

Grenada

Report to the Government

Seventh actuarial review of the National Insurance Fund as of 31 December 2002



**International Financial and Actuarial Service
Social Protection Sector
International Labour Organization Geneva
November 2004**

Copyright © International Labour Organization 2004

Publications of the International Labour Office enjoy copyright under Protocol 2 of the Universal Copyright Convention. Nevertheless, short excerpts from them may be reproduced without authorization, on condition that the source is indicated. For rights of reproduction or translation, application should be made to the Publications Bureau (Rights and Permissions), International Labour Office, CH-1211 Geneva 22, Switzerland. The International Labour Office welcomes such applications.

Libraries, institutions and other users registered in the United Kingdom with the Copyright Licensing Agency, 90 Tottenham Court Road, London W1T 4LP [Fax: (+44) (0)20 7631 5500; email: cla@cla.co.uk], in the United States with the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923 [Fax: (+1) (978) 750 4470; email: info@copyright.com] or in other countries with associated Reproduction Rights Organizations, may make photocopies in accordance with the licences issued to them for this purpose.

ISBN 92-2-115584-6

First published 2004

The designations employed in ILO publications, which are in conformity with United Nations practice, and the presentation of material therein do not imply the expression of any opinion whatsoever on the part of the International Labour Office concerning the legal status of any country, area or territory or of its authorities, or concerning the delimitation of its frontiers.

The responsibility for opinions expressed in signed articles, studies and other contributions rests solely with their authors, and publication does not constitute an endorsement by the International Labour Office of the opinions expressed in them.

Reference to names of firms and commercial products and processes does not imply their endorsement by the International Labour Office, and any failure to mention a particular firm, commercial product or process is not a sign of disapproval.

ILO publications can be obtained through major booksellers or ILO local offices in many countries, or direct from ILO Publications, International Labour Office, CH-1211 Geneva 22, Switzerland. Catalogues or lists of new publications are available free of charge from the above address, or by email: pubvente@ilo.org
Visit our website: www.ilo.org/publns

Printed by the International Labour Office, Geneva, Switzerland

Foreword

The National Insurance Scheme began its operations in April 1983 introducing a defined-benefit system of social security that replaced the former Provident Fund System that had existed since 1969. Initially, only long-term pensions and short-term benefits were offered and employment injury benefits were introduced in 1998. The NIS Board responsible for the administration of the Fund reports to a Cabinet Minister who has responsibility for social security.

Section 22 of the *National Insurance Act (Act)* requires that an actuarial review of the Grenada National Insurance Fund be conducted at least every three years. This is the eighth review of the NIS Fund and it has been performed as at 31 December 2002, three years after the previous review.

In 1999, the International Labour Organisation (ILO) and six Caribbean countries, including Grenada, entered into bilateral agreements under which the social security scheme of each country will receive two actuarial reviews and training for its in-house actuarial and statistical personnel. This five-year programme is known as the ILO Umbrella Programme for Actuarial Reviews to Selected Countries of the Caribbean.

The main objectives of this review are to determine the long-term financial condition of the National Insurance Fund and to review contribution and benefit provisions, making recommendations where appropriate. During discussions in Grenada requests for specific issues to be dealt with in the report were made, the most extensive being a list compiled by NIS staff. These and other matters have been included in Section 4.

This report is divided into two sections – the main report and the appendices. The main report contains an analysis of recent experience and results of population, economic and National Insurance Fund projections up to 2062. A brief discussion of several policy and operational issues complete this section.

The appendices that follow contain a summary of key National Insurance contribution and benefit provisions, a description of the methodology used for the valuation and detailed tables of the key data, assumptions and projection results. They also provide an analysis of the experience of each Benefit Branch during the inter-valuation period – 2000 to 2002.

Contents

	<i>Page</i>
Foreword	iii
Abbreviations and acronyms	vii
Acknowledgements	viii
Executive summary	ix
Actuarial projections.....	ix
Recommendations	xi
1. Review of NIS performance and developments since <i>Sixth Actuarial Review</i> of 1999	1
1.1 Recommendations of the <i>Sixth Actuarial Review</i> currently under consideration	1
1.2 Introduction of pensions to former members of the Agriculture Workers' Provident Fund.....	1
1.3 Review of NIS past financial experience.....	2
1.4 Design and performance indicators	4
1.5 Investment portfolio and performance.....	6
2. Assumptions on the general population and the economy	7
2.1 Demographic assumptions.....	7
2.2 Population projections to 2062	8
2.3 Economic assumptions	9
3. National insurance financial and demographic projections under present provisions	11
3.1 NIS-specific assumptions based on present provisions	11
3.2 NIS Demographic projections	12
3.3 NIS financial projections	13
3.4 Assessments of NIS financing requirements under present provisions	16
3.5 Actuarial balance at 31 December 2002.....	17
3.6 Sensitivity of actuarial projections under present provisions to selected assumptions.....	18
3.7 Preserving National Insurance for future generations	20
4. Policy and administrative issues	23
4.1 Financing considerations	23
4.2 Considerations on benefit provisions	24
4.3 Self-employed coverage	32
4.4 Additional former Provident Fund members awarded new pensions	34
5. Unemployment insurance considerations	35
5.1 Coverage.....	36
5.2 Eligibility conditions	36
5.3 Level of benefits	37
5.4 Financing unemployment benefits.....	37

5.5.	Administering unemployment benefits	39
5.6	Miscellaneous issues	40
5.7	Moving forward on the feasibility of introducing unemployment insurance	41
Appendix I.	Summary of financing and benefit provisions	43
I.1	Contingencies covered.....	43
I.2	Insured persons.....	43
I.3	Insurable earnings and contributions	43
I.4	Benefit provisions.....	44
Appendix II.	Methodology, data and assumptions	49
II.1	Modelling the demographic and economic developments.....	49
II.2	Projection of NIS income and expenditure.....	51
II.3	NIS population data and assumptions	52
Appendix III.	NIS projections under Pessimistic and Optimistic scenarios, 2001/2 - 2062	55
Appendix IV.	Review of NIS benefit experience	59
IV.1	Long-term Benefits Branch	59
IV.2	Short-term Benefits Branch.....	60
IV.3	Employment Injury Benefits Branch.....	62
IV.3	Branch allocations and transfer of reserves	63
Appendix V.	NIS income, expenditure and reserves, 2000-2002	65
Appendix VI.	Unemployment benefits in other countries	67
References		71

Abbreviations and acronyms

AWPF	Agriculture Workers Provident Fund
EC\$	Eastern Caribbean dollar
EIB	Employment Injury Benefits (Branch)
GAP	General average premium
LTB	Long-term Benefits (Branch)
NIS	National Insurance Scheme (administrative representation)
NIF	National Insurance Fund (legal representation)
PAYG	PAYG cost rate
RER	Reserve-to-expenditure ratio
<i>Sixth Actuarial Review</i>	<i>Grenada Sixth Actuarial Review of the National Insurance Scheme as of 31 December 1999</i>
STB	Short-term Benefits (Branch)
US\$	United States dollar

Exchange rate

As of 31 December 2002: 1 US\$ = 2.7 EC\$

Acknowledgements

The programme's Project Actuary, Mr. Derek Osborne, was appointed by the ILO to undertake this assignment. Mr. Osborne visited Grenada in September 2003 to gather the necessary data. He also had discussions with the Minister responsible for Social Security, members of the Board, NIS senior management, and representatives of workers' and employers' organisations.

This actuarial review is the product of contributions from Mr. Dorset Cromwell, Ms. Jacqueline Antoine and Ms. Camel Gibbs, Grenada's national counterparts under the *ILO Umbrella Programme*. Their tasks included gathering the data and assisting the actuary during his visit to Grenada.

The Financial, Actuarial and Statistical Services Branch of the ILO assumed responsibility for the supervision, review and editing of this actuarial review.

The ILO is thankful to the national counterparts and staff of the National Insurance Scheme for their support throughout this assignment.

The ILO Director-General wishes to express his sincere thanks to Mr. Ashton Frame, Director of the National Insurance Board, for his collaboration and assistance provided throughout this project.

Executive summary

Actuarial projections

Some of the benefits that current National Insurance contributors anticipate receiving will be paid more than fifty years from today. Therefore, to determine whether or not Grenada's social security system is sustainable over the long-term, periodic actuarial reviews are conducted. In these reviews the Fund's current and projected future financial status are examined; and the actuary is expected to recommend steps that may be taken to help ensure that the scheme remains solvent for future generations, while providing meaningful benefits to current workers and pensioners.

During its first twenty years, the National Insurance Scheme (NIS) experienced steady growth in contribution and investment income, benefit expenditure and the NIS reserve. Between 1999 and 2002, the number of contributors has remained steady at around 32,000 while the number of pensioners almost doubled by 2002, due mainly to the introduction of a new pension to former estate workers in recognition of their past entitlements under the Agriculture Workers Provident Fund (AWPF). At the end of 2002, the NIS reserve stood at EC\$344 million, i.e. just over 16 times total expenditure in 2002.¹ This is an acceptable level of funding for a social security system that is not yet mature, but the NIF should remain concerned that benefit expenditure will inevitably increase in significant proportion over the years to 2030 approximately as more and more insured members will reach retirement and be entitled to higher and higher pensions in relative terms. The sufficiency of the contribution rate and other sources of income to the NIF will need to be continuously monitored to ensure the long-term viability of the scheme.

In addition to the expected natural maturity course of the NIF, the ageing of the general population will impact on the NIS. With birth rates declining and increased longevity among the elderly, the demographic structure of the insured members and beneficiaries of the NIS and its future finances will show a different pattern from those of the past twenty years. Reserves are expected to continue growing for some time but the consequences of a declining contributor-pensioner ratio and a contribution rate below the PAYG cost rate of all benefits will gradually emerge as NIS matures.

Along with a review of the NIF's financial position as of the valuation date on 31 December 2002, this report includes projections of NIS income, expenditure and reserve through 2062 based on actual benefit and financing provisions. Since the projection of future experience contains inherent uncertainties and depends on many demographic and financial assumptions, three scenarios are presented to show the plausible range of likely outcomes in terms of general demographic and economic developments influencing the NIS. These scenarios have been dubbed *pessimistic*, *intermediate* and *optimistic*. They differ with respect to future population, economic and NIS-specific assumptions.

