptions concerning uncertain future events and that the outcomes and eventual experience will most likely differ, possibly materially, from that indicated in the projections. Therefore, in accordance with the Social Security Act, periodic actuarial reviews should be conducted. The next actuarial review of the Social Security Fund is due as at March 31, 2027.

We wish to thank Mr. Philip Chambers, Director, Ms. Jasmine Taylor, Deputy Director, Ms. Ateshia Lewis, Operations Manager, and all other members of the Social Security staff who assisted with this review.

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

September 30, 2024

Executive Summary

Montserrat Social Security makes promises to former and current workers that extend beyond fifty years. It is therefore important that it is well designed, well governed and properly administered. Periodic actuarial reviews provide a comprehensive assessment of the current and projected state of the Social Security Fund. They also provide policy recommendations for changes designed to ensure that a suitable balance between benefit adequacy, contribution affordability and financial sustainability is achieved for both current and future periods. This is the report of the 10th Actuarial Review of the Social Security Fund (SSF) and has been conducted as of March 31st, 2024.

Experience During the Review Period

Montserrat's population declined between 2018 and 2023 from 4,566 to 4,396. During the same period, the number of Social Security contributors decreased from 2,551 to 2,302 while the number of pensioners remained slightly more than 1,000.

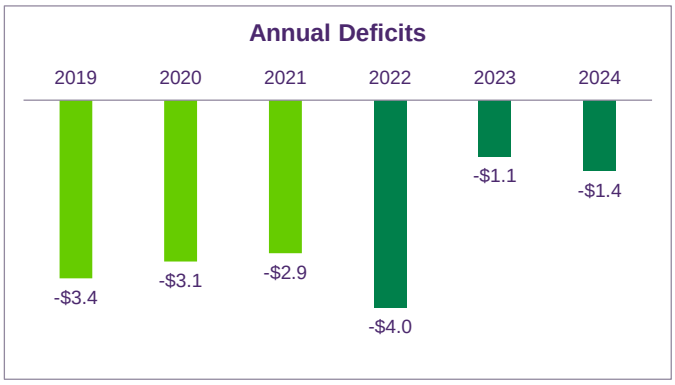
Several recommendations in the report of the 9th Actuarial Review were adopted during the review period:-

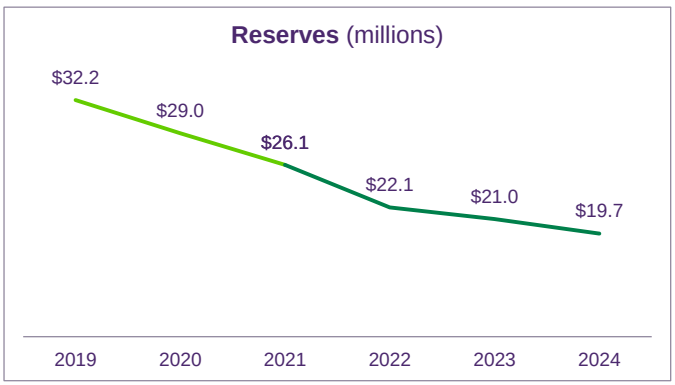
a) the contribution rate was increased by 2% in April 2022 and a schedule of additional rate increases to 15% in 2026 is also included in amendments.

b) the early Age pension was eliminated, and the maximum pension rate was reduced from 60% to 55%.

c) the Government of Montserrat made special subvention payments of $1.89 million and $1.0 million in financial years 2023 and 2024, respectively.

As a result of these amendments and subvention payments, annual deficits reduced significantly in 2023 and 2024 (left chart), and the pace at which reserves were depleting, has slowed (right chart). The Government is commended for implementing these measures which have already made a material impact on Fund finances.





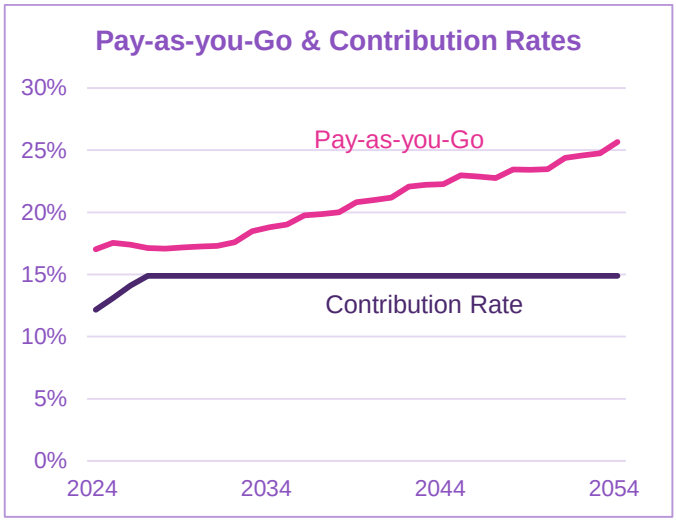
Of the $19.7 million in reserves at the end of March 2024, $9.2 million represents the value of the Social Security Headquarters building. Therefore, assets readily available to meet expenditure, including $0.2 million of NPF reserves, were $10.7 million.

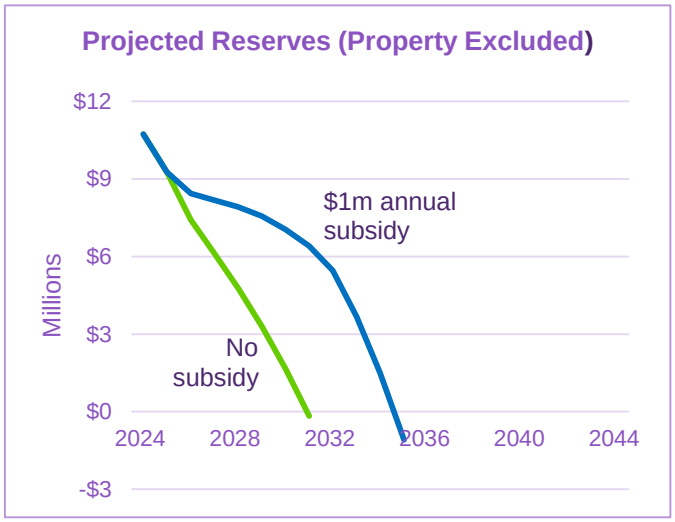
Social Security Fund assets are held in a mixture of local, regional and international investments. The average yield on reserves over the last three years was 3.2%. Administrative costs accounted for 26% of contribution income over the three years.

Main Findings & Projection Results

This report's assessment of Social Security policy and design indicators suggests that current contribution and benefit provisions provide only a fair level of benefit adequacy and income protection. This lower than ideal level is due to pensions in payment and the wage ceiling not being increased since 2009 and 2010, respectively. Both the wage ceiling and minimum pension rates are low. The current mixture of investments is considered acceptable but revisions in asset mix could be made if Government confirms that annual subventions will continue. High administrative costs continue to be a challenge for the Fund.

Projections of Social Security income, expenditure and reserves have been made through 2054. As the following charts illustrate, expenditure will continue to exceed contributions (left chart), and even with a $1 million subvention each year, liquid assets could be depleted as soon as 2035.





Other results from *Best Estimate* projections are:

1. The gap between contribution income and expenditure will gradually increase to over 10% in 2054.
2. The average long-term cost of benefits over the next 30 years, often referred to as the general average premium, is 19.4%.

Projections from an *Optimistic* scenario where Montserrat's population increases to around 5,400 indicate that that expenditure would only be slightly more than a 15% contribution rate and smaller subventions would be required to keep the Fund sustainable. (Chapter 4)

Recommendations

Far-reaching reforms at preventing Fund depletion have already been made. The cost of the Age pension promise is now closer to the soon-to-be 15% contribution rate. However, due to a reducing contribution base and only 2.3 contributors for each pensioner, annual Government subventions will still be required.

Additional amendments that focus on enhancing coverage and benefit adequacy are listed below.

1. Increase the monthly ceiling on insurable wages every other year by $500 each time until the ceiling reaches $6,000 per month in 2031. (Section 5.1)
2. Consider a modest pension increase. (Section 5.2)
3. For Age grant revise the formula in the following two ways:
   (a) Use average insurable wages used over the entire contribution history instead of just over the last 50 weeks.
   (b) Reduce from 3 to 2 the factor which is multiplied by the average insurable wage and number of sets of 25 weeks. (Section 5.3)
4. Consider increasing the number of weekly contributions to qualify for an Age pension from 500 to 750. (Section 5.4)
5. Increase the Maternity grant from $600 to $800 and the Funeral grant from $3,000 to $5,000. (Section 5.5)
6. Review and update the Statement of Investment Policies & Procedures, gradually shift assets to achieve optimal diversification, and review the rental rates being charged to Government for office space. (Section 5.6)
7. Reduce the size of the Board from nine to as low as five but no more than seven members and include fit and proper guidelines so that in aggregate, board members have skills and experience in financial literacy, management, governance and investments. (Section 5.7)
8. Seek cost effective ways to improve administrative efficiency while reducing administrative costs. (Section 2.2.6)

Chapter 1 Activities & Experience since the 9th Actuarial Review

1.1 Amendments to Act & Regulations

The following amendments were made to the Act and Regulations during the review period.

A. A schedule of adjustments that will take the total contribution rate for employed persons to 15% in 2026.

Table 1.1. Contribution Rate Adjustments, 2022 to 2026

	Employer	Employees	Total	Self-Employed Persons
2004 to March 2002	5%	4%	9%	8%
April 2022 – December 2022	6%	5%	11%	9%
January 2023 – December 2023	6½%	5½%	12%	10%
January 2024 – December 2024	7%	6%	13%	11%
January 2025 – December 2025	7½%	6½%	14%	11½%
January 2026 onwards	8%	7%	15%	12%

B. A reduction in the maximum Age/Invalidity pension percentage rate from 60% to 55%.

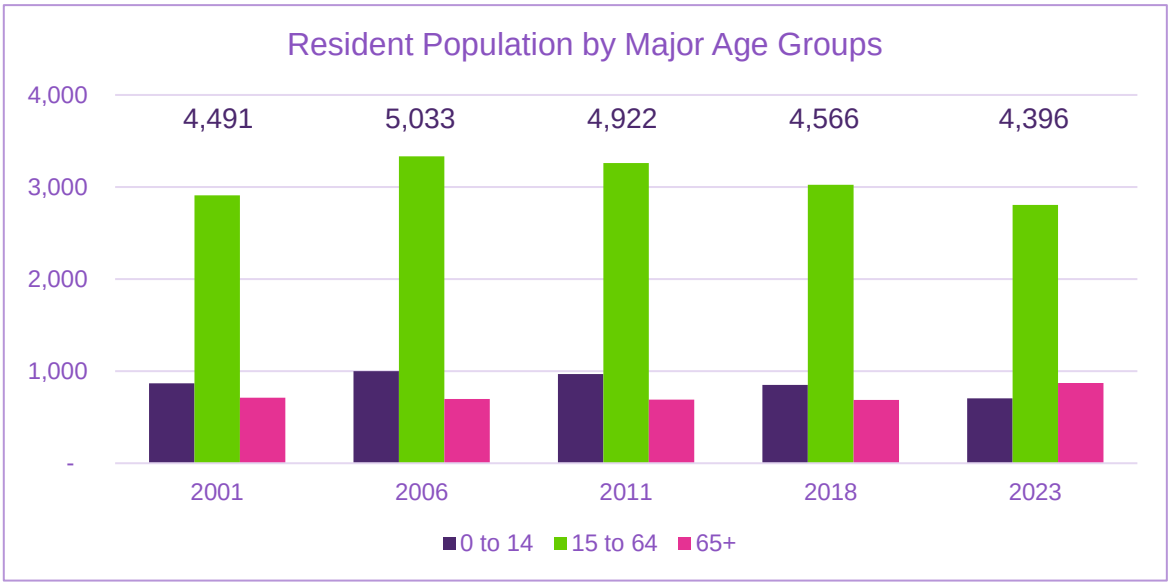
C. A change in the number of years over which insurable wages are averaged for Age pension calculations from 3 to 7.

D. The elimination of the Reduced Age pension effective April 1, 2022, resulting in the first age at which an Age pension is awarded (pensionable age), being 65.

1.2 Population & Economy

Social Security Fund income is influenced by population size and local economic activity. Some benefits are also affected by economic circumstances. The 2023 census placed the resident Montserrat population at 4,396 down from 4,566 in 2018. Average outward migration between 2018 and 2023 is estimated at 49 per annum. As shown in the charts in Figure 1.1, both the resident population (numbers above green bars) and the working-age population (green bars) have declined since 2006. During this period, the number of children (purple bars) has decreased while the elderly population (pink bars) has increased.

Figure 1.1. Resident Montserrat Population, 2001 to 2023



The following charts show real GDP growth and annual inflation from 2003 to 2023.

Figure 1.2. GDP Growth & Inflation, 2003 to 2023

The economy experienced growth in most years with average growth rates over varying periods of:

- 20-year average: 2.5%
- 10-year average: 2.7%
- 5-year average: 4.1%

Inflation rates have been very low over the past 10 years as shown below:

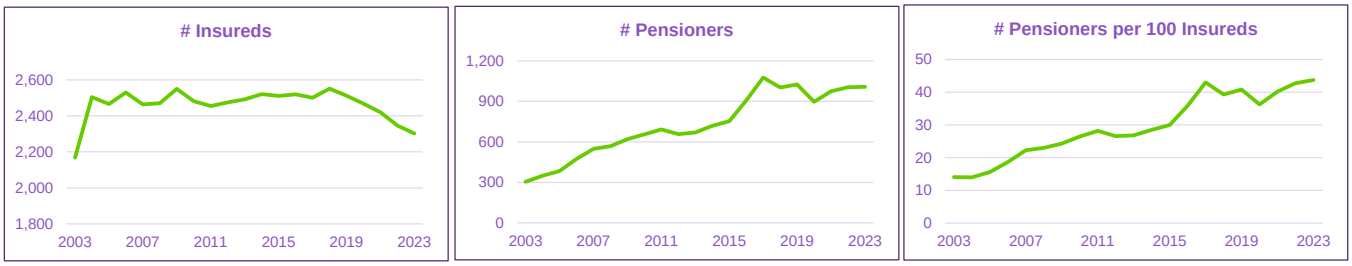
- 20-year average: 1.6%
- 10-year average: 0.2%
- 5-year average: 0.3%

1.3 Social Security Experience

The number of insured persons making contributions has declined from just over 2,500 between 2014 and 2019 to 2,302 in 2023. (Figure 1.3 below)

After the significant increase in pensioners in 2016 and 2017 when the Reduced Age pension was introduced, the decreases thereafter were a result of the pensionable age increasing to 65 and the suspension of pensions to persons who have not submitted life certificates. As of March 2024, there were approximately 44 pensioners per 100 contributors or 2.3 contributors for each pensioner.

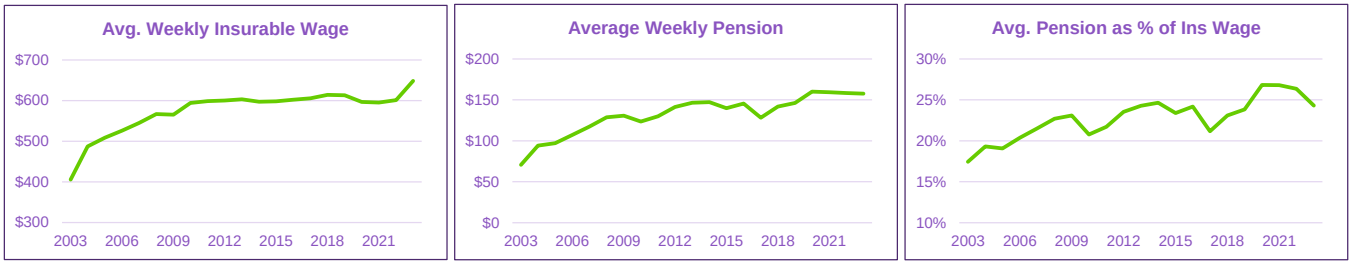
Figure 1.3. Contributors & Pensioners, 2003 to 2023



Note: The # of insureds is for the calendar year whereas the # of pensioners is as of fiscal year-end (March) the following year.

Both the average insurable wage and the average pension in payment have generally increased over the last two decades. With average pension amounts rising at a faster rate than insurable wages, the average replacement rate also generally increased with periodic downturns. The average replacement rate decreased during the review period from 27% to 24% as fewer new pensioners were added. (Figure 1.4 below).

Figure 1.4. Average Insurance Wages & Pensions in Payment, 2003 to 2023



With all pensions accounting for over 95% of total benefit expenditure, changes to the number of pensions and the average pension amount have the greatest influence on year-over-year changes in benefit expenditure.

The following table provides income and expenditure amounts for 2021/22 to 2023/24 from unaudited management financial statements. A more detailed version of the Social Security finances for these years may be found in Appendix D.

Table 1.2. Summary of SSF Finances, April 2021 – March 2024 (millions of $'s)

	2022	2023	2024
Income			
Contributions	$5.76	$6.74	$7.70
Investment	$0.72	$0.70	$0.67
GOM Subvention	-	$1.89	$1.00
Other	$0.05	$0.05	$0.05
Total Income	**$6.53**	**$9.38**	**$9.42**
Expenditure			
Benefits	$8.90	$8.62	$9.11
Administrative	$1.62	$1.85	$1.68
Total Expenditure	**$10.52**	**$10.46**	**$10.78**
Excess of Income over Expenditure	**($3.99)**	**($1.09)**	**($1.36)**
Reserves – End of Year	**$22.10**	**$21.01**	**$19.65**

Totals may be off due to rounding

Highlights from recent financial experience include:

- Contribution income increased each year due to the rate adjustments.
- The trend of increasing benefit expenditure each year was reversed in 2023 with a modest increase in 2024.
- Investment income experienced small declines each year.
- Annual deficits decreased from $4 million to just over $1 million due to a combination of increased contribution income, the Government subvention, and fewer Age pension awards following the elimination of the early Age pension.

1.4 Experience Compared with Projections of 9th Actuarial Review

In the 9th Actuarial Review, projections were prepared under two scenarios. Shown in Table 1.3 is a comparison of actual cumulative experience over the 3-year period April 2021 to March 2024, with the projections of the Status Quo scenario. In the 9th Actuarial Review's Status Quo scenario, the population was assumed to remain relatively constant between 4,600 and 4,700.

Contribution rate increases, elimination of the early Age pension reforms and subventions form the Government of Montserrat were announced and enacted after the report of the 9th Actuarial Review was submitted. Therefore, net financial experience was significantly better than projected as shown in Table 1.3.

Table 1.3. Projections from 9th Actuarial Review Compared with Actual Experience ($'s in millions)

2022 to 2024	Projected	Actual	Actual vs Projected	Comments
Contribution Income	$18.1	$20.2	+12%	No rate increase was expected
Investment Income	$1.3	$2.1	+61%	More assets to invest than expected
GOM Subvention	-	$2.9	-	No subvention was expected
Benefit Expenditure	$26.0	$26.6	+2%	In line with estimates
Administrative Expenditure	$5.0	$5.1	+3%	In line with estimates
Cumulative Deficit	$11.6	$6.4	-45%	Unexpected income significantly reduced annual deficits making reserves higher than expected.
March 2024 Liquid Reserves	$4.8	$10.7	+124%	

The net cumulative deficit over the three-year review period was $5 million lower than projected.

1.5 Investments

Social Security's investment portfolio represents trust funds and as such, these funds should be invested in a prudent manner. Investment performance is influenced by the economy, the conditions of financial markets, the asset allocation strategy adopted, and the size of the Fund.

At the end of March 2024, Social Security cash and investments stood at $15.9 million, down from $20.5 million at the end of March 2021. The following table provides a summary of the Fund's investment mix at financial year-ends 2024 and 2021.

Table 1.4. Summary of Investments, March 2024 & March 2021 (millions of $'s)

Investment Category	2024		2021	
Cash & Deposits – Local	$1.61	10.1%	$3.7	18.1%
Cash & Deposits – International	$0.94	5.9%	$0.8	4.1%
Loans – Local	$0.45	2.8%	$1.2	5.7%
Bonds & Equities – Local	$0.30	1.9%	$0.3	1.5%
Bonds & Equities – Regional	$0.98	6.2%	$1.3	6.2%
Bonds & Equities – International	$5.58	35.1%	$7.9	38.4%
Investment Properties	$5.31	33.4%	$5.4	26.0%
Other – International	$0.73	4.6%	$-	-
Total	$15.90	100.0%	$20.5	100.0%

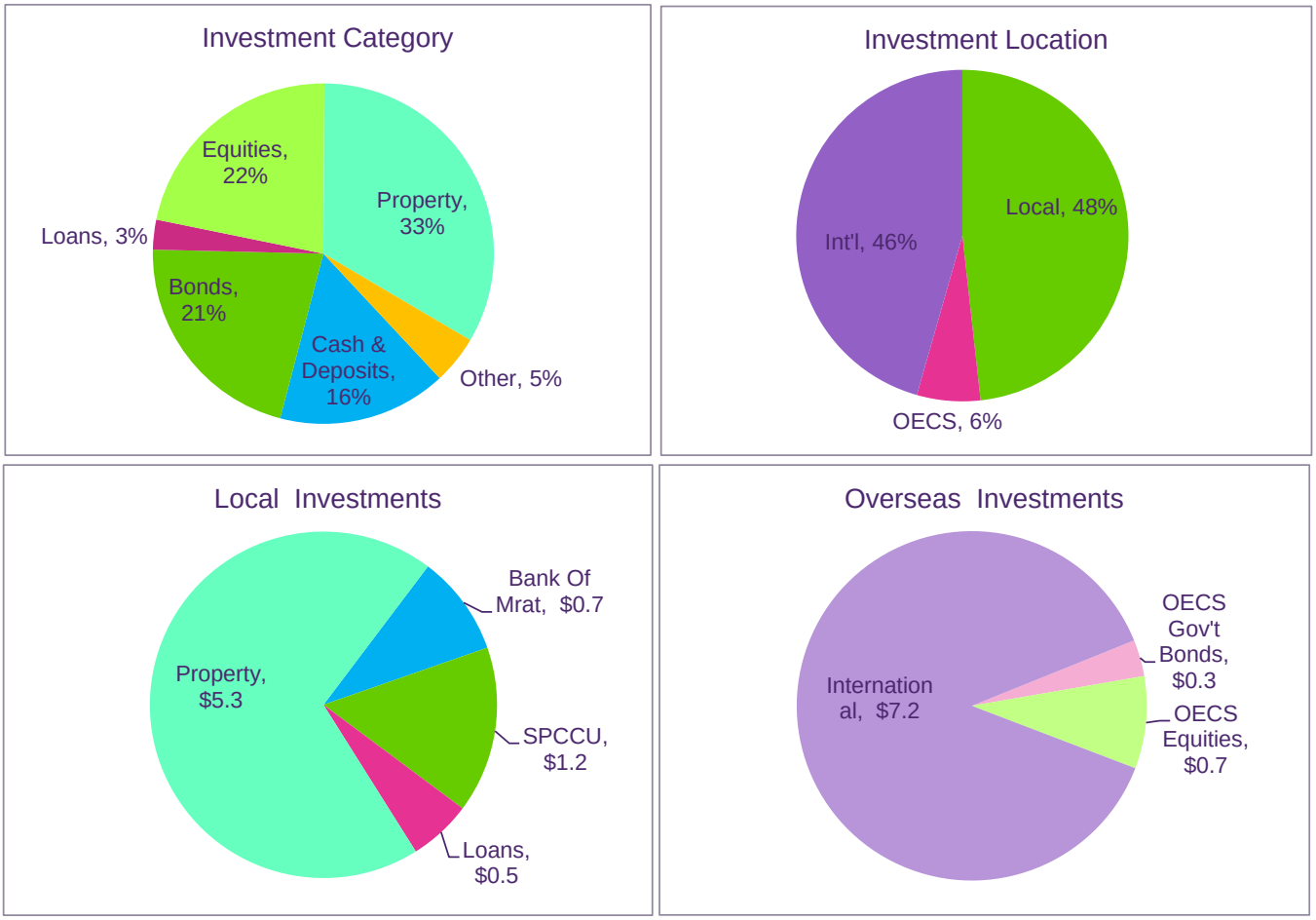
Totals may be off due to rounding corrected

During the review period, the average yield on reserves was 3.2%. This low rate of return was due to a combination of the low-interest rate environment and the short-term investments in which a significant portion of the investments are held. Also, Social Security's office building accounts for a large portion of reserves.

Diversification is a critical component in the investment of social security funds. How well investments are diversified is typically assessed using four criteria:- across various asset classes, across maturity dates, across different locations and by issuer of the underlying securities.

The following charts illustrate the diversification of SSF investments as of March 2024.

Figure 1.5. Investments, March 2024 ($'s in millions)



Analysis of the asset mix, within the context of smaller deficits now that annual Government subventions are anticipated, shows that:

- By asset class – good mix of different types of investment. The leased portion of the Social Security's headquarters building which considered an investment given that it generates rental income, is a significant portion of total investments.
- By location - well diversified given the unique risks in Montserrat and other similar risks in the Caribbean.
- By issuer – adequately diversified with relatively low risk of being able to liquidate investments early.

- By maturity: With international investments in equities and bonds, a large portion of the Fund is held in long-term instruments. The portion held in deposits is appropriate given expected cash needs.

SSF investments are guided by a Statement of Investment Policy & Procedures (SIPP) which was last approved in 2013. The SIPP sets out investment objectives and guidelines for the Fund and defines the management structure and monitoring procedures for internal and external investment management. It also includes a desired asset allocation policy for the Fund. Given the significant change in Fund outlook since 2013, new target asset allocations and investment priorities, consistent with changes intended to improve Fund finances, should be set.

1.6 Benefit Branch Experience & Reserves

Social Security administers three major types of social security benefits – long-term/pensions, short-term benefits and employment injury benefits. While the summary of Social Security finances presented earlier shows total income and expenditure, internal accounting procedures separate finances into three branches – one each for the three groups of benefits.

The three benefit types have different characteristics and implicit financing mechanisms. However, the existence of branches does not affect the overall financing or sustainability of the full Social Security Fund. No updated branch accounting has been prepared and thus is not included in this report.

1.7 National Provident Fund

Prior to the establishment of the Social Security Fund in 1986 a National Provident Fund (NPF) was in place. Under the NPF, contributors were entitled to a refund of contributions with interest upon attaining age 60 or being deemed incapable of working. In 2008 the Government decided to refund all accumulated contributions and interest as of December 2008. No NPF payments were made in the review period. The liability being held for unpaid NPF balances is $0.27 million. This amount will likely be available for the payment of Social Security benefits.

1.8 Funds Available for Benefits

Not all assets can be readily converted to cash should the need arise. Given the cash flow challenges that lie ahead and the potential for funds to be exhausted in the short to medium-term, projections of income and expenditure presented throughout this report have been made on a cash basis. While reserves represent the difference between all assets and non-benefit liabilities, the report will use “Funds Available for Benefits” to represent assets considered readily available for the payment of future benefits and operating costs. Following is the determination of “funds Available for Benefits” as of March 2024.