The key results of the present projections under the *intermediate* scenario are summarized as follows.

- The general population will continue growing until reaching close to 130,000 in the next 50 years and will decline slightly thereafter.

¹ This translates into a funding ratio equivalent to 16.

-
- The ageing of the general population will impact on the ratio of the number of workers to retirees. For NIS it is projected that the number of contributors for every pensioner will fall from 7.1 in 2002 to only 1.3 in 2062 as long as the actual normal retirement age remains in force.
 - Annual contribution income is expected to be sufficient to meet annual expenditure through 2018.
 - From 2018 to 2037, the investment returns earned on the NIS reserve will decrease such that no more investment return will be expected by 2037 and the NIS reserve is expected to begin decreasing in 2037 when total expenditure will exceed total income for the first time. Thirteen years later in 2050, the NIS reserve is projected to become exhausted under present provisions, i.e. if benefit and financing provisions are not adjusted accordingly.
 - The PAYG cost rate, i.e. the contribution rate that would be required to produce just enough income to meet expenditure each year without recourse to accumulated funds under the NIS reserve, is expected to gradually increase from 5.5 per cent of insurable earnings in 2002 to 25.5 per cent in 2062. This is in line with the maturity process of the NIS and the generosity of the benefit provisions as demographics evolve.
 - The constant contribution rate beginning in 2003 that would make the present value of contributions equal to the present value of expenditure through 2062 is 13.4 per cent. This is also referred to as the general average premium (GAP).

Under present benefit and financing provisions, the first annual cash flow deficit is expected to occur in 2030 with the NIF depletion in 2045, according to the *pessimistic* scenario. Under *optimistic* projection assumptions, annual expenditure is projected to exceed annual income beginning in 2043 with Fund depletion expected by 2056.

Other projection results presented in this report suggest the following:

- Increasing the normal retirement age to 65 will significantly reduce benefit expenditure in the long run and take account of the ageing of the population.
- Changing the way old-age pensions are calculated such that the average pensionable salaries used includes more years of past insurable earnings than at present, e.g. up to 15 years approximately. The longer the past reference period is, the more it will adversely affect workers with unemployment periods and women who do not work to take care of young children. Special credits may be awarded for such special situations to ensure social objectives are met.
- Improving the investment strategy towards safety and higher returns objectives such that higher returns on investments will serve to reduce long-term costs.
- Improving the level of benefit protection in ways which will not affect with significance the finances of NIS but will increase the income security of concerned insured members such as by way of:

-
- providing a systematic basis for annual indexation of pensions-in-payment and other set benefit levels in line with inflation²;
 - allowing persons to receive portions of both old-age and survivors' pensions,
 - making the qualifying conditions for widowers equal to those for widows
- Increasing the contribution rate by 1 percentage point of insurable earnings every five years from 2010 to 2030 will be required to secure a NIS reserve level of at least four times expenditure in 2062. This would bring the total ultimate contribution rate to 14 per cent.

Recommendations

Several recommendations have been made throughout the report and are summarised below.

- (1) Increase the contribution earnings ceiling in 2004 by at least 15 per cent. Thereafter, ceiling increases should occur annually in line with changes in the national average wage with the rules governing such increases placed in Regulations.
- (2) To estimate changes in average national wage, it would be advisable for the Central Statistics Office to create a wage index. Until such an index is available, National Insurance data may be used as a proxy. (Section 4.1.1)
- (3) In 2004, increase pensions-in-payment by a graded scale ranging from 12 per cent for those whose pension was awarded in 1998 or before to 2 per cent for those awarded in 2003. Thereafter, pension increases should occur annually in line with average inflation over the previous three calendar years, with the rules that govern the timing and the amount of each adjustment placed in Regulations. Similarly, the Maternity and Funeral grants and minimum pension nominal amounts should be increased by around 12 per cent in 2004, and then adjusted automatically each year thereafter. (Section 4.2)
- (4) Change the method used to calculate old-age pensions to improve the level of protection in line with the objectives of the NIF so as to ensure; (a) the ceiling maintains its relative value over time, (b) the minimum pension is appropriately set, (c) the reference earnings are extended to include up to ten past years of insurable earnings, and (d) the benefit accrual rate per year of service reflects the objectives/target of the NIF in terms of income replacement for the majority of those insured. (Section 4.2.2)
- (5) Consider paying more than just the higher of the two pensions for persons who would otherwise qualify for an old-age pension in their own right and a survivors' pension if their spouse has died. One example of how this may be done is to pay the full old-age pension and 50 per cent of the survivors' pension. (Section 4.2.3)
- (6) Gradually increase the normal retirement age from 60 to 65 over at least 15 years. Reduced pensions would be offered from as early as age 60 so that insured persons

² Annual indexation of pensions is assumed in all projection scenarios to maintain the relevance of benefits over time.

would have the flexibility to choose the age at which they wish their pension to begin. (Section 4.2.4)

- (7) Make special efforts to improve the participation of self-employed persons. The first step should be to make coverage mandatory. Special efforts towards raising public awareness are needed and a new approach to the way self-employed persons are required to contribute should be adopted. For example, a method by which self-employed persons could contribute without having to complete forms could be considered along with instituting a minimum wage on which contributions are based. However, with a change to a longer reference period for the calculation of the pension (towards career-average approach), an equitable pension can be calculated regardless of what amounts are paid. (Section 4.3)
- (8) Consider expanding the benefits available to self-employed persons by including Sickness, Maternity and Employment injury benefits with a commensurate increase in the contribution rate. To qualify for employment injury benefits, the self-employed person should be up to date with his/her contributions. (Section 4.9 and 4.3.1 to 4.3.3)
- (9) Amend the Death benefit regulations to increase the maximum age up to which children who attend school may receive the pension from 16 to 18. This change will make these provisions similar to those for survivors' pensions. (Section 4.2.5)
- (10) Consider the payment of Survivor pensions to parents where other classes of dependants (spouses and children) have not exhausted the maximum payment permissible. (Section 4.2.3)
- (11) Review the one-year limit for retroactive pay for persons who claim old-age pension late with the possibility of increasing it to three or five years. (Section 4.2.8)
- (12) Bring consistency to benefit regulations by removing the requirement that the spouse whose contributions may be considered for qualification for Maternity grant be a legally married husband. For all other benefits where a spouse's contributions may be used, common law relationships may be acceptable. (Section 4.2.7)
- (13) The Government of Grenada should pay all outstanding amounts owed to NIS in interest on bonds and the face amount of bonds that are passed maturity. It should also fulfil the terms of the Agreement that calls for the payment of current contributions along with clearing its contribution arrears by December 2004. (Section 4.12)
- (14) Transfer NIS reserve funds out of the Short-term and Employment Injury Benefit Branches and change the allocation rates for contribution income as outlined in Section IV.3. While these changes do not affect the overall funding of NIS benefits, the changes would bring consistency to the financial method chosen for each benefit branch.
- (15) Implement changes stemming from the recommendations of the previous *Sixth Actuarial Review* of the NIS and others that are presently being considered (Section 1.1) including:
 - Having the same rate of minimum pension applied to old-age and survivors' pensions;

-
- Making the eligibility conditions for survivors' pension the same for widows and widowers;
 - Extending coverage for employment injury to workers 60 and over and to all other workers engaged into seasonal or irregular employment, e.g. summer students;
 - Removing the nominal EC dollar limit on the amount that may be transferred between benefit branches.

Throughout the world, the financial implications of population ageing are forcing governments to review the promises being made by their national pension schemes so that the benefits being offered are adequate and affordable, both today and well into the future. In many countries, including some in the Caribbean, projected insolvency for social security funds is less than 30 years away under present provisions and the contribution rates required to avoid this will be more than twice what they are today. With Grenada having a relatively young social security system, the projected depletion of the National Insurance Fund in the next 40 to 50 years may seem very distant. But while NIS cannot be categorised at this time as being in crisis, the longer changes aimed at bringing long-term sustainability to the Fund are deferred, the more drastic future reforms will have to be.

The National Insurance Board is therefore encouraged to share the findings, projections and recommendations of this actuarial review with social partners and through extensive public information efforts with a goal of obtaining consensus on the changes that are acceptable. The two main focus areas should be the strengthening of the Fund for future generations and making major improvements in the participation of self-employed persons. It is not too early to make meaningful changes that will lessen the burden on future generations of Grenadian workers and employers given safe and reliable investment vehicles exist. It is also extremely important that the security of a lifetime NIS pension will be a reality for the growing number of self-employed persons. For Government, leadership and support for changes that will bring equity and long-term sustainability to the National Insurance Fund is paramount as the consequences of inaction could be extremely high contribution rates, reduced pensions and/or higher government subsidies.

At the request of the Board, a discussion of unemployment benefits is presented in Section 5. While most industrialized countries offer unemployment benefits, the only Caribbean country where these benefit are presently found is Barbados. Unemployment benefits not only provide income to unemployed individuals but also have a stabilising effect for the economy in times of recession. As the Barbados experience attests, an unemployment insurance scheme can be good for the economy and can be properly administered in the Caribbean. Therefore, consideration may be given to introducing a modest unemployment insurance benefit with a separate contribution rate. Once sufficient experience is observed, benefits can be enhanced. The ILO encourages the Grenadian authorities to refer to the ILO Convention No. 102 on Minimum Standards for Social Security and ILO Convention no. 168 on Employment Promotion and Protection against Unemployment.

1. Review of NIS performance and developments since *Sixth Actuarial Review* of 1999

1.1 Recommendations of the *Sixth Actuarial Review* currently under consideration

At the time of preparing this report, several changes emanating from recommendations made in the context of the *Sixth Actuarial Review* of the NIS were being considered including:

- Having the same rate of minimum pension applied to old-age and survivors' pensions;
- Making the eligibility conditions for survivors' pension equivalent for widows and widowers;
- Extending employment injury coverage to workers of age 60 and over as well as those engaged in any form of work; and
- Removing the EC dollar limit on the amount that may be transferred between benefit branches so that their respective funding levels are consistent with the financing method adopted.

With the assistance of a former senior executive of a regional social security scheme, the NIS recently conducted an extensive review of their *Act* and Regulations. As a result, many recommendations designed at strengthening the legislation were made and are now being considered by Government. None of these changes, however, change NIS policy significantly or have major financial implications.

1.2 Introduction of pensions to former members of the Agriculture Workers' Provident Fund

No amendments were made to NIS Regulations between 2000 and 2002. However, a new flat-rate pension payable to former member of the Agriculture Workers' Provident Fund (AWPF) was introduced. The basis for entitlement to this new pension stems from contributions that employers made to the AWPF on behalf of workers and that were deposited to the Consolidated Fund³. When NIS was established in 1983, past contributions made on behalf of workers were to be considered for the payment of pensions to these workers. Since there were limited individual records and many workers did not make enough contributions to qualify for an NIS pension and did not receive any benefits as a result of their former AWPF contributions, the Government introduced a new pension payable to all former workers of estates to be paid out of NIS funds. The rate of payment is EC\$30 per week, EC\$10 less than the minimum pension. This poses most likely a net financial cost to the NIF whose magnitude should be ascertained to ensure that the remainder of the NIS members of today is not disproportionately subsidizing such pensions. Total benefit expenditure for the NIS increased by 30 per cent in 2002 when these new pensions were introduced. No direct conclusion can be drawn from this result. One would need to compare the amounts of contributions transferred to

³ State budget.

NIS and the actuarial present value of these new pensions. This could help determine the extent to which such new pensions are self-financed.

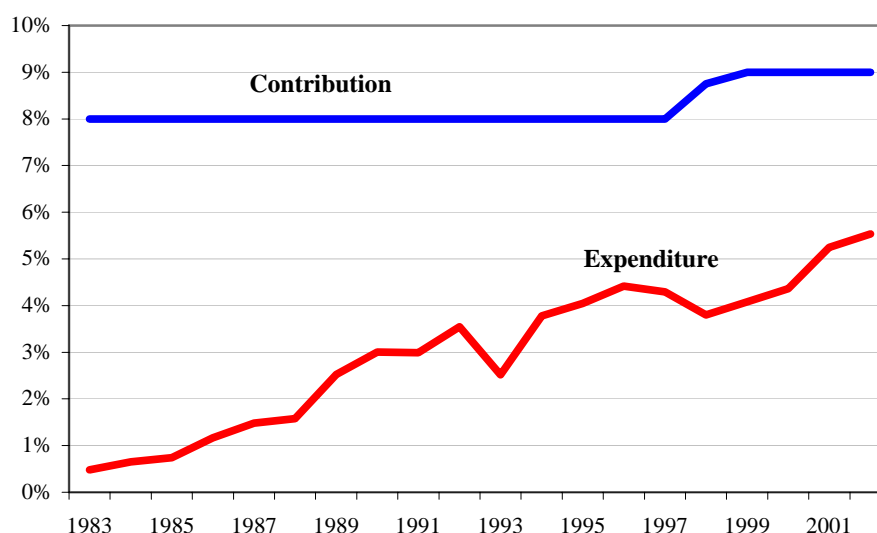
1.3 Review of NIS past financial experience

1.3.1 Trends in financial developments since 1983

The National Insurance Scheme began its operations in April 1983 introducing a defined-benefit system of social security that replaced the former Provident Fund system that had existed since 1969. Initially, only long-term pensions and short-term benefits were offered and employment injury benefits were later introduced in 1998.

The following three charts illustrate various aspects of the NIS financial experience between 1983 and 2002. They highlight the gradual maturing of Grenada's social security system. The first compares annual contribution and expenditure rates in terms of insurable earnings. The second illustrates the change in the NIS funding ratio over time. Finally, Chart 5 shows the changes in the relative size of each benefit type as a proportion of total benefit expenditure. The trends depicted are consistent with the type of social security scheme and the financing method adopted at the inception of the NIS.

Chart 3 Past NIS contribution and expenditure rates, 1983-2001 (% of insurable earnings)



When expenditure is expressed as a percentage of insurable earnings, i.e. the PAYG cost rate, it can be readily compared with the actual contribution rate. While the contribution rate was increased only once in 1998 when Employment Injury benefits were added, expenditure has trended upwards.

With the contribution rate higher than the expenditure rate, contributions alone are currently sufficient to meet expenditure and surplus invested to build up the NIF reserve.

In Chart 4, the reserve-to-expenditure ratio (RER) reflects the size of the year-end reserve relative to that year's expenditure. It is a useful measure indicating the funding level at a particular point in time but not so reflective of the long-term pattern, especially in the case of a still immature pension system such as the NIS.

Funding levels have generally trended downwards since 1983 and at the end of 2002, the RER stood at 16.3. This can be explained by the small amounts of benefit expenditure incurred in early years of operating the NIS. A more revealing figure on the status of the financing of the system could relate to the actuarial deficit as of the valuation date (estimated at 2.3 per cent of insurance earnings. (Section 3.3)

Chart 4 Past NIS reserve-to-expenditure ratio, 1983-2001

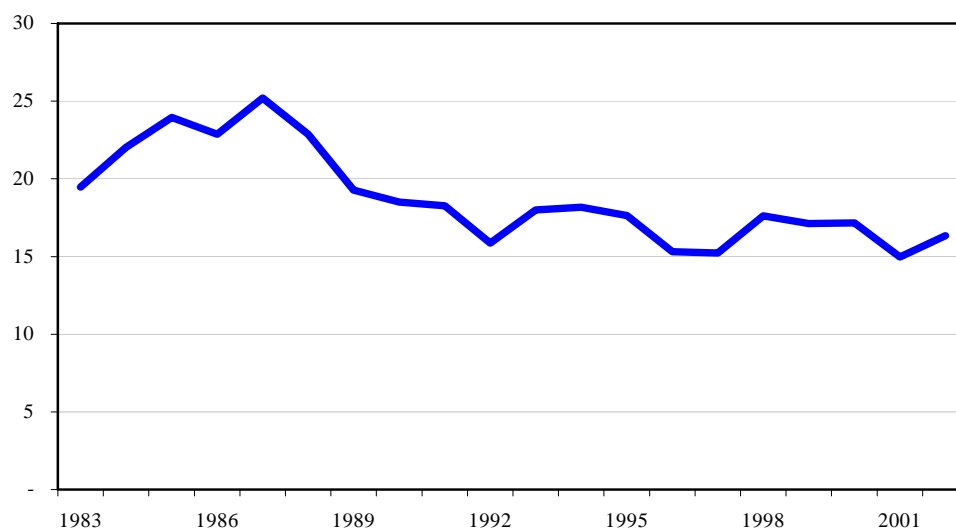
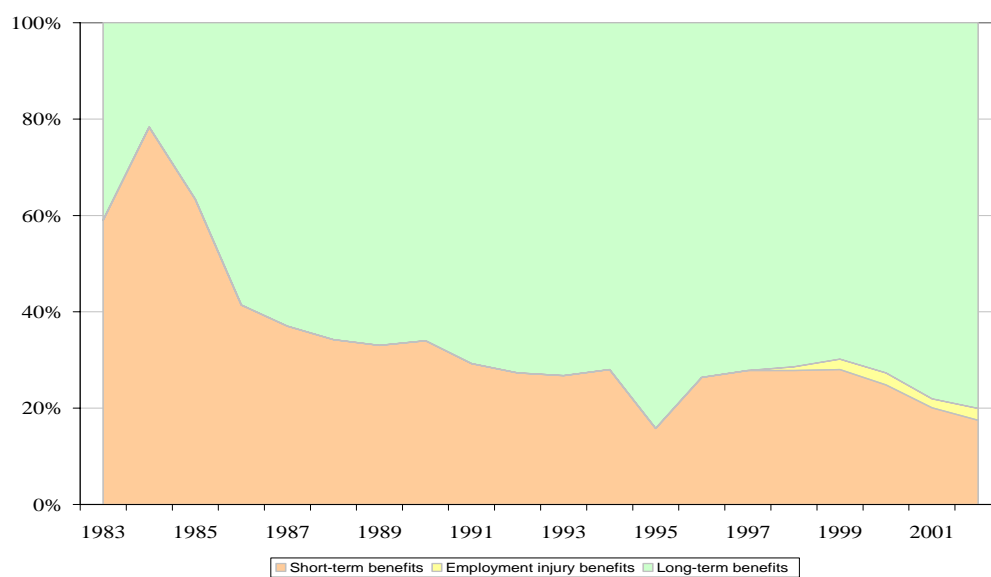


Chart 5 Past distribution of NIS benefit expenditure, 1983 - 2004 (% of insurable earnings)



As NIS has matured, the proportion of benefit expenditure related to pensions has increased gradually to represent 80 per cent of total benefit expenditure in 2002. Short-term benefits represented 17 per cent, and employment injury benefits only 2 per cent of total benefit expenditure.

As more persons qualify for larger pensions, long-term benefits will make up an even higher percentage of expenditure, reflecting the main aim of the NIS' provisions for income security in old age.

1.3.2 Review of NIS financial experience since Sixth Actuarial Review of 1999

After a period of high economic growth, the Grenada economy experienced a downturn in 2001 and a slight expansion in 2002. It is also estimated that the unemployment rate has fallen from 16 per cent in 1998 to 12.5 per cent in 2003. For NIS, this has had minimal direct economic impact on overall contribution collections from the private sector or on benefit expenditure.

In 2002, the Government erased most of its contribution arrears through a payment of past dues to NIS.

In 2001, total NIS benefit expenditure increased by almost 30 per cent due mainly to the new pension for former members of the AWPf. Overall the NIS still realised annual cash surpluses very close to total contribution receipts. Further details on the income and expenditure of the NIS can be found in Appendix V.