Table 1.5. Funds Available for Benefits, March 2024 (millions of $’s)

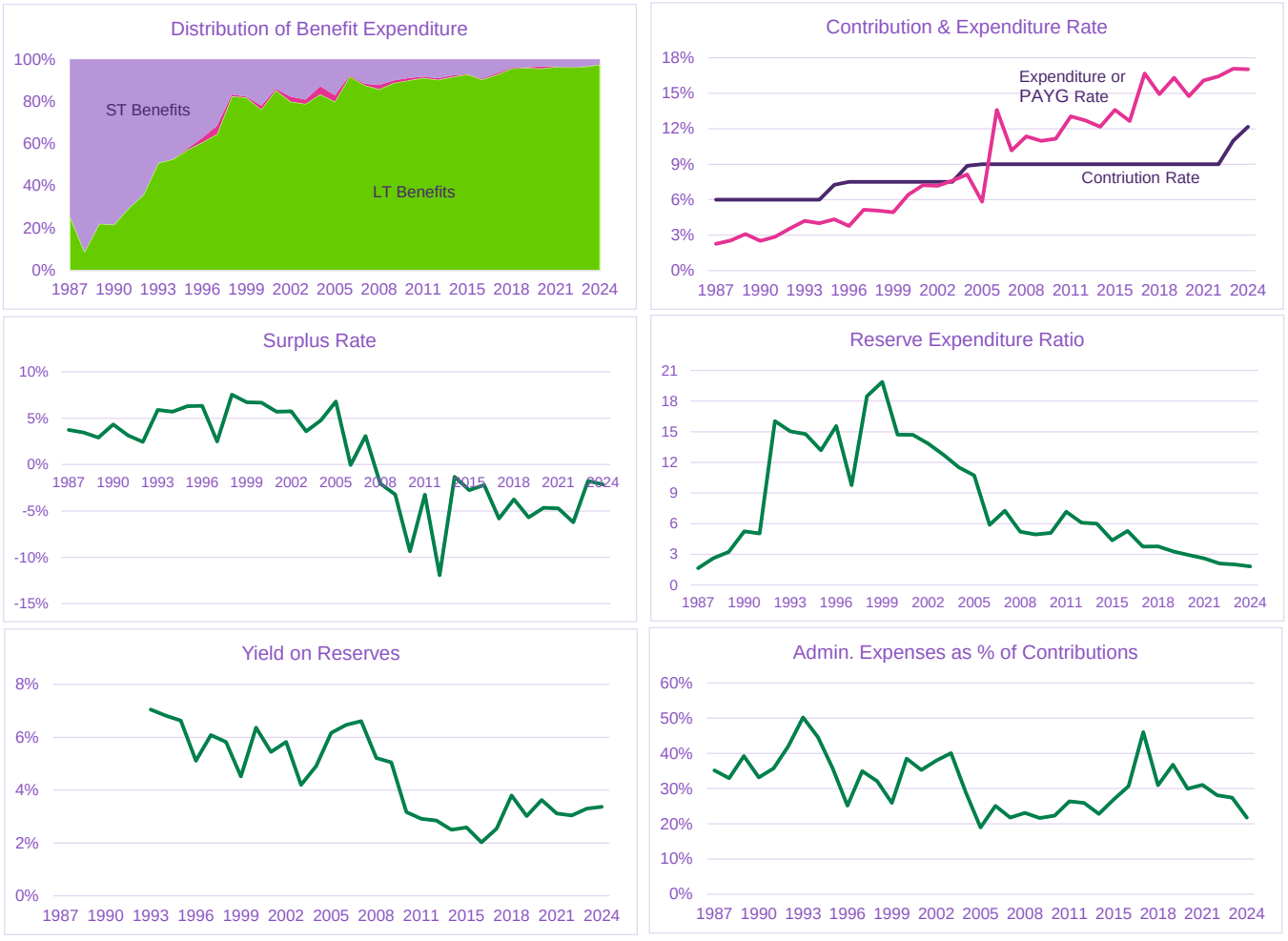
Total Reserves as per financial statements	$19.65
Less: Estimated value of SS Headquarters building	($9.19)
Plus: NPF Reserves	$0.27
Liquid Assets Available for Benefits	$10.73

Chapter 2 Assessment of Performance & Policy Objectives

2.1 Historical Performance, 1987 – 2024

Experience for key financial factors from 1987 to 2024 is presented in the following charts:

Figure 2.1. Social Security Financial Experience, 1987 to 2024



Once persons had enough contributions to qualify for a pension, the proportion of long-term benefits (LTBs) quickly increased (top left chart) as did total expenditure as a percentage of insurable wages (top right chart). This is the typical evolution of a partially funded social security system, but the portion of LTB's increased more than expected due to the unexpected addition of government employees. Since 2006, total expenditure has exceeded contribution income. In 2023/24, Age benefit accounted for just over 93% of benefit expenditure.

The surplus ratio represents net cash flows relative to total insurable wages (middle left chart). The Fund experienced surpluses each year from inception to 2005. Deficits between 2007 and 2016 were volatile but remained close to 5% each year thereafter until contribution rate increases and government subventions started in 2023. While benefits increasing faster than contributions accounts for part of the reduction in annual surpluses, lower yields on investments (lower left chart) and high administrative costs (lower right chart), put downward pressure on the size of each year's surplus/(deficit). The other consequence of expenditure growing faster than income from contributions and investments is expenditure growing faster than reserves leading to a declining reserve-expenditure ratio (middle right chart).

Table 2.1 shows the values for key indicators as of the dates of March 2018, 2021, (dates of 8th and 9th Actuarial Reviews) and March 2024, along with a brief analysis of the changes over each period.

Table 2.1. Social Security Performance Indicators

	2018	2021	2024	Comments
Contribution Rate (12-months)	9.0%	9.0%	12.2%	Increasing to 15% in 2026
Expenditure Rate	14.9%	16.1%	17.0%	Still well in excess of contribution rate
Reserve-Expenditure Ratio	3.8	2.6	1.8	Reserves decreasing while expenditure fluctuates in a narrow range
3-year average yield on reserves	2.8%	3.3%	3.2%	Low yields due to both market rates and selected investments
Administrative Expenses (3-yr average) as % of: Contribution Income Insurable Wages	 35.9% 3.2%	 32.6% 2.9%	 25.8% 2.7%	Extremely high
# of Pensioners Per 100 Contributors	43.0	36.3	43.8	Fluctuations due to introduction and later elimination of early pensions and the suspension of unverified pensioners
Avg. Pension as % of Avg. Insurable Wage	21.2%	26.8%	24.3%	Fluctuations due mainly to changing Age pension rules over the past 10 years

Amendments made during the review period have immediately resulted in increased contributions and slower growth in pension expenditure which have reduced the gap between income and expenditure. Investments continue to earn low rates of return and administrative costs, remain high.

2.2 Meeting Policy Objectives

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, while inadequate pensions result in pressures to increase benefits or add new ones. This section analyses current design parameters and examines how well key policy objectives are being met.

The rules and 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. To determine how well these objectives are 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 benefits, this analysis focuses primarily on pensions, which accounted for over 96% of SSF benefit expenditure.

2.2.1 Coverage

With Social Security 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 in receipt of a Social Security pension. The following two metrics provide a fairly good analysis of current coverage levels:

- % of workers contributing regularly to (covered by) the SSB: approximately 90%
- % of workers that have their wages fully covered by SSB: 76%

Participation from more than 90% of the regular work force is very good yet there remains some room for improvement among self-employed persons.

The wage ceiling was last increased in 2010 to $4,000 per month. Approximately 24% of the workforce earns more than $4,000 per month. The level of insurance coverage provided by this level of ceiling is low. A ceiling increase is justified.

2.2.2 Adequacy

Benefit adequacy can be broken down into two components:

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

2.2.3 Current Adequacy

The minimum contributory pension is $333 per month, approximately 12% of the average insurable wage. This rate was last adjusted in 2009 and is considered low. The minimum pension remains much lower than the pension paid by the Social Welfare Department. Pensions adjustments are not legislated and thus the infrequency of increases has led to a deterioration of benefit adequacy for many.

For pensioners receiving more than the minimum, their pension replacement rates are initially between 20% and 55% of their final average insurable wage, lower for the small percentage of very highly paid persons. This replacement level is considered adequate.

2.2.4 Future Adequacy

A worker who has steady earnings below the wage ceiling and contributes to Social Security for a full career sustaining him/herself predominantly from his employment earnings, can expect a pension of close to 55% of pre-retirement earnings. By ILO and other international standards this meets a reasonable test of benefit adequacy. Given Montserrat's transient workforce, however, many workers may not contribute for 35 to 40 years to earn the maximum replacement rate.

Ceiling adjustments and pension adjustments will ensure benefit adequacy both at the time of award and throughout the pension payout period as the pension maintains its initial purchasing power. Given that neither the wage ceiling nor pension adjustments are legislated, there is some uncertainty regarding future benefit adequacy as periodic adjustments to both will be required to ensure that benefits remain relevant as wages and prices increase.

Social security pensions are not intended to provide all the income required to support oneself in old age. The Labour Code's "10-year gratuity payment" provides a significant lump sum benefit to long-serving employees. Based on the above, except for the minimum pension rate, 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 most 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.

2.2.5 Financial Sustainability

Assessing the sustainability of a national pension system is complicated given the perpetual nature of these systems. Therefore, whether current reserves plus future contributions at 15% will be 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 employers and workers in the future will be able to afford the cost. A definition of financial sustainability that has become widely used in social security 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 Montserrat Social Security Fund is partially funded, and the current contribution rate is already inadequate to meet current benefits. Reserves continue to decline even with Government subvention.

After several sets of reform in the past 10 years intended to enhance sustainability, Montserrat Social Security now has one of the least generous and thus most affordable benefits packages in the Caribbean. How the population and labour market evolve over the next 10 to 30 years will greatly affect future costs. The key challenges for current and future Boards and governments regarding financial sustainability, therefore, will be balancing benefit adequacy, contribution affordability and the ability of Government to consistently provide subventions, and determining whether additional reforms are required.

2.2.6. Administrative Efficiency

An average of 26% of contribution income, or 2.7% of insurable wages, was spent on operating expenses over the three-year review period. Compared with other social security funds in the region, this is very high but given Montserrat's size, higher than average costs are to be expected. Administering a small social security fund in a traditional manner will be costly. Therefore, non-traditional approaches to performing tasks and providing services are required.

Regarding effectiveness of its operation, it appears that the Board performs reasonably well at collecting contributions and adjudicating claims and paying benefits in a timely manner. Financial audits have been delayed for several years. Since processes are still highly manual, both cost savings and improved performance could be achieved if greater use were made of available technology.

Recommendations relating to some of these policy objectives are presented in Chapter 5.

2.3 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 contribution rate adjustments and benefit reforms made since inception. The following table highlights the similarities and differences of the Montserrat Social Security with other social security schemes in the OECS in several key areas.

Table 2.2. Montserrat Social Security Compared with Other SS & NI Systems in the OECS

Contribution rate	St. Lucia at 10% and St. Kitts-Nevis, 11%, have not adjusted their contribution rate recently. Anguilla is increasing to 12%, Montserrat St. Vincent are increasing to 15%, Dominica to 15.75%, while Antigua-Barbuda and Grenada are gradually increasing to 16%.
Wage ceiling	At $4,000 per month Montserrat is the lowest. Next highest are Grenada and St. Vincent & The Grenadines at $5,200 per month.
Benefits package	Minor differences only.
Pensionable age	St. Kitts-Nevis (62), Montserrat and Anguilla (65), do not have an early pension age. Pensionable age is increasing gradually to 65 in Antigua-Barbuda, Dominica, Grenada and St. Vincent & The Grenadines with age 60 as the first eligible age for a reduced pension.
Pension accrual rates	Other than Antigua-Barbuda (50%) and Montserrat, recently reduced to 55%, all others have a maximum pension of 60% of average insurable wages. The minimum accrual rate is 30% in all except Montserrat (20%) and Antigua (25%).
Minimum monthly pension	Only Grenada ($251) has a lower minimum pension than Montserrat and Dominica ($333). Higher minimum pensions are paid in St. Vincent & The Grenadines ($347), Antigua-Barbuda ($350), St. Kitts-Nevis and St. Lucia ($500) and Anguilla ($715).

Chapter 3 Population & Social Security Projections

Many demographic and economic factors such as changes in the size and age structure of the population, economic growth, employment and wage levels and inflation influence Social Security finances. Therefore, to best assess the Fund's long-term sustainability, projections of Montserrat's total population and the economy are required. For this review 30-year projections have been performed.

3.1 Population Projections

A population census conducted in 2023 indicates that Montserrat's population declined from 4,649 in 2018 to 4,396 in 2023. There are no official population projections produced by the Government of Montserrat. Small and gradual changes in the size of Montserrat's population will not materially affect the timing of Social Security Fund depletion if the planned contribution rate changes and benefit provisions are unchanged. Therefore, for this report, an alternate set of population projections of a larger population has been made.

It should be noted that the population projections presented in this report have been prepared for the sole purpose of determining the implications for Social Security finances. In developing the assumptions for each of these scenarios, reasonable future expectations, as well as the interrelationships between the various assumptions, have been taken into account.

3.1.1 Projection Assumptions

Projections of Montserrat's population begin with the total count of the 2023 Census – 4,396. 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 Montserrat and is the most volatile of the three factors.

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. The TFR in recent years is estimated to have fallen to around 1.2.

Using mortality rates from United Nations Life Tables for Latin America, current population estimates and the number of deaths around the last census suggest life expectancy at birth in 2023 of around 73.5 for males and 79.4 for females. Improvements in mortality are assumed to occur in accordance with UN estimates.

The economic assumptions used for this report 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 assumptions. Further details may be found in Appendix B.

Table 3.1. Principal Demographic & Economic Assumptions

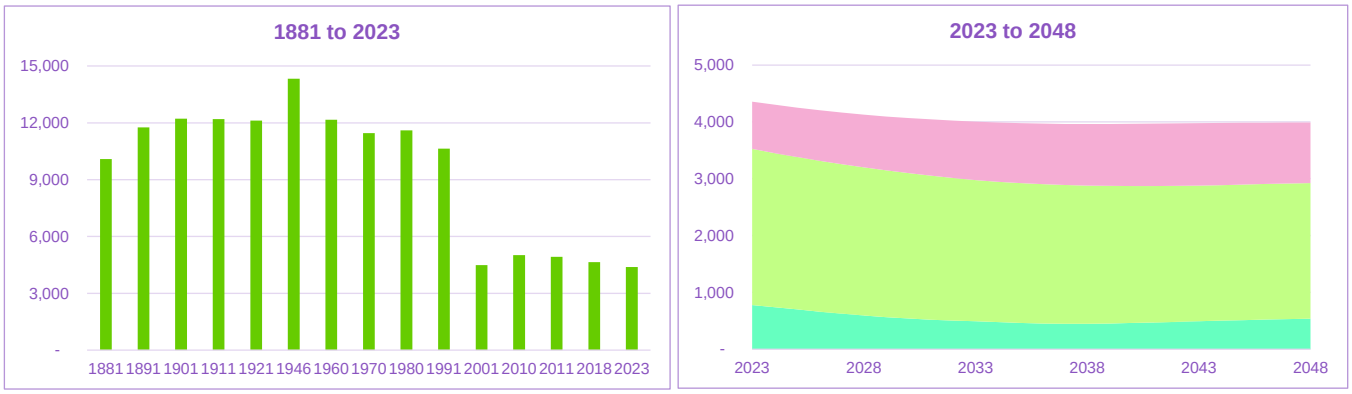
Total Fertility Rate	1.2 in all years
Mortality Improvements^	Slow
Net In-Migration Per Annum	-40 in 2023 decreasing to 0 in 2030, increasing to 30 in 2040 constant thereafter
Real GDP Growth Rates	4.8% in 2024, 3.4% in 2025, 2.0% p.a. from 2026 to 2029, 1.5% p.a. thereafter
Increase in worker Productivity	2.1% up to 2030, 1.05% p.a. from 2030
Inflation	2.0% p.a.

^ UN mortality improvement rates

3.1.2 Projection Results

The two charts in Figure 3.1 illustrate Montserrat's population from 1881 to 2023 and the projected population under the assumptions presented above. From the 2023 Census population of 4,396, Montserrat's population is projected to further decline and settle at around 4,000.

Figure 3.1. Historical & Projected Montserrat Populations



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

While projected future population size is important, the age distribution of the population is more critical for Social Security as pensions to the elderly already represent over 90% of benefit expenditure. In the projections illustrated above, the proportion of the population 65 and older increases from 20% in 2023 to 26% in 2053.

3.2 Social Security Projections

Building on the population and economic projections presented in the previous section, Social Security demographic and financial projections have been modeled under best-estimate assumptions. These projections encompass several Social Security specific assumptions, and the contribution and benefit provisions in place on April 1, 2024. While increases to the contribution ceiling and pensions in payment are not legislated, periodic adjustments have been assumed.

3.2.1 Assumptions

Key Social Security assumptions for the three projection scenarios are shown below:

Table 3.2. Social Security Assumptions

Contribution Rate	13.0% in 2024 increasing to 15% in 2026
Insurable Wage Ceiling increases	To $4,500 p.m. in 2026 and $5,000 p.m. in 2028, then annually by change in average wages
Short-term Benefits	0.45% of IW
Employment Injury Benefits	0.02% of IW
Pension Increases	4% every 3 years starting in 2026
Yield on Assets Available for Benefits	3.0% p.a.
Administrative Expenses	2.75% of IW
Government Subsidy	Two scenarios:– (a) None, except for $1 million in 2024/25 which is already approved (b) $1 million per annum for the full projection period.

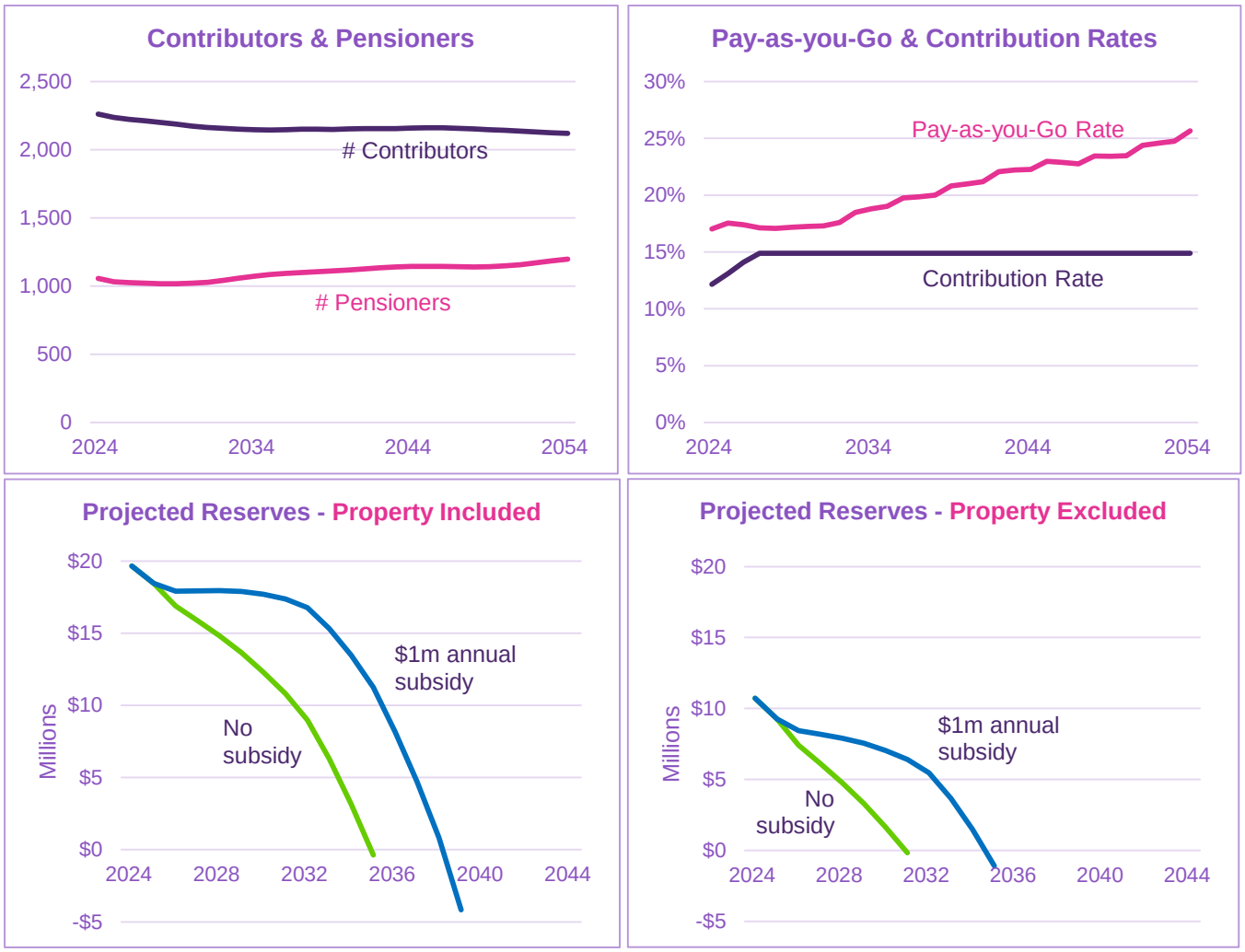
With these assumptions it is being assumed that the level of insurance coverage will improve in the near-term following two ceiling adjustments while income security made possible by pension increases will be enhanced with triennial adjustments.

3.2.2 Projection Results

Unaudited financial statement as of March 31, 2024, place reserves at $19.65 million. However, since the Social Security's Headquarters building is not considered liquid, the March 2024 estimate of assets readily available for benefits is $10.73 million.

The charts in Figure 3.2 highlight the key projection results, assuming that the contribution rate is increased to 15% as scheduled and that there are no further changes to benefit rules. For projected reserves, one scenario assumes no subvention from the Government of Montserrat with another assuming an annual subvention of $1 million.

Figure 3.2. Projection Results – Status Quo Scenario

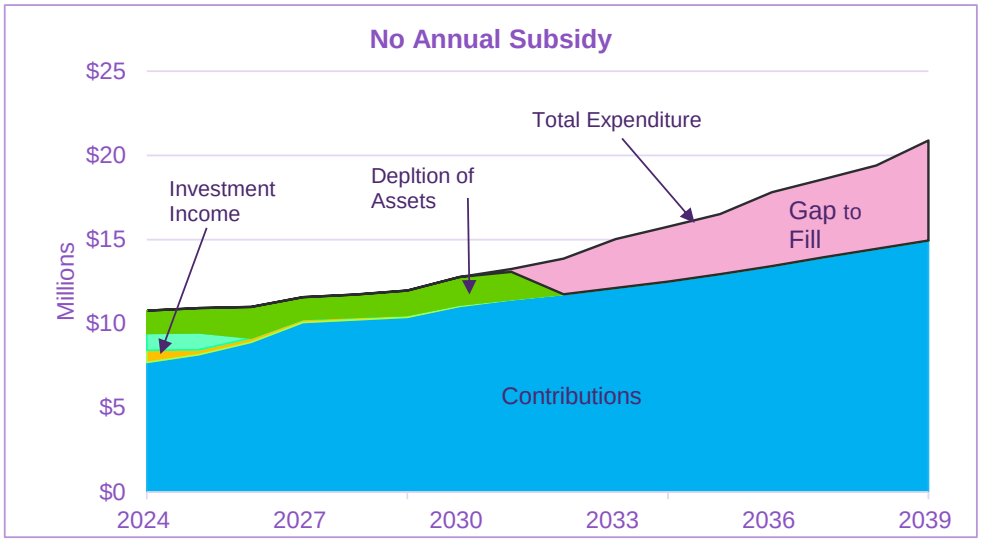


The key results of these projections are summarised as follows:

1. The number of contributors will decline slowly from current levels while the number of pensioners in payment will increase slowly from current levels. (top left chart)
2. Expenditure will exceed contribution income each year, and after the contribution rate reaches 15% in 2026, the gap will widen from just under 3.3% to over 10% of insurable wages in 2054 when expenditure will be just over 25% of insurable wages. (top right chart)
3. Without any Government subvention after the 2024/25 financial year, reserves will be depleted in 2035. However, investments that can be readily converted to cash could be exhausted as soon as 2031. (green lines in bottom charts)
4. With a $1 million annual subvention, the life of reserves could be extended up to 2039 with sufficient liquid assets until 2035. (blue lines in bottom charts)

The following charts illustrate how the sources of financing expenditure will change as annual deficits continue under two scenarios – one with no subvention from Government and another with a $1 million annual subvention. Both charts assume that the Social Security building will not be sold if other assets are liquidated.

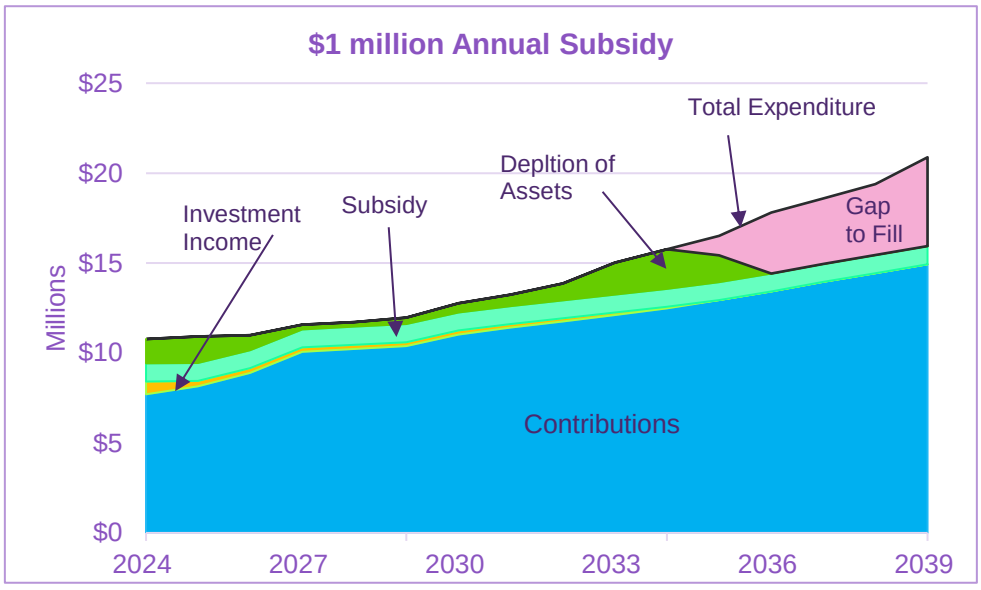
Figure 3.3. Sources of Financing Expenditure, 2024 to 2039 ($'s in millions)



If there is no subsidy from GoM after financial year 2024/25, assets available for benefits would be exhausted in 2032.

The "Gap to Fill" would have to be met from either an increased contribution rate of 2.4% with annual increases or Government subventions, thereafter.

Figure 3.4. Sources of Financing Expenditure, 2024 to 2039 ($'s in millions)



Even with an annual $1 million subvention from GoM deficits are expected to continue leading to a gradual depletion of assets that can be converted to cash in 2036.

The "Gap to Fill" would have to be met from either an increased contribution rate of 4.1% with annual increases or increased Government subventions, thereafter.

Numerical details of the financial projections for the Status Quo scenario are provided in Tables 3.3 to 3.6.