Table 1 Summary of NIS finances, 2000 – 2002 (million EC\$)

	2000	2001	2002
Income	45.5	49.6	73.8
Contributions	28.8	30.4	52.8
Investment	16.5	18.9	20.8
Other	0.2	0.3	0.2
Expenditure	15.2	19.4	21.0
Benefits	11.7	15.1	16.6
Administrative	3.5	4.3	4.4
Net annual surplus (income minus expenditure)	30.3	30.2	52.8
Reserve at year-end	261.1	291.2	343.9

Notes: Totals may be off due to rounding. Increase in contribution income in 2002 due to payment of arrears by Government.

While Government reduced significantly its contribution arrears position in 2002, just over EC\$51 million was still owed to NIS as of November 2003, representing outstanding contributions (EC\$14.8 million), the face amount and interest due on bonds that have matured (EC\$36.9 million) and a small amount due by two former statutory bodies. (See Section 4.12)

In the *Sixth Actuarial Review*, EC dollar-value projections were only conducted for the Long-term Benefits Branch. There were two significant events that have produced differences between the projections and actual experience. These were the extra cash contributions paid by Government and the introduction of a pension to former Provident Fund members. Overall, the LTB Branch reserve was slightly higher than projected but the reserve-to-expenditure ratio is now well below projected, due to the increased pension expenditure. For the Short-term and Employment Injury Benefit Branches, where expenditure was estimated as a percent of insurable earnings, costs were lower than projected.

1.4 Design and performance indicators

Given the broad range of objectives of a social security scheme, evaluating its performance could be rather difficult. Such an assessment should consider the

achievement of the scheme's overall goals as they pertain to the level of coverage and the provision of adequate and reasonable benefits and pensions, as well as how efficiently it is administered and how prepared it may be to meet rising costs over time. The following table provides a summary of several key indicators of coverage and benefit levels provided by NIS and its operational performance, highlighting changes between 1999 and 2002.

Table 2 Current NIS benefit design parameters and performance indicators

	1999	2002	Assessment
Ratio of ceiling to average insurable wage	2.3	2.1	Acceptable but an increase in ceiling should be considered soon.
Minimum pension as % of average insurable wage	13	12	Slightly low.
Average old-age pension as % of average insurable wage	23	24	Will increase as NIS matures.
Active-insured persons as % of employed population (rough estimate for 2002)	Not Available	80	Would be higher if more self-employed persons covered.
% self-employed persons making NIS contributions	No estimate of self-employed persons in labour force		Extremely low participation as only 116 and 119 contributed in 1999 and 2002, respectively.
Number of contributors per pensioner	13.9	7.1	# of pensioners almost doubled due to new Provident Fund pensioners plus natural increase. No increase in active-insured population.
% of over-60 population receiving an NIS pension	17	38	Increase due mainly to new Provident Fund pensioners.
NIS benefits and pensions as % of GDP	1.0	1.5	Gradual increase normal plus effect of Provident Fund.
NIS reserves as % of GDP	23	31	Gradual increase normal.
Contribution rate (%)	9.0	9.0	No change.
Expenditure rate (%)	4.1	5.5	Gradual increase normal. Addition of Provident Fund pensioners made increase more than usual.
Investment income expressed as % of insurable earnings	4.2	5.5	Gradual increase expected once Fund is growing.
3-year average nominal yield on reserves (%)	6.5	6.9	Returns increasing in recent years, but down in 2002.
3-year average real yield on reserves (%)	5.3	5.3	Low inflation has resulted in very good real returns.
Administrative expenses as % of insurable earnings	1.0	1.2	Administrative expenses increased more than insurable earnings.
Administrative expenses as % of reserve	1.6	1.5	Reserves increased faster than administrative expenses.
Reserve-to-expenditure ratio	17.1	16.3	Gradual decline expected as scheme matures.

The first seven indicators provide an indication of the level of social protection coverage presently being offered by NIS and its significance relative to the population and economic factors. Most noteworthy among these indicators is the very low level of coverage among the self-employed and the significant decrease in the contributor/pensioner ratio over the past three years. This was due to the introduction of the Provident Fund pension that also had the effect of more than doubling the percentage of the elderly population in receipt of an NIS pension.

Items 8 through 17 provide an indication of NIS' financial and administrative performance. While there have been no major changes in this regard over the past three years, NIS' significance relative to the economy, both as a source of funds available for investment and a transfer of income, continued to increase.

1.5 Investment portfolio and performance

At the end of 2002, NIS investments stood at EC\$314 million, up from EC\$209 million at the end of 1999. The most notable change in the asset mix between 1999 and 2002 was the placing of EC\$31 million, approximately 10 per cent of the portfolio, outside of Grenada. Most of these funds are in bonds of regional governments with rates of return that exceed those on domestic fixed deposits. Also during the review period, the portion held in government securities decreased. Overall, 25 per cent of the portfolio was held in Government of Grenada securities at the end of 2002, with another 10 per cent invested in statutory bodies having government guarantees. Additional investments in statutory bodies without government guarantees account for another 5 per cent of the portfolio.

Table 3 NIS investment, 1999 and 2002

Investment category	2002		1999	
	EC\$ millions	%	EC\$ millions	%
Government securities	79.6	25.3	79.6	38.1
Cash and fixed deposits	93.0	29.6	51.8	24.8
Originated loans	100.8	32.1	59.7	28.5
Bonds	26.1	8.3	5.5	2.6
Equities	8.0	2.6	7.9	3.8
Real estate	6.6	2.1	4.5	2.2
Total	314.1	100.0	209.0	100.0

While the overall portfolio is adequately diversified, the Board should be cautious when considering investments that will further increase the proportion of assets lent directly to private or public business, and in personal mortgages. To date, such investments have performed well, but over-exposure in such investments could severely impact overall investment performance should there be an extended downturn in the local economy.

As recommended in the *Sixth Actuarial Review*, a statement of Investment Policies and Guidelines is being prepared and should be adopted soon. Once adopted, the Board is encouraged to adhere to the agreed guidelines and to review them periodically so that the Fund remains appropriately invested diversified and earning market rates of return.

2. Assumptions on the general population and the economy

Future NIS income and expenditure will be closely linked to changes in the size and age structure of the population, employment levels, economic and wage growth, inflation, and rates of return on investments. To improve the projections of the future NIS finances, projections of Grenada's total population and economic activity are required.

Population projections provide estimates of the size and composition of the labour force, while projections of gross domestic product (GDP) and worker productivity growth indicate how many workers are needed in the economy and what their likely incomes will be. Since these factors are both directly and indirectly interrelated – for example, changes in population directly affect the economy and economic performance impacts personal behaviour such as migration – population and economic projections are performed together to ensure consistent assumptions have been used for this actuarial review.

For this review 60-year projections of the population, economy and NIS finances have been performed. Given the significant uncertainty inherent in forecasting such a long period, projections have been performed using three sets of projection assumptions following an analysis of historical trends and on plausible future experience. Only a summary of these population and economic assumptions and relevant projections are discussed in this Section. Further details may be found in Appendices II and III.

2.1 Demographic assumptions

The determinants of future population changes are fertility, mortality and net migration. Fertility rates determine the number of births while mortality rates determine how many, and at what ages, people are expected to die. Net migration represents the difference between the number of persons who permanently enter and leave Grenada and is the most volatile of the three factors.

The last official population census took place in 2001. At the time of writing this report only preliminary results were available.⁴ Between 1991 and 2001 the population increased by 7,035 to 102,632. Since the number of births exceeded the number of deaths over the same period by over 13,000, net migration averaged around 635 between 1991 and 2001.

The total fertility rate (TFR) represents the average number of children each woman of childbearing age would have if she had all her children in a particular year. If there is no migration, a TFR of 2.1 is required for each generation to replace itself. In 2001, Grenada's TFR was estimated at 2.25, having fallen from 4.2 in 1981 and 3.0 in 1991.

Life expectancy at birth in 2001 has been estimated at 70.2 for males and 73.6 for females. While further improvements in life expectancy are expected, the increasing prevalence of HIV and AIDS in Grenada may retard the rate of previously expected improvements. For these projections improvements in mortality are assumed to occur in accordance with UN estimates. While deaths due to HIV and AIDS have not been explicitly accounted for, the rate of mortality improvements chosen considers the effects of the HIV/AIDS pandemic. With the above assumptions, life expectancy at birth in 2062 for the *intermediate* scenario is estimated to be 78 for males and 82 for females. At age 60, life expectancy is projected

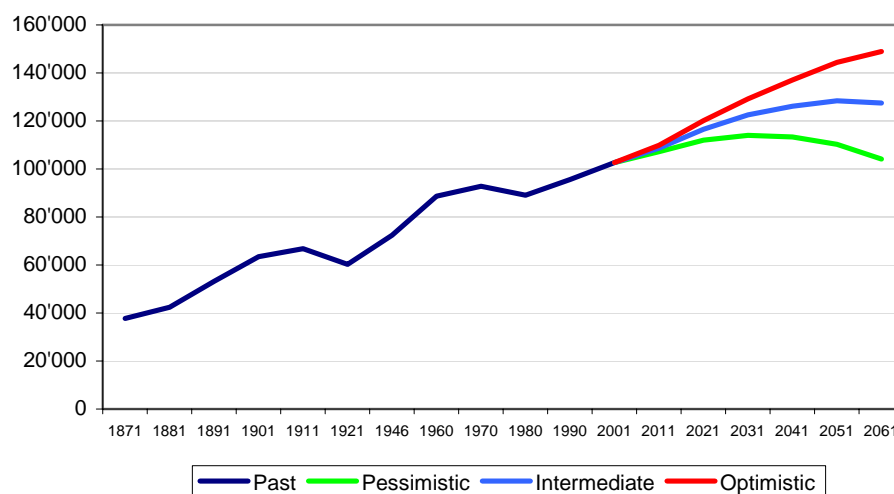
⁴ Totals by parish only but no details by age and sex.

to increase from 19 to 22 years and from 21 to 25 years for males and females, respectively.