Table 3.3. Projected Income & Expenditure - Best Estimate, No Subvention (millions of $'s)

Year	Inflows				Outflows				Reserves	
	Contribution Income	Investment Income	Other Income	Total	Benefits	Admin. & Other Expenses	Total	Surplus/ (Deficit)	End of Year	# of times current year's expenditure
2022	5.76	0.77	0.00	**6.53**	8.90	1.62	**10.52**	**(3.99)**	**22.10**	2.1
2023	6.74	0.75	1.89	**9.38**	8.62	1.85	**10.46**	**(1.09)**	**21.01**	2.0
2024	7.70	0.72	1.00	**9.42**	9.11	1.68	**10.78**	**(1.36)**	**19.65**	1.8
2025	8.16	0.56	1.00	**9.72**	9.21	1.71	**10.92**	**(1.20)**	**18.45**	1.7
2026	8.90	0.52	0.00	**9.42**	9.25	1.74	**10.99**	**(1.57)**	**16.89**	1.5
2027	10.07	0.48	0.00	**10.55**	9.71	1.86	**11.57**	**(1.02)**	**15.87**	1.4
2028	10.23	0.45	0.00	**10.68**	9.84	1.89	**11.73**	**(1.05)**	**14.82**	1.3
2029	10.38	0.42	0.00	**10.80**	10.05	1.92	**11.97**	**(1.17)**	**13.65**	1.1
2030	11.04	0.38	0.00	**11.42**	10.74	2.04	**12.77**	**(1.35)**	**12.30**	1.0
2031	11.42	0.34	0.00	**11.76**	11.14	2.11	**13.25**	**(1.49)**	**10.81**	0.8
2032	11.75	0.29	0.00	**12.04**	11.70	2.17	**13.87**	**(1.83)**	**8.98**	0.6
2033	12.12	0.23	0.00	**12.34**	12.80	2.24	**15.03**	**(2.69)**	**6.29**	0.4
2034	12.49	0.14	0.00	**12.63**	13.46	2.31	**15.76**	**(3.13)**	**3.16**	0.2
2039	14.94	(0.54)	0.00	**14.40**	18.13	2.76	**20.89**	**(6.48)**	**(21.51)**	(1.0)
2044	17.74	(1.79)	0.00	**15.95**	23.22	3.27	**26.50**	**(10.55)**	**(65.89)**	(2.5)
2049	20.82	(3.74)	0.00	**17.09**	28.87	3.84	**32.72**	**(15.63)**	**(134.33)**	(4.1)
2054	24.23	(6.60)	0.00	**17.63**	37.24	4.47	**41.72**	**(24.08)**	**(235.36)**	(5.6)

Table 3.4. Projected Income & Expenditure - Best Estimate, $1 million pa Subvention (millions of $'s)

Year	Inflows				Outflows				Reserves	
	Contribution Income	Investment Income	Other Income	Total	Benefits	Admin. & Other Expenses	Total	Surplus/ (Deficit)	End of Year	# of times current year's expenditure
2022	5.76	0.77	0.00	**6.53**	8.90	1.62	**10.52**	**(3.99)**	**22.10**	2.1
2023	6.74	0.75	1.89	**9.38**	8.62	1.85	**10.46**	**(1.09)**	**21.01**	2.0
2024	7.70	0.72	1.00	**9.42**	9.11	1.68	**10.78**	**(1.36)**	**19.65**	1.8
2025	8.16	0.56	1.00	**9.72**	9.21	1.71	**10.92**	**(1.20)**	**18.45**	1.7
2026	8.90	0.54	1.00	**10.44**	9.25	1.74	**10.99**	**(0.55)**	**17.90**	1.6
2027	10.07	0.53	1.00	**11.60**	9.71	1.86	**11.57**	**0.02**	**17.93**	1.5
2028	10.23	0.53	1.00	**11.76**	9.84	1.89	**11.73**	**0.03**	**17.95**	1.5
2029	10.38	0.53	1.00	**11.91**	10.05	1.92	**11.97**	**(0.06)**	**17.90**	1.5
2030	11.04	0.53	1.00	**12.56**	10.74	2.04	**12.77**	**(0.21)**	**17.69**	1.4
2031	11.42	0.52	1.00	**12.94**	11.14	2.11	**13.25**	**(0.31)**	**17.38**	1.3
2032	11.75	0.50	1.00	**13.26**	11.70	2.17	**13.87**	**(0.62)**	**16.76**	1.2
2033	12.12	0.47	1.00	**13.59**	12.80	2.24	**15.03**	**(1.44)**	**15.32**	1.0
2034	12.49	0.43	1.00	**13.92**	13.46	2.31	**15.76**	**(1.84)**	**13.47**	0.9
2039	14.94	(0.05)	1.00	**15.89**	18.13	2.76	**20.89**	**(4.99)**	**(4.17)**	(0.2)
2044	17.74	(1.06)	1.00	**17.68**	23.22	3.27	**26.50**	**(8.82)**	**(40.40)**	(1.5)
2049	20.82	(2.73)	1.00	**19.09**	28.87	3.84	**32.72**	**(13.63)**	**(99.39)**	(3.0)
2054	24.23	(5.28)	1.00	**19.96**	37.24	4.47	**41.72**	**(21.76)**	**(189.47)**	(4.5)

Table 3.5. Projected Benefit Expenditure - Best Estimate (millions of $'s)

Year	Pensions & Grants			Short-term Benefits	Employment Injury Benefits	Benefits as a % of Ins. Wages
	Old Age	Invalidity	Survivors			
2022	8.14	0.10	0.33	0.32	0.01	13.9%
2023	7.94	0.08	0.30	0.29	0.01	14.1%
2024	8.46	0.12	0.30	0.22	0.01	14.4%
2025	8.38	0.16	0.37	0.28	0.02	13.8%
2026	8.35	0.19	0.41	0.28	0.02	13.6%
2027	8.70	0.22	0.47	0.30	0.02	13.4%
2028	8.75	0.25	0.51	0.31	0.02	13.3%
2029	8.89	0.28	0.55	0.31	0.02	13.4%
2030	9.48	0.30	0.60	0.33	0.03	13.5%
2031	9.84	0.30	0.63	0.34	0.03	13.5%
2032	10.34	0.32	0.66	0.35	0.03	13.8%
2033	11.33	0.35	0.72	0.37	0.03	14.6%
2034	11.93	0.37	0.75	0.38	0.03	14.9%
2039	16.23	0.42	0.99	0.45	0.04	16.8%
2044	20.96	0.47	1.21	0.54	0.04	18.1%
2049	26.13	0.55	1.51	0.63	0.05	19.2%
2054	34.04	0.58	1.83	0.73	0.06	21.3%

Table 3.6. Projected Contributors & Pensioners at Year-end - Best Estimate

Year	# of Contributors	# of Pensioners				Total # of Pensioners	Ratio of Contributors to Pensioners
		Age	Invalidity	Survivors	Death & Disablement		
2022	2,420	891	10	73	-	**974**	**2.5**
2023	2,346	909	11	84	-	**1,004**	**2.3**
2024	2,302	907	14	87	-	**1,008**	**2.3**
2025	2,237	929	12	89	1	**1,032**	**2.2**
2026	2,223	914	14	95	2	**1,025**	**2.2**
2027	2,211	903	16	101	2	**1,021**	**2.2**
2028	2,200	894	18	105	2	**1,018**	**2.2**
2029	2,188	889	19	107	2	**1,018**	**2.2**
2030	2,173	890	20	109	2	**1,021**	**2.1**
2031	2,163	896	20	110	2	**1,028**	**2.1**
2032	2,156	909	21	111	2	**1,043**	**2.1**
2033	2,151	924	21	112	2	**1,059**	**2.0**
2034	2,147	937	22	112	2	**1,073**	**2.0**
2039	2,149	975	21	112	2	**1,111**	**1.9**
2044	2,158	1,007	22	112	2	**1,144**	**1.9**
2049	2,147	1,006	22	112	2	**1,142**	**1.9**
2054	2,120	1,065	21	109	2	**1,197**	**1.8**

3.3 General Average Premium

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

The general average premium is the average level contribution rate required over the next 30 years to fully cover total expenditure during that period. This rate may be looked at as the average long-term cost of the complete Social Security benefits package. For the Best Estimate projections, the general average premium is 19.4%.

3.4 Comparison with Projections of the 9th Actuarial Review

In the 9th Actuarial Review projections were made under one main scenario with the projected population remaining between 4,600 and 4,700. The projections in this report are for the population to fall to around 4,000. Following is a comparison of the *Best Estimate* projections from the 9th and 10th Reviews.

Table 3.7. Comparison of Projection Results –10th & 9th Actuarial Reviews

	10th Actuarial Review (no subvention)	9th Actuarial Review
Expenditure Exceeds Income	All years	All years
Liquid Reserves Depleted (no subsidy)	2031	2026
All Reserves Depleted	2035	2028
General Average Premium	19.4%	17.8%
Pay-as-you-go rate in 2030	16.9%	15.7%

Several factors contribute to the differences noted above:

- Contribution rate increases and the Government subventions since 2022/23 serve to extend the life of reserves.
- The smaller projected contribution base in this Review, however, results in reduced future insurable wages and thus higher pay-as-you-go rates and general average premiums.
- The elimination of the early age pension in 2022 provided a small offset to future pay-as-you-go costs.

3.5 Sensitivity Analysis

Given the extensive set of assumptions required for projecting SSF finances and the length of the projection period, future experience will certainly differ from that projected under best estimate assumptions. Several Social Security factors such as yield on reserves and contribution collection rates will impact the Fund's cash flows and medium-term outlook. The change in General Average premiums, pay-as-you-go rate and Reserve-Expenditure Ratios in 2034, and the years reserves are projected to be exhausted are shown in the following table. No annual subventions after $1 million in 2024/25 are assumed.

Table 3.8. Sensitivity Tests – SSF Factors

Assumption	Differs from *Best Estimate*	General Average Premium	PAYG Rate in 2034	Reserve-Exp. Ratio in 2034	Reserves Depleted
Best Estimate		19.4%	18.8%	0.2	2035
Yield on Reserves (3.0%)	+1%	19.2%	18.8%	0.3	2036
	-1%	19.6%	18.8%	0.1	2035
Contribution Collections (with no effect on benefits)	+2%	19.4%	18.5%	0.3	2036
	-2%	19.3%	19.1%	0.1	2035
Pension Increases (2.0% p.a. from 2025)	1% below assumed	19.0%	18.5%	0.3	2036
	1% above assumed	19.8%	19.1%	0.1	2035

As shown above, the medium-term outlook for the Fund is not materially affected by these small changes in assumptions.

The following chapter includes an optimistic scenario of a larger population and more Social Security contributors.

Chapter 4 Alternative Scenario

Best Estimate projections up to 2054 presented in the previous chapter provide estimates of future Social Security Fund demographics and finances under best-estimate assumptions. Given the uncertainty in forecasting such a long period, an alternate scenario with the resident population increasing to around 5,000 in 2034 and to around 5,400 in the mid 2040's, has been modelled. In this *Optimistic* scenario, there is a larger economy with more contributors, higher wages and higher investment returns. Following is a summary of the main assumptions for the *Best Estimate* and *Optimistic* projection scenarios. The values for all other assumptions are similar across scenarios.

Table 4.1. Principal Demographic, Economic & Social Security Assumptions

	Best Estimate	Optimistic
Total Fertility Rate (all years)	1.2	1.3
Net (In) Migration Per Annum	-40 in 2023 decreasing to 0 in 2030, increasing to 30 in 2040 constant thereafter	-40 in 2023 decreasing to 0 and then increasing to 130 in 2030, decreasing to 25 in 2040 constant thereafter
Real GDP Growth	4.8% in 2024, 3.4% in 2025, 2.0% p.a. from 2027 to 2029, 1.5% p.a. thereafter	4.8% in 2024, 3.4% in 2025, 5.0% p.a. from 2026 to 2029, 4% from 2030 to 2034, 2.5% from 2035 to 2039, 2.0% p.a. thereafter
Yield on Reserves	3.0%	4.0%

Social Security demographic and financial results of the two projection sets are presented in Figure 4.1. As expected, the outlook for Social Security finances is much better if Montserrat has a larger population and workforce.

Figure 4.1. Projection Results – All Scenarios

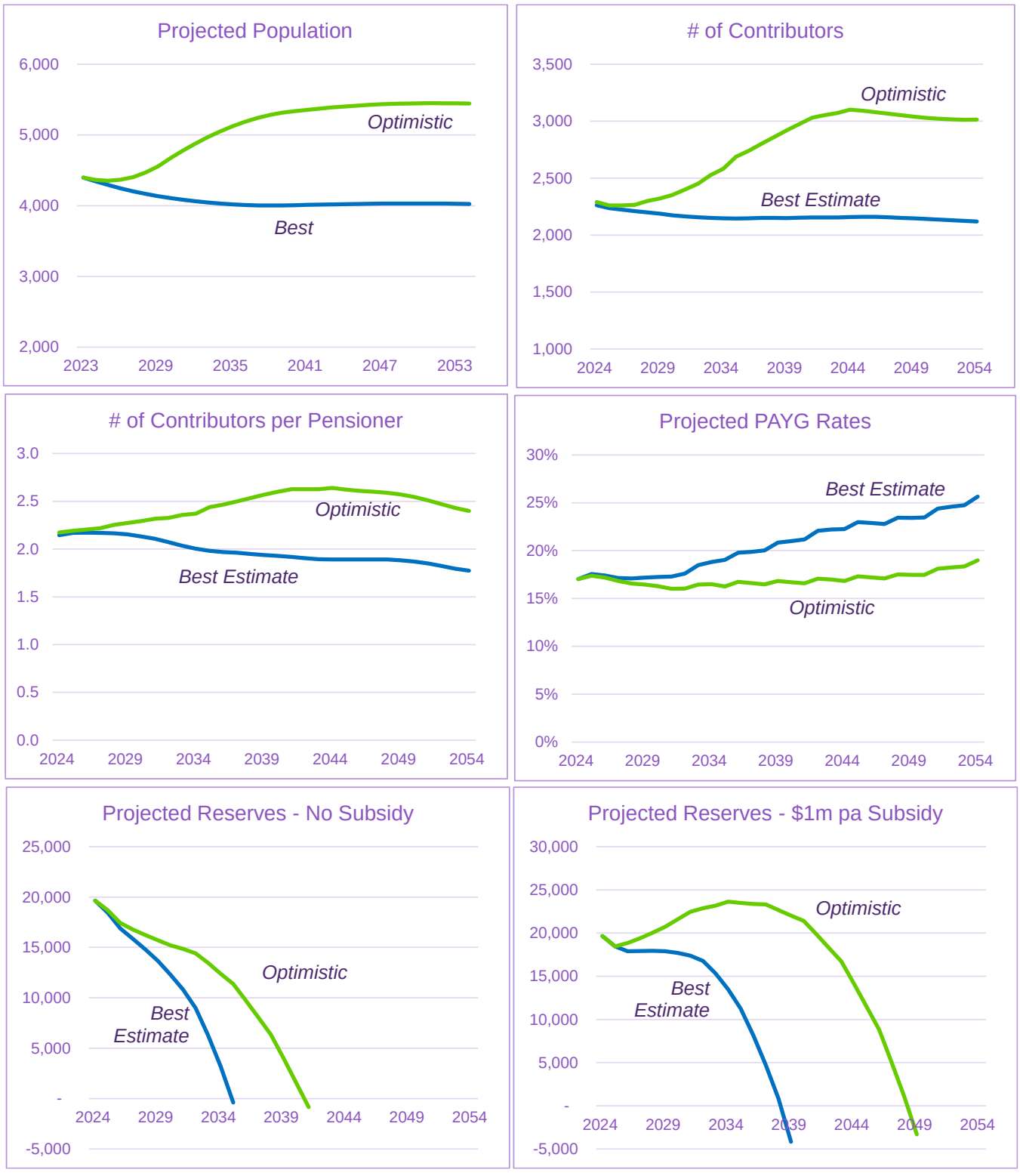


Table 4.2. Summary Results – All Scenarios

	No Subvention		$1m p.a. Subvention	
	Best Estimate	**Optimistic**	**Best Estimate**	**Optimistic**
General Average Premium	19.4%	15.8%	19.4%	15.8%
Expenditure Exceeds Total Income	All years	All years	All years except 2027 & 2028	Except for 2027 to 2035
Liquid Reserves Depleted	2031	2034	2035	2043
All Reserves Depleted	2035	2041	2039	2050
Pay-as-you-go rate in 2034	18.8%	16.5%	18.8%	16.5%
Surplus/(Deficit) in 2034	($3.1m)	($1.1m)	($1.8m)	$0.3m
# of Contributors per pensioner in 2054	1.8	2.4	1.8	2.4

Chapter 5 Balancing Relevance & Sustainability

Significant reforms aimed at enhancing financial sustainability were made in the inter-review period. These included increasing the contribution rate and eliminating the reduced early Age pension. Several other issues that affect the ongoing relevance of Social Security system should also be reviewed and reformed.

5.1 Wage Ceiling Increases

Since inception only three “step-like” adjustments to the wage ceiling have been made. (See Appendix A) The last increase was in 2010. With approximately 24% of workers now earning more than $4,000 per month or $923 per week, the current wage ceiling is very low. Montserrat has the lowest wage ceiling in the OECS. (See Table 2.2)

While most public officers will be entitled to a pension based on their full salary when they retire, highly paid private sector workers without an employer-linked pension, will not have an adequate Social Security pension if the ceiling remains low. However, they will be entitled to the Labour Code’s lump sum “10-year Gratuity” which is based on one’s full salary.

Periodic ceiling adjustments ensure that the Social Security remains relevant to higher income earners. While they also result in an initial increase in contribution income, they could unnecessarily inflate the pensions of higher income workers who are awarded an Age pension soon after the adjustment. Therefore, when any significant ceiling adjustments are made in the future, the method used to determine average insurable wages for pension calculations should be revised so that only a portion of wages above $4,000 per month is included.

The ideal approach to wage ceiling increases to ensure that Social Security retains its relevance for higher paid workers is to adjust it automatically every year, or at most, possibly every two years, by the actual increase in average wages or prices. Such automatic adjustments occur in the BVI, The Bahamas and Barbados and more recently Grenada.

Like the approach taken to schedule contribution rate increases for several years, following are recommended adjustments that would take the wage ceiling to $6,000 per month in 2031.

Table 5.1. Recommended Ceiling Adjustments

Year Changed	Monthly Ceiling
2025	$4,500
2027	$5,000
2029	$5,500
2031	$6,000

Increasing the wage ceiling will have an immediate positive impact on contribution income. It is estimated that if the ceiling is increased to $5,000 per month, total insurable wages and thus contribution income would increase by approximately 7%, and by approximately 10% if the ceiling is increased to $6,000 per month. In the long run, however, higher insurable wages will lead to larger new pensions for those with higher wages. Given that reserves

are projected to be depleted within the next 15 years, the impact of increasing the ceiling as recommended would have a net positive impact within this period.

5.2 Pension Increases

Given the financial challenges faced by the Fund, pensions have not been increased since 2009. Since then, cumulative inflation is estimated at 15%. 13% of new Age pension awards qualified for the minimum pension during the review period.

Ideally, the timing and amount of pension increases are predictable with an objective of offsetting the effect of inflation since the last increase. This can be achieved with a system of automatic adjustments. A pension increase would ordinarily be recommended given that none has occurred in 15 years. However, given that the Fund is still incurring annual deficits and there is no formal funding policy, it is recommended that the Board and Government decide whether an increase should be granted.

If a pension increase is considered, following are several options for such an increase:

(a) Increase the minimum pension rate only – e.g. from $333 to $400 per month;

(b) Increase only those pensions below a certain amount – e.g. below $500 per month;

(c) Increase all pensions – e.g. 10% added to the current amount;

(d) Increase all pensions but the increase will depend on when the pension was awarded. E.g., those awarded prior to 2010 get the full increase, say 15%, but those awarded after 2010 get 1% for each year since the year of award.

(e) Increase only the pensions of those residing in Montserrat using one of the three options presented above.

The effect of a 10% increase to all pensions has been modelled and the results shown below.

Table 5.2. Impact of a 10% Pension Increase in 2025

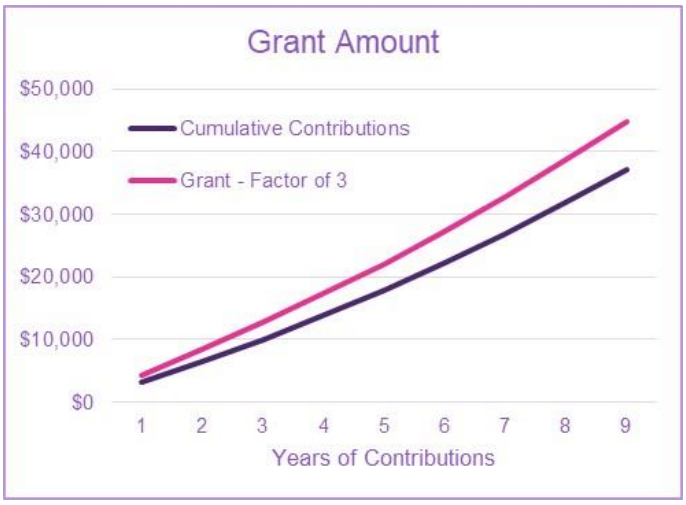
	Best Estimate	10% increase in 2025
General Average Premium	19.4%	19.6%
Deficit in 2025/26	($1.6m)	($2.4m)
Liquid Reserves Depleted	2031	2030
All Reserves Depleted	2035	2034
Pay-as-you-go rate in 2034	18.8%	19.2%
Surplus/(Deficit) in 2034 (no subvention)	($3.1m)	($3.6m)

As show above, the impact of a 10% increase in pensions is material; increase in benefit costs of $0.8 million in the first year, and 0.4% of insurable wages in 2034. While a pension increase will be welcomed by pensioners, there is a need to balance the current needs of pensioners with the abilities of future contributors to afford higher contributions.

5.3 Age Grant

A review of the formula used to calculate Age grants suggests that the grant amount often exceeds the contributions made by and on behalf of the contributor. This is illustrated in the following chart that shows the one-time grant amount payable for contribution periods up to 9 years (or 18 sets of 25 weeks), and the value of accumulated contributions for someone with a starting salary of $3,000 per month, assuming payment is made when employment stops.

Figure 5.1. Age Grant vs Accumulated Contributions



The grant amount is calculated as 3 times the average weekly insurable earnings for each set of 25 weekly contributions paid. If the payment of the grant is many years after employment ceases, the accumulated value of contributions may eventually exceed the grant amount which remains unchanged if there are no additional contributions.

Age Grants averaged $266,000 in 2020/21 to 2023/24, accounting for approximately 3% of total benefit expenditure.

A more appropriate factor for the Age grant is 2. When the accumulated value of actual contributions is compared with the grant amount using a reduced factor of 2, there will likely be a net contribution to the Fund. That is, the amount paid out will be less than the value of accumulated contributions. This difference can be viewed as meeting operating expenses and possible short-term and employment injury benefits that may have been paid during employment years.

An alternative approach to calculating the Age grant would be to refund 80% of accumulated contributions using a reasonable interest rate.

A second change to the Age grant formula is required. Benefit regulation 32(3) defines average insurable weekly earnings as the average of only the last fifty weekly contributions made. This is different from the 7-year and 3-year average used for Age and Invalidity pension, respectively. Using only the last 52 weeks unnecessarily exposes the Fund as persons who know they will not qualify for a pension can simply pay contributions at a high earnings level for 1 year prior to age 65. It is therefore recommended that the average of all insurable wages on which contributions were made be used for Age grant calculations.

The savings that will emerge from these two changes will depend on the number of grant awards in the next few years. Average Age grant payments in the last 3 years and 6 years have been $313,000 and $202,000, respectively. If the factor is reduced from 3 to 2, and wages are averaged over a longer period, the reduction in Age grant is estimated at between $75,000 and $100,000 per annum.

5.4 Contributions Required for Age Pension

Most of the reforms to the original Age pension have been made:- increased pensionable age, elimination of the early Age pension, lower accrual rates and longer averaging period for insurable wages. The one other change that could be considered as a means of reducing long-term pension costs is an increase to the number of weekly contributions required from 500 (10 years) to 750 (15 years). This change is being phased in by several other Caribbean countries and serves to reduce the number of persons who qualify for a lifetime pension.

5.5 Maternity & Funeral Grants

Funeral and Maternity grant amounts have not been increased since 2010. Cumulative inflation from 2010 to 2023 was 15%.

The cost of a basic funeral in Montserrat is estimated at around $8,000. Therefore, the $3,000 grant covers less than 50% of basic funeral costs. There is no specific, best-practice target replacement ratio for funeral grants. Therefore, the SSB should decide what portion of basic funeral cost it wishes the grant to cover and adjust the grant amount accordingly. It should be noted that if the SSB makes a significant increase in the Funeral grant amount, funeral homes may immediately increase their charges for funerals by a similar amount.

The Maternity grant is currently $600. There is also no specific set of guidelines for the ideal level of maternity grant amount. Therefore, the Board should consider establishing specific objectives for each grant.

Given that there are currently no specific guidelines for grant amounts, following are recommended increases for the Maternity and Funeral grants.

Table 5.3. Recommended Grant Adjustments

Grant	Maternity	Funeral
Current	$600	$3,000
Recommended	$800	$5,000

Using experience for the three-year review period, the extra costs for the increases recommended above would be around $103,000 per year.

5.6 Investment Policy

A sound governance framework is paramount for the effective and proper investment of social security funds and investment policy statements are designed to guide decision making. The SSB has an “Investment Policy Statement” which was last updated in 2013. This document explicitly covers the area of governance and maps out the operational and oversight responsibilities and duties of all fiduciaries including the Board and the Investment Committee. Much has changed in the Fund’s outlook and investment mix since 2013 and so a full review of the Policy is recommended.

Even if annual Government subventions continue, the Fund is projected to still incur annual deficits. Therefore, investments should be managed in a prudent manner, focusing primarily on safety and liquidity, targeting moderate rates of return as opposed to higher returns from riskier investments.

One-third of the Fund's investments is the portion of the Social Security Headquarters building that is leased to Government. It is important therefore, that the rental rates charged are in line with the rates that Government pays to private sector landlords.

5.7 Board Size & Composition

The First Schedule to the Act sets out the constitution of the nine-member Board as follows:

(a) Three representing the Government of Montserrat,
(b) Two representing employers,
(c) Two representing employed persons, and
(d) Two other professionals not employed by the government "but not limited to persons with experience in Finance Accounting, Law or Investment."

Maintaining a full complement of Board members has been a challenge for serval years. With Montserrat's small population and relatively small Fund, a 9-member board is considered large. Across the OECS board sizes range from five in Dominica, seven in Anguilla, Antigua-Barbuda, Grenada and St. Lucia, to nine in St. Vincent & the Grenadines and between six and twelve in St. Kitts-Nevis. In some territories, the Director is a Board Member. For Montserrat, five to seven members is considered acceptable. Further, all members need not be ordinarily resident in Montserrat.

In addition to the experience in finance accounting, law or investments listed above, the Board in aggregate, should have members with management skills, governance skills and specialized skills appropriate to social security.

While tripartite representation is still appropriate, it is recommended that the selection and appointment of Board members consider a combination of objective qualifications and experience specific to Social Security related mandates as follows:

(a) Two representing the Government of Montserrat,
(b) One representing employers,
(c) One representing employed persons, and
(d) Two or maximum three other professionals not employed by the government but who have experience in finance, governance, accounting, law or investments.

Board Members are expected to exercise due care and skill in the performance of their duties. They are expected to ask questions and participate in discussions at meetings, and to contribute relevant insights and experience. This can only be achieved when Board Members have the requisite and up-to-date information. Proper orientation upon initial appointment and ongoing exposure to governance, financial and social security matters are therefore critical.

Statement of Actuarial Opinion

It is our opinion that for this report of the 10th Actuarial Review of the Social Security Fund:

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

This report has been prepared in accordance with the Caribbean Actuarial Association Actuarial Practice Standard #3 for Social Security Programs with one exception:- the projection period used is 30 years instead of 50 years. Given the significant uncertainty in Montserrat's outlook 30 years is considered adequate for the purpose of policymakers being able to make prudent Social Security-related decisions.

TELUS Health

Derek Osborne, FSA
Partner

Simone Balkissoon, FIA
Principal

September 30, 2024

References

2018 and 2023 Population Census results

Various reports and publications by the Statistics Department Montserrat and Eastern Caribbean Central Bank

8th Actuarial Review of the Social Security Fund

Montserrat Social Security Act & Regulations

Montserrat Social Security Fund Financial Statements

Statement of Investment Policies and Procedures for the Montserrat Social Security Fund

Appendix A Summary of Contribution & Benefit Provisions

A.1 Benefits, Insured Persons & Contribution Rates

Montserrat Social Security provides for the following benefits:

a. **Long-term benefits**: Age, Invalidity, Survivors' and Widows' Benefits.

b. **Short-term benefits**: Sickness Benefit, Maternity Benefit & Grant, Funeral Grant.

c. **Employment Injury Benefits**: Injury Benefit, Disablement Benefit, Constant Attendant Allowance, Death Benefit and Funeral Grant.