2.2 Population projections to 2062

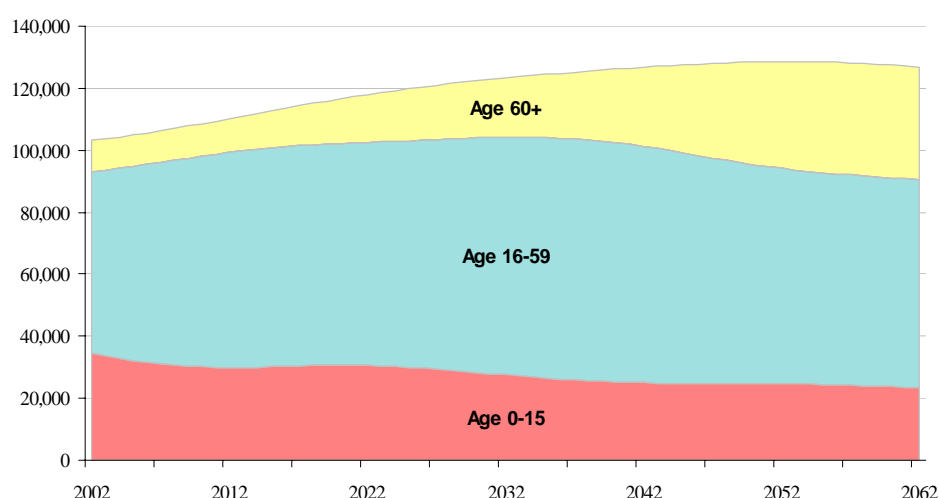
The following chart shows how Grenada's population has increased since 1871 along with projected populations for each of the three assumption sets. Under all three scenarios the population is forecast to grow for at least another 30 years.

Chart 6 Historical Grenada population and 3 projections, 1871 - 2061



For the projections under the *intermediate* scenario, the age distribution of the total population is shown below. The changes in the relative size of each age group – fewer children and many more pension-age persons – illustrate the forecasted ageing of Grenada's population. Such ageing is a direct result of reducing birth rates, improvements in longevity and the migration of mainly working age persons.

Chart 7 Projected population distribution, *intermediate* scenario, 2002 – 2062



Highlights of *intermediate* scenario population projections are:

- The total population will increase to just under 130,000 during the 2050's before declining gradually at the end of the projection period.
- There will be a significant reduction in the number of children but there will be three times as many pension-age persons in 60 years time as there were in 2003.
- Within the next 40 years, Grenada will have more pension-age residents than children.
- The number of working-age persons for each pension-age resident will fall from 5.7 to under 2.0.

Table 4 Projected Grenada population and dependency ratio (*Intermediate* scenario), 2001 - 2062

Year	Total	Age			Ratio of persons 16-59 to 60 & over
		0-15	16-59	60 & over	
2001	102,632	35,486	57,142	10,004	5.7
2002	103,084	34,487	58,568	10,028	5.8
2003	103,632	33,606	59,977	10,049	6.0
2004	104,230	32,801	61,357	10,072	6.1
2005	104,874	32,087	62,685	10,102	6.2
2006	105,560	31,478	63,936	10,146	6.3
2007	106,283	30,982	65,096	10,205	6.4
2012	110,230	30,007	69,293	10,930	6.3
2022	117,929	30,540	71,972	15,417	4.7
2032	123,328	27,539	76,733	19,056	4.0
2042	126,821	25,010	76,326	25,485	3.0
2052	128,516	24,737	69,427	34,352	2.0
2062	126,896	23,289	67,239	36,368	1.8

For NIS, where pension payments to the elderly already represent around two-thirds of benefit payments, the projected change in the population's age structure has significant long-term consequences. In broad terms, pensions will need to be paid for more and more years to each individual pensioner who is expected to live longer and longer. Population ageing will also create major challenges for the Grenada Government, as a larger and older society will place increased and different demands on physical infrastructure, health and other social programmes. Therefore, proactive measures by both Government and the NIS are required to ensure that the needs of future generations will be sufficiently met.

2.3 Economic assumptions

After three years of rapid growth averaging 7 per cent per annum, the Grenadian economy contracted by 3 per cent in 2001 and a further ½ per cent in 2002 due mainly to the global

slowdown and the resulting reduction in tourist arrivals.⁵ For NIS, the impact has been slight as the contribution wage base has continued to grow and average insurable earnings have increased. For the future however, the performance of the local economy will have a major impact on NIS experience as a larger economy in which wages increase at a faster rate than prices, will result in lower long-term costs for workers.

The economic projections prepared 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. The following table indicates the principal demographic and economic assumptions of the three projection scenarios. For each scenario, inflation has been assumed at 2.5 per cent per annum. Further details may be found in Appendix II.

Table 5 Principal assumptions for population and economic projection scenarios

		Pessimistic	Intermediate	Optimistic
Ultimate TFR (from 2.2 in 2002)		1.8 in 2021	1.9 in 2021	2.05 in 2021
Mortality improvements ¹		Very slow	Slow	Medium
Net outward migration		Decrease from 700 in 2001 to 400 in 2041, constant thereafter	Decrease from 600 in 2001 to 200 in 2041, constant thereafter	Decrease from 500 in 2002 to 300 in 2021, then to 0 in 2041, constant thereafter
Real GDP growth (%)	Short-term	2.0	2.5	3.0
	Medium-term	1.5	2.0	2.5
	Long-term	1.0	1.5	2.0

¹ UN mortality improvement rates.

⁵ Source: *IMF Staff Report for the 2002 Article IV Consultation*.

3. National insurance financial and demographic projections under present provisions

This Section presents and analyses projections of NIS finances up to 2062. The purpose of these projections is twofold. Firstly, they are used to identify long-term trends for contributions, benefits and the reserve, so that the financial viability of the National Insurance Fund may be assessed. Secondly, by using these projections as a base, the sensitivity of the results to changes in the assumptions, and/or contribution and benefit provisions, may be identified.

Consistent with the population and economic projections presented in the previous Section, three sets of financial projections have been modelled. Also, to illustrate the effect of individual assumptions on overall results, several sensitivity tests have been performed using the *intermediate* scenario.

3.1 NIS-specific assumptions based on present provisions

The projections of the NIS situation to year 2062 are based on results of the population and economic projections. Several NIS-specific assumptions need to be confirmed including that the *present* provisions for contribution and benefits will be the same as those in place on January 1, 2003.

While increases to the contribution ceiling and pensions-in-payment are not legislated, periodic adjustments are expected, and thus have been assumed.

Other key scheme-specific assumptions include:

- The insurable earnings ceiling will increase by 15 per cent in 2004 and annually thereafter by the increase in the national average wage.
- The Grenada Government will pay the remainder of its outstanding contributions due to NIS by the end of 2005.
- Short-term Benefits Branch expenditure, including Funeral grants, will increase from 1.0 per cent to 1.25 per cent of insurable earnings between 2003 and 2062.
- Employment Injury Benefits Branch expenditure, excluding Disablement and Death benefits, increases from 0.075 per cent to 0.25 per cent of insurable earnings between 2003 and 2062.
- Pensions-in-payment will increase by an average of 10 per cent in 2004 and annually thereafter by the rates shown in the table below.

The assumptions that vary for each of the three scenarios are shown below. Further details may be found in Appendices I and II.

Table 6 NIS-specific assumptions

	<i>Pessimistic</i> projection scenario	<i>Intermediate</i> projection scenario	<i>Optimistic</i> projection scenario
Annual pension increases (% per annum)	3.0	2.5	2.0
Long-term yield on reserves (% per annum)	5.0	5.5	6.0
Administrative expenses (% of insurable earnings)	Decreasing linearly over 30 years from 1.12 to:		
	1.0	0.75	0.5

3.2 NIS Demographic projections

The demographic projections are presented in the following table.

Table 7 NIS demographic projections, *Intermediate* scenario, 2002 - 2062

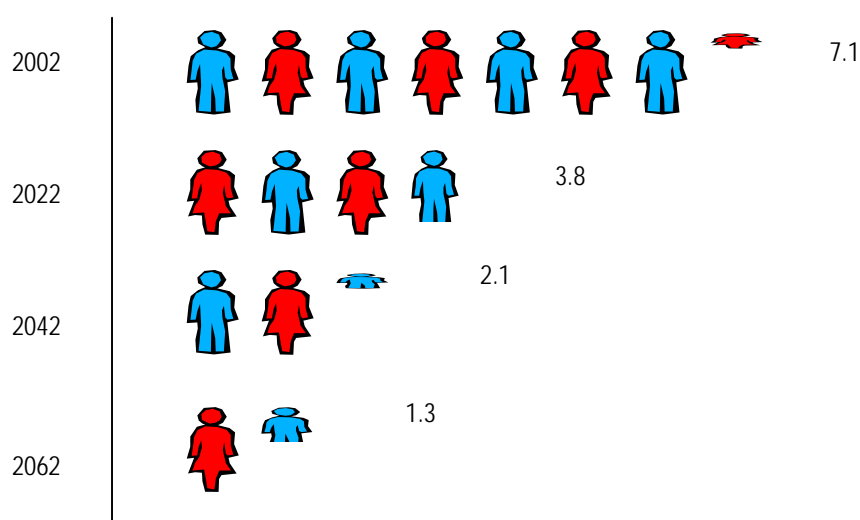
Year	# of Contributors	# of Pensioners					Total # of Pensioners	Ratio of Contributors to Pensioners
		Age	Invalidity	Survivors	Provident Fund	Death & Disablement		
2002	32,582	2,042	289	673	1,558	16	4,578	7.1
2003	32,741	2,218	320	701	1,493	19	4,751	6.9
2004	33,493	2,400	351	710	1,427	20	4,908	6.8
2005	34,295	2,598	382	728	1,360	22	5,090	6.7
2006	35,133	2,812	413	757	1,292	23	5,297	6.6
2007	35,997	3,037	445	785	1,224	25	5,516	6.5
2008	36,882	3,274	477	809	1,154	27	5,741	6.4
2012	40,523	4,386	615	865	875	35	6,776	6.0
2022	47,211	9,112	937	1,223	292	60	11,624	4.1
2032	51,462	13,633	1,259	1,749	37	92	16,770	3.1
2042	52,977	19,744	1,786	2,271	1	142	23,944	2.2
2052	50,824	27,647	2,029	2,793	-	181	32,650	1.6
2062	49,523	29,431	1,954	3,223	-	201	34,809	1.4

Note: Age pensioners includes Reduced Age pensioners

The ageing of the general population is projected to affect NIS demographics. The number of contributors is only expected to increase from 32,600 to just over 50,000 and then decrease, while the number of pensioners is projected to increase more than seven times, to almost 35,000. As shown in Chart 8, the support ratio will fall dramatically from just over seven contributors for each pensioner today to only 1.3 in 2062. The following chart also illustrates the dependency ratio to year 2062.