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

- Employed persons aged 16 to 65: All contingencies.
- Self-employed persons: All contingencies.
- Employed persons over 65: Employment injury benefits only.

Earnings used for determining contributions and benefits are limited to $923 per week or $4,000 per month. Earnings include basic salary and all other remuneration in cash or kind such as overtime, allowances, bonuses, service charges etc.

The monthly ceiling on insurable wages has increased since 1986 as follows:

Period	Wage Ceiling
1986 – 1995	$1,300
1995 – 2004	$2,600
2004 - 2009	$3,510
2010 – present	$4,000

Contributions are computed as a percentage of insurable earnings. The contribution rate for employed persons is increasing to 15% as shown in the following table.

	Employer	Employees	Total	Self-Employed Persons
2004 to March 2002	5%	4%	9%	8%
April 2022 – December 2022	6%	5%	11%	9%
January 2023 – December 2023	6½%	5½%	12%	10%
January 2024 – December 2024	7%	6%	13%	11%
January 2025 – December 2025	7½%	6½%	14%	11½%
January 2026 onwards	8%	7%	15%	12%

A.2 Summary of Benefits Provisions

A.2.1. LONG-TERM BENEFITS

(a) AGE PENSION

Contribution Requirement: 500 paid or credited weekly contributions.

Age Requirement: Pensionable Age is 65. The pension is not dependent on retirement from the workforce.

Amount of Benefit: 20% of average insurable earnings over the best seven years in the last fifteen, plus 0.65% for every 25 weeks paid or credited in excess of the first 500.

Maximum Pension: 55% of average earnings over the best seven years in the last fifteen.

Minimum Pension: $76.91 per week. The minimum pension also applies to Invalidity and Disablement benefits.

(b) AGE GRANT

Contribution Requirement: 50 paid or credited weekly contributions.

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

Amount Of Benefit: 3 times average weekly insurable earnings for each 25 weekly contributions paid or credited. This amount is paid as a lump sum.

(c) INVALIDITY PENSION

Contribution Requirement: 150 paid weekly contributions.

Eligibility: The applicant is:

(i) Less than pensionable age,

(ii) Medically declared an invalid, other than as a result of an employment injury.

Amount Of Benefit: Calculated in the same manner as for Age benefit. Special weekly contributions of 25 per year are credited for each full year that the applicant was under 65 when he became an invalid.

Duration Of Pension: Payable as long as invalidity continues.

(d) INVALIDITY GRANT

Contribution Requirement: 50 paid or credited weekly contributions.

Eligibility: Other than for the contribution requirement, the applicant must be eligible for Invalidity Benefit.

Amount Of Benefit: 3 times average weekly insurable earnings for each 25 weekly contributions paid or credited. This amount is paid as a lump sum.

(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 benefit.

Eligibility: Widow or widower married for at least three years (includes common-law spouse), child(ren) under 15, 18 if in full-time education or invalid and parents.

Amount Of Benefit: The proportion of the Age or Invalidity pension paid or payable shown below:

Widow or widower: 50%;

Child: 25%;

Orphan: 50%;

Maximum benefit: 100%.

Minimum pensions: $10.00 per week

Duration Of Benefit:

- Widow or widower aged 50 or over at time of death or disabled: life pension or until the beneficiary is entitled to a larger Age pension in his/her own right. The pension will cease upon remarriage or cohabitation.
- For a widow or widower under age 50 with no children and not disabled, or not married for at least 3 years: one year.
- For a widow or widower with eligible children: until the last child becomes ineligible. If at that time he/she is 50 or over, pension is payable for life.
- For children, up to age 15, or 18 if in full-time education. If invalid, for as long as invalidity continues.

(f) SURVIVORS' GRANT

Contribution Requirement: 50 contributions paid or credited by the deceased insured person.

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

Amount Of Benefit: The proportion of the Age or Invalidity Grant paid or payable shown below:

Widow or widower: 50%

Child: 33 1/3%

Orphan: 66 2/3%

A.2.2. SHORT-TERM BENEFITS

(a) SICKNESS BENEFIT

Contribution Requirements: 26 paid contribution weeks with at least 8 weeks in the last 13 weeks. The insured must be under pensionable age and be off from work.

Waiting Period: 3 days. Two periods of illness separated by less than eight weeks are treated as one.

Amount Of Benefit: 60 per cent of average weekly insurable earnings during the last 13 weeks prior to the illness. The daily rate is the weekly rate divided by 5.
Duration Of Benefit: Maximum of 26 weeks.

(b) MATERNITY ALLOWANCE

Contribution Requirement: Insured for 30 weeks with at least 20 paid contributions in the last 30 weeks immediately preceding the week that is 6 weeks before the expected week of confinement or the week from which benefit began, if later.

Amount Of Benefit: 60% of average weekly insurable earnings during the last 30 weeks. The daily rate is the weekly rate divided by 5.

Duration Of Benefit: 12 weeks, starting no earlier than 6 weeks before the expected date of confinement and ending no later than 6 weeks after the week in which confinement occurred.

(c) MATERNITY GRANT

Contribution Requirement: 26 paid or credited weekly contributions in the 52 weeks prior to confinement by either the mother or her husband. Either spouse would also qualify if they were an Age or Invalidity pensioner. Only one grant is payable where both qualify.

Amount of Grant: The Maternity Grant has increased on an ad-hoc basis as follows:

Period	Grant
1986 – 1996	$200
1996 - 2009	$400
2010 – present	$600

(d) FUNERAL GRANT

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

Amount Of Grant: $3,000 for the insured, $1,500 for a spouse or an Age or Invalidity pensioner. The amount for a dependant child is $1,500 if over 9 years old, $1,125 if 9 or less. The funeral grant for the insured has been increased on an ad-hoc basis as follows:

Period	Grant
1986 – 1996	$300
1996 - 2009	$2,000
2010 – present	$3,000

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 as a result of employment, where loss of faculty is less than 10%. There are no qualifying contribution requirements for Employment Injury benefits.

Amount Of Benefit: 75% of average insurable earnings in the last 13 weeks before the accident or disease occurred (or shorter period if applicable.)

Duration Of Benefit: 26 weeks.

Waiting Period: 3 days.

(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: 3 days.

Amount Of Benefit: The payment of a pension or a grant is based on the percentage loss of faculty suffered.

- If degree of disablement is less than 20%, a grant equal to 220 times average weekly insurable earnings times the degree of disablement is paid.
- If degree of disablement is 20% or more, a weekly benefit of the injury benefit amount times the degree of disablement is paid.

Constant Attendance Allowance: $50 per week if a 100% Disablement pensioner requires the constant attendance of another person.

(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. In the case of remarriage, a lump sum of 1 year's payment is paid.
Where an insured person dies as a result of a personal injury caused by accident, a sum of $30,000 shall be paid to his estate.

(d) MEDICAL EXPENSES

Expenses Covered: Reasonable expenses for doctor's fees, medication, hospitalisation, travelling and other specified costs incurred as a result of an employment injury or prescribed disease. For overseas care there is a $45,000 limit but the Board could grant approval for payments beyond this amount.

A.2.4. CARICOM Agreement on Social Security

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

Appendix B Methodology, Data & Assumptions

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

The actuarial valuation begins with a projection of Montserrat's future demographic and economic environment. Next, projection factors specifically related to Social Security are determined and used in combination with the demographic/economic framework to estimate future cash flows and reserves. Assumption selection considers 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 two assumption sets for which the demographic and economic assumptions vary.

B.1 Modelling the Demographic & Economic Developments

Montserrat's population has been projected beginning with totals obtained from the results of the 2023 national census and by applying appropriate mortality, fertility, and migration assumptions.

The total fertility rate is assumed to remain at 1.2 and 1.3 throughout the projection period for the *Best Estimate* and *Optimistic* scenarios, respectively. Table B.1 shows the age-specific fertility rates.

Table B.1. Age-Specific Fertility Rates

Age Group	Best Estimate	Optimistic
15 - 19	0.016	0.017
20 - 24	0.041	0.044
25 - 29	0.065	0.070
30 - 34	0.060	0.065
35 - 39	0.051	0.055
40 - 44	0.010	0.011
Total Fertility Rate	1.20	1.30

Mortality rates have been determined using the United Nations mortality pattern for Latin America for life expectancies that provide total deaths consistent with recent experience. Life expectancy at birth in 2023 has been assumed at 73.5 and 79.4 for males and females, respectively.

Improvements in life expectancy have been assumed to follow the “slow” rate as established by the United Nations. Sample mortality rates and life expectancies at birth and age 65 for sample years are provided in Table B.2.

Table B.2. Sample Mortality Rates & Life Expectancies

Age	Males			Females		
	2023	2038	2053	2023	2038	2053
0	0.0283	0.0227	0.0188	0.0200	0.0165	0.0135
5	0.0007	0.0005	0.0004	0.0005	0.0004	0.0003
15	0.0004	0.0003	0.0003	0.0002	0.0002	0.0001
25	0.0009	0.0007	0.0006	0.0004	0.0003	0.0003
35	0.0013	0.0010	0.0008	0.0007	0.0006	0.0005
45	0.0027	0.0022	0.0018	0.0016	0.0013	0.0011
55	0.0068	0.0057	0.0048	0.0035	0.0029	0.0024
65	0.0173	0.0148	0.0127	0.0096	0.0082	0.0068
75	0.0429	0.0376	0.0333	0.0267	0.0232	0.0199
85	0.1097	0.0997	0.0907	0.0762	0.0679	0.0601
95	0.2526	0.2372	0.2222	0.1808	0.1661	0.1515
Life Expectancy at:						
Birth	73.5	75.0	75.9	79.4	80.5	81.3
Age 65	16.6	17.2	17.6	19.9	20.5	21.0

Net migration (in minus out) for each scenario is shown in Table B.3 below.

Table B.3. Net Migration

Age	2023		2038		2053	
	Best Estimate	Optimistic	Best Estimate	Optimistic	Best Estimate	Optimistic
0 - 9	(3)	(3)	2	4	2	2
10 - 19	(3)	(3)	2	4	2	2
20 - 29	(19)	(19)	11	21	14	12
30 - 39	(11)	(11)	6	12	8	7
40 - 49	(3)	(3)	2	4	2	2
50 - 59	(1)	(1)	0	1	1	1
60 - 69	(0)	(0)	0	0	0	0
70+	(0)	(0)	0	0	0	0
All Ages	(40)	(40)	24	46	30	25

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. Between 2023 and 2050, age-specific labour force participation rates are assumed to remain constant at younger ages and increase at advanced ages. Table B.4 below shows the assumed age-specific labour force participation rates in 2023 and 2050. Between these two years, rates are assumed to change linearly.

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

Age	Males			Females		
	2023	2038	2053	2023	2038	2053
17	44%	44%	44%	16%	16%	16%
22	92%	93%	93%	81%	81%	81%
27	94%	95%	95%	89%	89%	89%
32	96%	96%	96%	94%	94%	94%
37	96%	97%	97%	94%	94%	94%
42	96%	97%	97%	93%	93%	93%
47	95%	96%	96%	90%	90%	90%
52	95%	96%	96%	90%	90%	90%
57	93%	93%	93%	83%	90%	90%
62	51%	51%	51%	59%	75%	75%
67	42%	42%	42%	40%	43%	43%

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 increase in labour productivity as it is expected that wages will adjust to efficiency levels over time. The inflation assumption affects nominal average wage increases. Actual projection assumptions may be found in Table 3.1.

B.2 Projection of Social Security Income & Expenditure

This actuarial review addresses all Montserrat Social Security revenue and expenditure items. For Short-term and Employment Injury benefits, income and expenditure are projected as a percentage of insurable earnings. For the Long-term and Employment Injury Benefit Branches, projections of pensions are performed following a year-by-year cohort methodology. For each year up to 2054, the number of contributors and pensioners, and the dollar value of contributions, benefits, and administrative expenditure, are 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 earnings, 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 plan experience and applied to the population entitled to benefits. Investment income is based on the assumed yield on the beginning-of-year reserve and net cash flow in the year. Social Security's administrative expenses are modelled as a percentage of insurable earnings. Finally, the end-of-year reserve is the beginning-of-year reserve plus the net result of cash inflow and outflow.

B.3 Social Security Population Data and Assumptions

The data required for the valuation of the Social Security Fund is extensive. As of March 31st, 2024, 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, contribution density and collection of contributions, are determined with reference to the application of the scheme's provisions and historical experience.

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

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

Table B.5. 2024 Active Insured Population, Earnings & Past Credits

Age	# of Active Insureds		Average Weekly Insurable Earnings		Average # of Years of Past Contributions	
	Male	Female	Male	Female	Male	Female
15 - 19	45	50	$454	$417	0.9	1.0
20 - 24	107	103	$558	$521	3.8	4.3
25 - 29	115	124	$655	$575	7.3	8.4
30 - 34	120	136	$638	$615	10.9	12.7
35 - 39	132	156	$703	$627	14.5	17.2
40 - 44	99	137	$690	$676	18.1	21.7
45 - 49	95	136	$740	$667	21.7	26.4
50 - 54	104	137	$768	$705	22.9	28.5
55 - 59	121	143	$736	$674	23.3	29.4
60 - 64	63	79	$706	$593	23.3	30.0
65+	40	60	$715	$587	21.7	28.3
All Ages	1,041	1,261	$678	$623	14.5	18.4

Table B.6. Pensions in Payment – March 2024

Age	Age Benefit		Invalidity Benefit		Survivors Benefits	
	Male	Female	Male	Female	Male	Female
0 - 4	-	-	-	-	-	1
5 - 9	-	-	-	-	3	2
10 - 14	-	-	-	-	7	6
15 - 19	-	-	-	-	6	7
20 - 24	-	-	-	-	-	-
25 - 29	-	-	-	-	-	-
30 - 34	-	-	-	-	-	1
35 - 39	-	-	-	-	-	-
40 - 44	-	-	-	-	-	3
45 - 49	-	-	1	-	2	1
50 - 54	-	-	2	1	-	1
55 - 59	-	-	2	2	2	4
60 - 64	51	65	-	1	2	6
65 - 69	112	143	2	3	2	10
70 - 74	99	120	-	-	3	3
75 - 79	71	101	-	-	2	6
80 - 84	41	43	-	-	2	4
85 - 89	13	34	-	-	-	1
90 - 94	4	10	-	-	-	-
95 - 99	-	-	-	-	-	-
100+	-	-	-	-	-	-
# of Pensioners	391	516	7	7	31	56
Avg Monthly Pension	$791	$655	$1,020	$847	$293	$344

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

Table B.7. Density of Contributions

Age	Males	Females
17	56%	56%
22	81%	77%
27	86%	88%
32	85%	89%
37	85%	89%
42	85%	90%
47	85%	90%
52	87%	94%
57	85%	90%
62	80%	88%

The following table shows the expected incidence rates of insured persons (per 1,000 persons) qualifying for Invalidity benefit which is assumed for all projection years.

Table B.8. Rates of Entry into Invalidity (x 1,000)

Age	Males	Females
17	-	-
22	0.191	-
27	0.345	0.112
32	0.236	0.397
37	0.367	0.403
42	0.274	0.975
47	1.055	1.359
52	1.704	2.288
57	2.890	4.417
62	4.075	6.547

Table B.9 shows the assumed probability of a deceased increased having a spouse and/or children eligible to a Survivor benefit claim.

Table B.9. 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	-	-	-	-
22	0.01	0.0	0.02	0.02
27	0.05	0.1	0.08	0.08
32	0.12	0.5	0.10	0.10
37	0.23	0.9	0.07	0.07
42	0.28	1.4	0.06	0.06
47	0.26	1.3	0.06	0.06
52	0.29	0.8	0.10	0.10
57	0.40	0.5	0.17	0.17
62	0.43	0.6	0.20	0.20
67	0.34	0.2	0.16	0.16
72	0.24	0.2	0.13	0.13
77	0.13	0.2	0.09	0.09
82	0.05	0.1	0.06	0.06
87	0.03	0.0	0.06	0.06

Appendix C Projection Results

Table C.1. Population Projection

Year	All Ages	0-15		16-64		65+		Age Depend. Ratio
2023	4,396	759	17.3%	2,762	62.8%	875	19.9%	0.32
Status Quo								
2028	4,162	605	14.5%	2,630	63.2%	927	22.3%	0.35
2033	4,044	506	12.5%	2,509	62.0%	1,029	25.4%	0.41
2038	4,002	458	11.5%	2,460	61.5%	1,084	27.1%	0.44
2043	4,019	499	12.4%	2,420	60.2%	1,100	27.4%	0.45
2048	4,032	542	13.4%	2,420	60.0%	1,070	26.5%	0.44
2053	4,030	553	13.7%	2,415	59.9%	1,062	26.3%	0.44
Optimistic								
2028	4,467	644	14.4%	2,895	64.8%	927	20.8%	0.32
2033	4,969	665	13.4%	3,272	65.8%	1,032	20.8%	0.32
2038	5,283	744	14.1%	3,447	65.2%	1,092	20.7%	0.32
2043	5,389	848	15.7%	3,426	63.6%	1,115	20.7%	0.33
2048	5,440	873	16.0%	3,468	63.8%	1,099	20.2%	0.32
2053	5,446	810	14.9%	3,518	64.6%	1,119	20.5%	0.32

Table C.2. Projected Income & Expenditure – Optimistic, No Subvention (millions of $'s)

Year	Inflows				Outflows			Surplus/ (Deficit)	Reserves	
	Contribution Income	Investment Income	Other Income	Total	Benefits	Admin. & Other Expenses	Total		End of Year	# of times current year's expenditure
2022	5.76	0.77	0.00	**6.53**	8.90	1.62	**10.52**	**(3.99)**	**22.10**	2.1
2023	6.74	0.75	1.89	**9.38**	8.62	1.85	**10.46**	**(1.09)**	**21.01**	2.0
2024	7.70	0.72	1.00	**9.42**	9.11	1.68	**10.78**	**(1.36)**	**19.65**	1.8
2025	8.26	0.75	1.00	**10.01**	9.22	1.73	**10.96**	**(0.95)**	**18.71**	1.7
2026	9.06	0.71	0.00	**9.77**	9.28	1.77	**11.04**	**(1.27)**	**17.44**	1.6
2027	10.33	0.67	0.00	**11.00**	9.75	1.91	**11.66**	**(0.66)**	**16.77**	1.4
2028	10.69	0.65	0.00	**11.34**	9.91	1.97	**11.88**	**(0.54)**	**16.23**	1.4
2029	11.03	0.63	0.00	**11.66**	10.15	2.04	**12.18**	**(0.53)**	**15.71**	1.3
2030	11.98	0.61	0.00	**12.59**	10.88	2.21	**13.09**	**(0.50)**	**15.21**	1.2
2031	12.73	0.59	0.00	**13.31**	11.33	2.35	**13.68**	**(0.36)**	**14.84**	1.1
2032	13.41	0.57	0.00	**13.98**	11.95	2.47	**14.42**	**(0.44)**	**14.40**	1.0
2033	14.26	0.55	0.00	**14.80**	13.11	2.63	**15.74**	**(0.93)**	**13.47**	0.9
2034	14.99	0.51	0.00	**15.49**	13.82	2.77	**16.59**	**(1.09)**	**12.38**	0.7
2039	19.82	0.20	0.00	**20.03**	18.72	3.66	**22.38**	**(2.36)**	**4.00**	0.2
2044	25.14	(0.38)	0.00	**24.76**	23.74	4.64	**28.38**	**(3.62)**	**(11.49)**	(0.4)
2049	29.78	(1.39)	0.00	**28.38**	29.39	5.50	**34.89**	**(6.50)**	**(38.82)**	(1.1)
2054	35.19	(3.19)	0.00	**32.00**	38.35	6.49	**44.85**	**(12.85)**	**(87.70)**	(2.0)

Table C.3. Projected Income & Expenditure – Optimistic, $1 million pa Subvention (millions of $'s)

Year	Inflows				Outflows				Reserves	
	Contribution Income	Investment Income	Other Income	Total	Benefits	Admin. & Other Expenses	Total	Surplus/ (Deficit)	End of Year	# of times current year's expenditure
2022	5.76	0.77	0.00	**6.53**	8.90	1.62	**10.52**	**(3.99)**	**22.10**	2.1
2023	6.74	0.75	1.89	**9.38**	8.62	1.85	**10.46**	**(1.09)**	**21.01**	2.0
2024	7.70	0.72	1.00	**9.42**	9.11	1.68	**10.78**	**(1.36)**	**19.65**	1.8
2025	8.26	0.75	1.00	**10.01**	9.22	1.73	**10.96**	**(0.95)**	**18.71**	1.7
2026	9.06	0.73	1.00	**10.79**	9.28	1.77	**11.04**	**(0.25)**	**18.46**	1.7
2027	10.33	0.73	1.00	**12.06**	9.75	1.91	**11.66**	**0.40**	**18.86**	1.6
2028	10.69	0.75	1.00	**12.44**	9.91	1.97	**11.88**	**0.56**	**19.42**	1.6
2029	11.03	0.77	1.00	**12.80**	10.15	2.04	**12.18**	**0.62**	**20.04**	1.6
2030	11.98	0.80	1.00	**13.78**	10.88	2.21	**13.09**	**0.69**	**20.73**	1.6
2031	12.73	0.83	1.00	**14.56**	11.33	2.35	**13.68**	**0.88**	**21.61**	1.6
2032	13.41	0.86	1.00	**15.27**	11.95	2.47	**14.42**	**0.85**	**22.46**	1.6
2033	14.26	0.89	1.00	**16.15**	13.11	2.63	**15.74**	**0.41**	**22.87**	1.5
2034	14.99	0.90	1.00	**16.89**	13.82	2.77	**16.59**	**0.30**	**23.17**	1.4
2039	19.82	0.90	1.00	**21.72**	18.72	3.66	**22.38**	**(0.66)**	**22.65**	1.0
2044	25.14	0.69	1.00	**26.83**	23.74	4.64	**28.38**	**(1.55)**	**16.72**	0.6
2049	29.78	0.12	1.00	**30.90**	29.39	5.50	**34.89**	**(3.99)**	**1.04**	0.0
2054	35.19	(1.13)	1.00	**35.06**	38.35	6.49	**44.85**	**(9.79)**	**(33.69)**	(0.8)

Table C.4. Projected Benefit Expenditure – Optimistic (millions of $'s)

Year	Pensions & Grants			Short-term Benefits	Employment Injury Benefits	Benefits as a % of Ins. Wages
	Old Age	Invalidity	Survivors			
2022	8.14	0.10	0.33	0.32	0.01	13.9%
2023	7.94	0.08	0.30	0.29	0.01	14.1%
2024	8.46	0.12	0.30	0.22	0.01	14.4%
2025	8.39	0.16	0.37	0.28	0.02	13.6%
2026	8.36	0.20	0.41	0.29	0.02	13.4%
2027	8.72	0.22	0.47	0.31	0.02	13.1%
2028	8.80	0.25	0.51	0.32	0.02	12.8%
2029	8.96	0.28	0.55	0.33	0.02	12.7%
2030	9.58	0.30	0.61	0.36	0.03	12.6%
2031	9.97	0.31	0.64	0.38	0.03	12.3%
2032	10.52	0.32	0.67	0.40	0.03	12.3%
2033	11.57	0.35	0.73	0.43	0.03	12.7%
2034	12.21	0.36	0.76	0.45	0.03	12.8%
2039	16.65	0.42	1.01	0.60	0.04	13.1%
2044	21.18	0.50	1.25	0.76	0.06	13.1%
2049	26.19	0.65	1.59	0.90	0.07	13.7%
2054	34.45	0.80	1.96	1.06	0.08	15.1%

Table C.5. Projected Contributors & Pensioners at Year-end – Optimistic

Year	# of Contributors	# of Pensioners				Total # of Pensioners	Ratio of Contributors to Pensioners
		Age	Invalidity	Survivors	Death & Disablement		
2022	2,420	891	10	73	-	**974**	**2.5**
2023	2,346	909	11	84	-	**1,004**	**2.3**
2024	2,302	907	14	87	-	**1,008**	**2.3**
2025	2,260	930	12	89	1.5	**1,033**	**2.2**
2026	2,260	915	15	96	1.6	**1,027**	**2.2**
2027	2,267	905	16	101	1.7	**1,024**	**2.2**
2028	2,299	897	18	105	1.9	**1,022**	**2.2**
2029	2,322	894	20	108	2.0	**1,023**	**2.3**
2030	2,354	896	20	110	2.1	**1,029**	**2.3**
2031	2,402	905	20	111	2.1	**1,038**	**2.3**
2032	2,450	921	21	111	2.2	**1,055**	**2.3**
2033	2,527	939	21	113	2.2	**1,074**	**2.4**
2034	2,582	954	22	113	2.3	**1,091**	**2.4**
2039	2,919	998	22	116	2.4	**1,138**	**2.6**
2044	3,101	1,031	25	120	2.6	**1,178**	**2.6**
2049	3,039	1,030	29	123	2.8	**1,185**	**2.6**
2054	3,013	1,100	32	124	2.9	**1,259**	**2.4**

Appendix D Income, Expenditure & Reserves, 2022 – 2024

(Expressed in Thousands of $'s)

	2022	2023	2024
Income			
Contributions	5,761	6,737	7,703
Investment	722	700	672
GOM Subvention	-	1,892	1,000
Other	50	50	49
Total Income	**6,533**	**9,378**	**9,424**
Expenditure			
Benefits			
Sickness Benefit	56	90	63
Maternity Benefit	174	107	82
Maternity Grant	28	19	14
Funeral Grant	66	73	60
Age Benefit	8,140	7,942	8,463
Invalidity Benefit	102	80	116
Survivor's Benefit	75	60	55
Widow's Benefit	254	239	244
Medical Expenses	-	3	-
Employment Injury Benefit	9	4	9
Total Benefit Expenditure	**8,902**	**8,616**	**9,106**
Administrative Expenditure	1,618	1,847	1,676
Total Expenditure	**10,520**	**10,464**	**10,782**
Excess of Income over Expenditure	**(3,987)**	**(1,085)**	**(1,358)**
Reserves at End of Year	**22,097**	**21,012**	**19,654**

Totals may be off due to rounding.

Appendix E Benefit Experience & Analysis

E.1. Benefit Experience, 2022 – 2024

Table E.1. Benefit Expenditure as % of Insurable Wages, 2022-2024

Benefit	2022	2023	2024
Sickness Benefit	0.09%	0.15%	0.10%
Maternity Benefit	0.27%	0.17%	0.13%
Maternity Grant	0.04%	0.03%	0.02%
Funeral Grant	0.10%	0.12%	0.09%
Age Benefit	12.72%	12.97%	13.37%
Invalidity Benefit	0.16%	0.13%	0.18%
Survivor's Benefit	0.12%	0.10%	0.09%
Widow's Benefit	0.40%	0.39%	0.38%
Medical Expenses	0.00%	0.01%	0.00%
Employment Injury Benefit	0.01%	0.01%	0.01%
All Benefits	**13.91%**	**14.07%**	**14.38%**

Table E.2. Pensions In Payment, Awarded & Terminated, 2021- 2024

Benefit Type	Paid in Dec. 2021	Awarded & Reinstated 2021-24	Terminated 2021-24	# Paid in Mar. 2024	Avg. Monthly Pension	
					March 2021	March 2024
Age	816	159	(68)	907	$673	$3 713
Invalidity	11	5	(2)	14	$602	$933
Survivors	69	31	(13)	87	$311	$326