As NIS benefits are only partially funded, future generations of contributors will help meet the benefit costs of previous generations. With the projected decline in the number of contributors to pensioners, and the expected trends for income and expenditure, future smaller generations of workers will be required to pay significantly higher contribution rates for the same benefits.

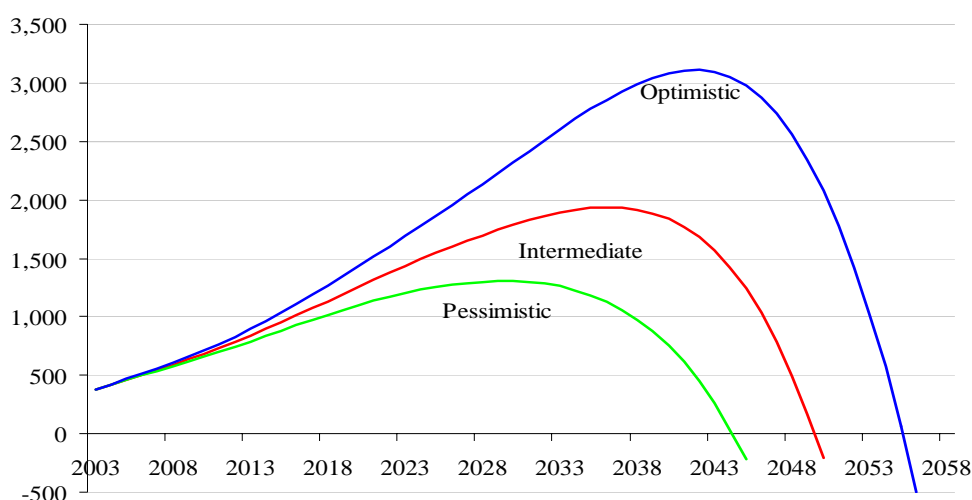
Chart 8 Projected NIS number of contributors per pensioner, 2002 to 2062



3.3 NIS financial projections

For accounting purposes, NIS finances are separated into the Short-term, Employment Injury and Long-term Benefit Branches, representing the three major benefit types that NIS offers. However, provisions exist for transferring reserve funds between benefit branches and changing income allocations. Therefore, shortfalls in one benefit branch may be met from a surplus reserve of another. For this report, the projections for the three benefit branches have been consolidated so that the complete financial picture may be shown. The projected total NIS reserve under the three scenarios is illustrated in the following chart.

Chart 9 Projected NIS reserve, 2003 2058 (million EC\$)



As illustrated, the NIS reserve is projected to continue growing for at least 25 more years, reaching more than three times and eight times their current level under the *pessimistic* and *optimistic* scenarios, respectively. If the contribution rate is not increased periodically, the NIS reserve will eventually reach their maximum level when total expenditure first exceeds total income. Thereafter, assets will have to be sold to meet expenditure and the NIS reserve will decrease quickly as the liquidation of investments continues. In partially-funded defined-benefit social security schemes the trend for the NIS reserve illustrated in

Chart 9 is normal if the contribution rate remains below the true cost of benefits while the number of contributors per pensioner falls.

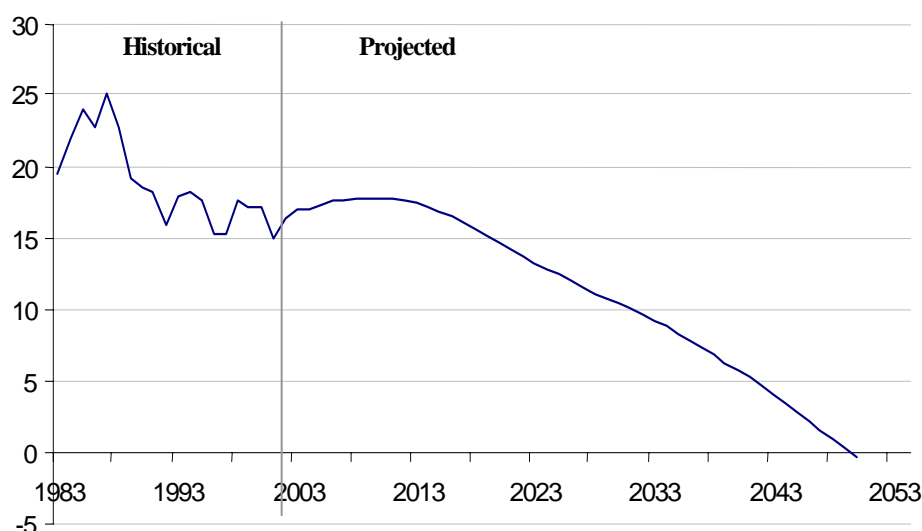
The following table summarises the years in which key financial events are expected to occur.

Table 8 Key actuarial results under present NIS provisions

	<i>Pessimistic</i>	<i>Intermediate</i>	<i>Optimistic</i>
Year when expenditure first exceeds contribution income	2017	2019	2021
Year when expenditure first exceeds total income	2030	2037	2043
Year when NIS reserve depleted	2045	2050	2056

While the total NIS reserve is projected to continue increasing for many more years, NIS' relative level of funding will soon start to deteriorate. As the following chart illustrates, the reserve-to-expenditure ratio has generally declined over NIS' first 20 years, but is expected to increase slightly over the next five years. As the scheme matures and expenditure growth outpaces the growth of the NIS reserve, NIS' relative funding level will once again decline if the contribution rate is not increased or benefit reforms made.

Chart 10 Past and projected NIS reserve-to-expenditure ratios, 1983 - 2053



Numerical details of the financial and demographic projections for the *intermediate* scenario are provided in Tables 8 to 10. Similar tables for the *pessimistic* and *optimistic* scenarios may be found in Appendix III. For selected years between 2002 and 2062 these tables show:

- projected income and expenditure, year-end reserve and the reserve-to-expenditure ratio,
- projected benefit expenditure by major benefit type in EC dollars and as a percentage of insurable earnings and GDP, and
- projected number of contributors and pensioners by major benefit type.

Table 9 Projected NIS income, expenditure and reserves, *intermediate* scenario, 2002 – 2062 (million of EC\$)

Year	Revenue				Expenditure			Annual surplus/(deficit)	Reserves	
	Contribution income	Investment income	Other income	Total	Benefits and pensions	Administrative and other expenses	Total		Year-end	No. of times current year's expenditure
2002	52.8	20.8	0.2	73.8	16.6	4.4	21.0	52.8	343.9	16.3
2003	36.3	22.5	0.2	59.0	18.0	4.7	22.7	36.3	380.4	17.0
2004	41.6	24.1	0.2	65.9	20.4	4.9	25.3	40.6	421.4	16.9
2005	44.0	25.8	0.3	70.1	22.0	5.2	27.2	42.9	464.6	17.3
2006	41.1	27.1	0.2	68.4	23.8	5.5	29.3	39.1	504.2	17.5
2007	43.2	28.1	0.3	71.6	25.7	5.8	31.5	40.1	544.8	17.6
2008	45.5	30.3	0.3	76.1	27.7	6.1	33.8	42.3	587.7	17.7
2012	55.9	40.5	0.3	96.7	38.1	7.4	45.5	51.2	782.3	17.5
2022	87.2	71.6	0.5	159.3	91.6	11.5	103.1	56.2	1,366.8	13.5
2032	128.6	97.2	0.8	226.6	180.7	16.7	197.4	29.2	1,831.1	9.4
2042	181.0	87.9	1.1	270.0	350.5	23.5	374.0	0	1,591.5	4.3
2052	245.6	(56.3)	1.5	190.8	650.9	31.7	682.6	0	0	0
2062	352.8	(469.5)	2.1	(114.6)	970.0	44.7	1,014.7	0	0	0

Note: Reserves equal to zero indicate the depletion of the Fund.

Table 10 Projected benefit expenditure– *Intermediate* scenario, 2002 – 2062 (millions of EC\$)

Year	Pensions, Grants & Benefits						Benefits as a % of:	
	Age	Invalidity	Survivors	Provident Fund	Short-term	Emp. Injury	Insurable Wages	GDP
2002	8.4	1.0	0.8	2.5	3.5	0.4	4.4%	1.5%
2003	9.1	1.2	1.0	2.4	4.0	0.4	4.6%	1.6%
2004	10.8	1.5	1.1	2.5	4.2	0.4	5.0%	1.7%
2005	11.8	1.6	1.2	2.5	4.5	0.4	5.1%	1.7%
2006	13.0	1.8	1.3	2.4	4.7	0.5	5.2%	1.8%
2007	14.3	2.1	1.4	2.3	5.0	0.5	5.3%	1.9%
2008	15.7	2.3	1.6	2.3	5.3	0.6	5.5%	1.9%
2012	23.3	3.4	2.1	1.9	6.6	0.8	6.1%	2.2%
2022	66.6	7.3	4.5	0.8	10.6	1.8	9.5%	3.4%
2032	139.5	12.6	8.9	0.1	16.2	3.3	12.6%	4.5%
2042	281.4	23.4	16.2	0.0	23.6	5.9	17.4%	6.0%
2052	545.4	35.6	27.3	-	33.0	9.5	23.9%	7.8%
2062	814.7	47.9	43.1	-	49.0	15.3	24.7%	8.3%

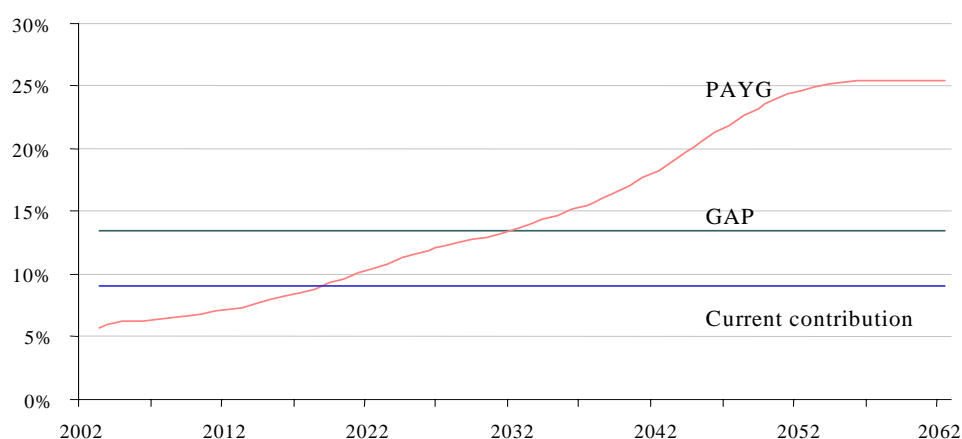
Note: Age pensioners includes Reduced Age pensioners and Funeral Grant is included in Short-term Benefits

3.4 Assessments of NIS financing requirements under present provisions

The cost of NIS benefits and administrative expenditure may be viewed from several perspectives. Firstly, each year's total expenditure can be expressed as a percentage of that year's insurable earnings. This is often referred to as the PAYG rate and is the answer to the question "what contribution rate is required to exactly meet that year's expenditure?" Since inception the PAYG rate has been well below the actual contribution rate, but it is increasing gradually.

The second rate, called the general average premium (GAP), is the average level contribution rate required over the next 60 years to fully cover total expenditure during that period. This rate may be looked at as the long-term cost of the complete NIS benefits package. In Chart 11 the relationships between the PAYG rate and the GAP for the *intermediate* scenario, and the present contribution rate, can be readily noted.

Chart 11 Projected NIS contribution requirements under present provisions, 2002 – 2062, *Intermediate* scenario (% of insurable earnings)



As shown above, the current contribution rate of 9 per cent is today higher than the PAYG rate by over 3 per cent, but it is 4.4 per cent below the *intermediate* scenario GAP of 13.4 per cent. The increasing PAYG curve that eventually exceeds the current contribution rate indicates that contributions are now sufficient to meet expenditure but will soon be insufficient to meet total expenditure. Therefore, investment income, and eventually proceeds from the sale of assets, will be required to meet benefit payments and administrative costs. If the Fund becomes depleted, there would be no investment income, and thus contribution rates of just over 25 per cent in 2062 would be required to meet current expenditure.

The GAP and PAYG cost rates for each scenario are shown in Table 11. As expected, the *optimistic* scenario indicates the lowest contribution rates that would be required to meet expenditure while the *pessimistic* scenario produces the highest rates.

Table 11 Projected NIS contribution requirements under present benefit provisions (% of insurable earnings)

Projection scenario	GAP	PAYG cost		
		In 2002	When reserves depleted	In 2062
<i>Pessimistic</i>	14.9	5.5	23.9	31.0
<i>Intermediate</i>	13.4	5.5	23.8	25.5
<i>Optimistic</i>	12.0	5.5	22.1	22.1

3.5 Actuarial balance at 31 December 2002

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

- the sum of the beginning reserve and the present value of future contributions (money available to meet expenditure), and
- the present value of future expenditure,

which is divided by the present value of future insurable earnings. This formula produces a rate that indicates the adequacy or insufficiency of the present contribution rate for a given period. This deficiency can also be expressed in EC dollars as shown in Table 12 below.

Table 12 NIS actuarial balance as of valuation date (million EC\$)

	2002 year-end reserves	344
Plus	Projected value of future contributions	1,504
Minus	Projected value of future expenditure	(2,234)
Equal	Actuarial balance: Projected value of NIS shortfall	(386)
	Actuarial balance: As % of insurable earnings	(2.3)
	Actuarial balance: As % of GDP	33

Consistent with previous discussions, the negative actuarial balance indicates that, together with the NIS reserve, the contribution rate is insufficient to meet future expenditure for the next 60 years. The shortfall of 2.3 per cent indicates that the contribution rate would have to be 2.3 per cent higher for the entire period in order for the NIS reserve to last up to 2062. In EC dollar terms, the shortfall of EC\$386 million is slightly higher than the current NIS reserve, implying that it would have to be around twice their current size for the 9 per cent contribution rate to be sufficient up to 2062. Relative to the size of the economy, the contribution shortfall is 33 per cent of GDP.

3.6 Sensitivity of actuarial projections under present provisions to selected assumptions

This section analyses several additional projections of NIS finances, showing the effect of different assumptions on long-term costs. For simplicity, only the *intermediate* scenario will be used to analyse changes in cost that are expressed in terms of the GAP. Any change in the GAP may be considered the change in the long-term cost of NIS benefits.

3.6.1 Larger or smaller pension adjustments

One of the main assumptions of these projections is the frequency and amount of pension increases. While such adjustments are not legislated it is envisaged that from time to time pensions will be adjusted to offset reduced purchasing power. For the *intermediate* scenario, annual pension increases have been assumed to be equal to inflation of 2.5 per cent. If instead, actual pension increases are slightly higher or lower, long-term costs will be higher or lower as follows:

- with pension increases of 2 per cent per annum instead of 2.5 per cent, the GAP would be 12.8 per cent instead of 13.3 per cent and the PAYG rate in 2062 would be 1.3 per cent lower.
- with pension increases of 3 per cent per annum instead of 2.5 per cent, the GAP would be 13.8 per cent instead of 13.3 per cent and the PAYG rate in 2062 would be 1.5 per cent higher.

This shows that the results are quite sensitive to actual pension increases.

3.6.2 Lower or higher rates of returns on reserves

At the end of 2002, the NIS reserve stood at EC\$344, or 31 per cent of GDP. With such a large fund, the returns achieved on investments can help reduce future contribution rate increases. If instead of the long-term return assumption of 5.5 per cent per annum, NIS can realise an average of 6.5 per cent, the GAP would be 1 per cent lower and the NIS reserve would be exhausted seven years later in 2057. On the other hand, if nominal returns of only 4.5 per cent can be obtained, the GAP would be 1 per cent higher and the NIS reserve would be exhausted in 2046.

The results of these sensitivity tests show that, although each individual change would not have a major overall impact, small positive variances in areas over which management and policymakers have control can result in meaningful differences in long-term costs.

Table 13 NIS sensitivity tests results (% of insurable earnings)

Projection scenario	GAP	PAYG cost rate in year 2062
<i>Intermediate</i> scenario	13.4	25.5
Annual pension increases of 2% instead of 2½%	12.9	24.2
Annual pension increases of 3% instead of 2½%	13.9	27.0
6.5% long-term return on reserves instead of 5.5% p.a.	12.4	25.5
4.5% long-term return on reserves instead of 5.5% p.a.	14.4	25.5

3.6.3 HIV/AIDS impact on NIS finances

The growing prevalence of HIV/AIDS in the Caribbean, and indeed Grenada, has several implications for NIS. The most direct effects will be through contributions, which may be lower as skilled individuals are no longer able to work and overall economic growth is retarded. On the benefit side, incidence rates of Invalidity pensions would be expected to increase as well as the number of spouses and children who will be eligible for survivors' pensions. But as the experience of sub-Saharan Africa has shown, HIV/AIDS can have a devastating impact on an economy and in turn the social security system.

While the assumptions for mortality improvements for the overall population and NIS pensioners have been conservatively projected because of HIV/AIDS, no explicit assumptions were made for its impact on NIS finances. If, however, HIV/AIDS incidence increases significantly and approach levels now being experienced in sub-Saharan Africa, even the results of the *pessimistic* scenario may show NIS in too favourable a light.

Without changing the assumptions that affect income, if Invalidity and Survivor pension incidence rates are assumed to double over the next 20 years and remain at those levels thereafter, overall NIS costs would be 0.8 per cent higher.

The results of the scheme modifications described above are summarised in the following table.

Table 14 Financial effect of possible NIS parametric reforms (% of insurable earnings)

Projection scenario	GAP rate	PAYG rate in 2062
<i>Intermediate</i> scenario results	13.4	25.5
500 additional Provident Fund pensioners from 2004	13.4	25.5
New old-age pension formula with 15% lower average new pension	12.1	22.3
Payment of both old-age and survivors' pensions	13.7	26.4
Increasing normal retirement age from 60 to 65	10.9	20.1
Invalidity and survivors' incidence rates doubled – possible result of increasing HIV/AIDS prevalence	14.2	26.5

3.7 Preserving National Insurance for future generations

The projection results thus far discussed suggest that, while NIS is financially sound for the short and medium-terms, unless the contribution rate is increased or benefit reforms made, Grenada's social security system is not sustainable indefinitely. The main reasons for this are:

- i) current assets are significantly less than the value of benefits already earned,
- ii) the present contribution rate is below the average cost of the NIS benefits package, and
- iii) the number of persons contributing per NIS pensioner will continue to decrease.

Strengthening NIS financially will require the adoption of measures that increase income or decrease expenditure. The following lists summarise the means by which each can be achieved.

Increasing income		Containing expenditure	
Contributions:		Benefits:	
1.	Increase the contribution rate	1.	Stricter eligibility conditions – Contribution requirements
2.	Increase the earnings base – Increase compliance – Increase the ceiling on effective earnings	2.	Change pension formula – Reduce accrual rates – Re-define reference earnings – Career-average formula
		3.	Increase retirement age
Investment earnings:		Administrative expenses:	
1.	Enforce payment of interest	1.	Reducing administrative costs – Staff levels – Other operating costs
2.	Reduce management costs		
3.	Review investment policy – Longer duration – Investments in equity – Overseas investments		

For contributions, there is room to increase compliance, especially among the self-employed where scheme participation is extremely low. Increasing the ceiling could also be considered as a means of enhancing overall finances once the additional benefits earned do not exceed the additional contributions received. With fewer than 10 per cent of current contributors having earnings that exceed EC\$3,000 per month, the impact of increasing the ceiling will not be that great, however. It should be noted too that if more people contribute and the ceiling is raised, additional benefits will be payable in the future, and thus the net financial effect may be neutral. A rate increase, therefore, is the only meaningful way of increasing income through contributions. Also, by broadening the scope of investment opportunities, including investing more outside of Grenada, NIS should be able to realise higher rates of return over the long run.

On the expenditure side some savings may be realised from reducing administrative costs but changing the manner in which pension amounts are calculated will be the most

effective way of containing long-term costs. Such changes should target the accrual rates that are heavily skewed to short service and the number of years over which insurable earnings are averaged. It is recommended that these changes be given priority over others, such as increasing the normal retirement age. Once pensions are made adequate, equitable and affordable, NIS should then consider raising the contribution rate so that future generations will not be forced to pay much more than the current generation of contributors for the same or smaller pension promise.

As indicated earlier, if the Fund is allowed to deplete, the scheme will enter what is called a “PAYG” state where expenditure will have to be met by current income. This would call for rates of 24 per cent increasing to 25.5 per cent in 2062. Instead of having to increase the contribution significantly when the Fund is depleted and then each year thereafter as expenditure increases, a schedule of contribution rate increases that begins within the next five to ten years should be developed. This will ensure that an appropriate level of the NIS reserve always exists and that drastic measures aimed at preserving the Fund can be avoided in the future. It is recommended that changes to benefits be made first and then the development of a rate increase schedule could be deferred until the next actuarial review.

For the purpose of illustration, if no explicit changes are made to reduce long-term expenditure, one way of securing the Fund for the next 60 years would be to increase the contribution rate immediately to 13.4 per cent (GAP) so that the present funding level may be preserved. A more prudent approach, however, would be gradual, step-like increases, bringing the contribution rate to a level slightly higher than 13 per cent. The ultimate rate would be established based on a desired long-term funding objective. If, for example, the funding objective was a reserve of at least four times annual expenditure 60 years from now, one possible schedule of rate increases that could achieve this is 1 per cent increases in the contribution rate each year from 2010 to 2030, reaching a high of 14 per cent.

The issue of social security reform is topical throughout the world with countries taking different approaches to securing the viability of their programmes. Some countries have suspended their traditional state-run defined-benefit schemes and opted for defined-contribution, privately managed schemes. Others have kept the traditional defined-benefit approach and have made reforms that reduce long-term costs. A few others have chosen a hybrid approach combining defined-contribution and defined-benefit, public and private management as well as fully-funded and partially-funded tiers. The preferred option depends heavily on the country’s socio-economic conditions, the current and projected financial state of the scheme, the development of domestic capital markets, and the philosophy of the Government and people.

Grenada’s social security is still very young and there is no need to change its defined-benefit structure at this time. However, the projected 45-year timeframe before fund depletion should not create a false sense of complacency, as failure to take proactive measures will result in higher costs or lower pensions in the future. The Board is therefore encouraged to review all aspects of NIS’ pension provisions and following wide-ranging discussions, take appropriate measures aimed at securing the long-term viability of the National Insurance Fund.

4. Policy and administrative issues

Several suggestions for changes to benefit provisions have been made by local authorities and other are being recommend by the actuary. Each of these is discussed in Section 4. For those that have major financial implications, long-term projections have been made and the differences noted relative to the results of the *intermediate* scenario projections. These issues and the projection results, where appropriate, are presented below.

4.1 Financing considerations

4.1.1 Ceiling increases

Since 1998, the ceiling on insurable earnings has been fixed at EC\$3,000. This is approximately twice the average insurable earnings of NIS contributors. Since 1998 average insurable earnings have increased by approximately 13 per cent. Therefore, to the approximately 5 per cent of insured persons who earn more than EC\$3,000 per month, NIS insurance coverage has gradually become less relevant as their earnings have increased over the past five years. Therefore, a ceiling increase of around 15 per cent is recommended. Such an increase would take the monthly ceiling to EC\$3,450.

A new method to the way the earnings ceiling is increased is also being recommended. The suggested approach calls for annual adjustments (as practiced in most industrialised countries) based on the increase in national average wage in Grenada, with both the timing and method of determining the adjustment placed in National Insurance Regulations. For example, the ceiling could be adjusted each July based on changes in national average wage over the previous year. Since there is presently no official Grenadian wage index, changes in the Consumer Price Index or an NIS wage index (that measures changes in average insurable earnings) may be used. However, the creation of a national wage index is encouraged.

Frequent ceiling increases will ensure that Grenada's social security programme remains relevant to higher paid contributors. Also, by placing the timing and method of determining ceiling increases in NIS regulations, future adjustments will be predictable, appropriate and free of political pressures.

4.1.2 Outstanding amounts owed to NIS by Government

Between 1997 and 2001, the Grenada Government did not pay its contributions in full each year. In 2002, a substantial portion of outstanding contributions was paid off. However, as of November 2003, Government's indebtedness to NIS stood at EC\$51.7 million distributed as follows (in EC\$):

Table 15 Government debt due to NIS as of end 2003 (million EC\$)

Contributions	14.8
Matured bonds	21.6
Interest on bonds	15.3

In August 2002, an Agreement that confirmed government's intention to pay off the arrears in 24 months beginning December 2002 was signed by the Ministry of Finance and the National Insurance Board. Government also agreed to make timely contributions for current periods and as of December 2003, Government was slightly behind on the terms of the Agreement.

The non-payment of contributions, the face amount of matured bonds and interest on bonds has current and future cash-flow consequences for NIS. Also, as Grenada's largest employer, the government's arrears status could make it difficult to enforce compliance in the private sector. Therefore, Government is encouraged to comply with the Agreement signed in 2002 and quickly eliminate its total indebtedness to NIS for contributions, interest on bonds and the face amount of bonds whose maturity date has passed.

4.2 Considerations on benefit provisions

4.2.1 Increasing pensions and grants

Along with frequent and legislated ceiling increases, there should also be automatic increases to pensions-in-payment and grants. Such adjustments will ensure that pensioners will be able to enjoy the same standard of living that they did when the pension was first awarded.

Since 1983, NIS pensions have been increased only three times – 35 per cent in 1994, 5 per cent in 1995 and 8 per cent in March 1998. For someone awarded a EC\$100 pension in 1986, these three adjustments have resulted in a pension in 2003 that is slightly more than what annual inflation adjustments would have provided - EC\$153 versus EC\$148.

At the end of 2003, the value of an old-age pension awarded in 1998 has fallen by approximately 12 per cent due the effects of price inflation. Therefore, an across the board pension increase should be considered now. However, actual adjustments should vary depending on when the pension was awarded – that is, those whose pension was awarded prior to 1999 should get the full increase while those awarded after should receive an adjustment that compensates for cumulative actual inflation for the years since the pension was awarded. The following table provides recommended adjustments presuming that such increases take effect in early-2004.

Table 16 Recommended adjustment rates to individual NIS pensions

Year pension was awarded	Adjustment rate (%)
1998 and before	12
1999	10
2000	8
2001	6
2002	4
2003	2

The amount paid for Funeral and Maternity grants, EC\$2,000 and EC\$450, respectively, have also not been increased since 1998. It is therefore recommended that both be increased in 2004 by at least 12 per cent. If, however, a 12 per cent increase is not felt to be sufficient, then higher increases may be granted based on certain financial objectives.

During the actuary's visit to Grenada in September 2003, investigations at funeral homes suggested that the cost of a basic funeral is between EC\$3,000 and EC\$3,500. This indicates that the grant of EC\$2,000 now covers between 55 per cent and 70 per cent of basic funeral costs. If this level of replacement is not considered adequate then the Board may wish to increase the grant by more than the 12 per cent suggested above. In deciding on a rate, though, the Board should take note of the purpose of the grant as well as the possibility that a higher grant may simply translate to increased charges by funeral homes.

Under the present system of ad hoc pension increases, the Government of the day decides when to adjust pensions and by how much they should be adjusted. The current method, therefore, is open to political manipulation and is also not predictable, thus reducing the level of assurance that pensioners have of their pension keeping pace with cost-of-living increases. Therefore, it is recommended that a policy of annual adjustments be introduced. The amount of each increase could be actual inflation over a recent 12-month period or the average rate of inflation over the most recent three years. This latter approach will result in less volatile increases. To avoid large increases in pensions that may negatively impact NIS' future finances, a maximum of say 5 per cent may be placed on any single adjustment. Government can then decide whether or not to grant a larger increase based on actuarial advice. Similar provisions for annual increases to pensions and grants were recently enacted in Barbados.

4.2.2 Improving pension provisions

When addressing possible improvements to the pension provisions, the minimum standards promulgated by the ILO Convention 102 of 1952 on Social Security are recalled as they reflect general accepted principles of social security at the international level and have proven to remain valid till to this date. With regard to improving the pension formula, the following minimum standards should serve as guidelines:

- The normal retirement age should not exceed 65 unless there is evidence that life expectancy at older ages has significantly increased.
- The old-age pension shall amount to at least 40 per cent of former earnings after completing a contributory service (employment) of 30 years.
- Insured workers accumulating less than 30 years of contributory service (employment) but more than 15 years should be entitled to a prorated pension in relation to the above point.
- A pension may be suspended in case a pensioner is engaged in a gainful activity or receiving another pension.

The present pension formula in Grenada follows a three-year final-average-earnings basis. This implies the relationship between contributions and benefits is not strictly direct as found in the case of private insurance. This is characteristic of social insurance whereby the state's responsibility in providing income security for the elderly must take account of various social objectives. The extent to which income redistribution objectives are pursued may be reflected through the pension formula, notably:

- (a) the definition of the minimum pension,
- (b) the maximum level of earnings insurable by the system – the ceiling,
- (c) the reference earnings used to determine the pension, and
- (d) the schedule of benefit accrual rates according to the contributory record.

(a) Improving the minimum pension

The minimum pension for new old-age and invalidity pensioners is of EC\$160 monthly. Despite lacking national data on wages in the economy, it is reasonable to believe the minimum pension is likely lower than the prescribed level of the ILO Convention 102 on minimum standards of social security defined as 40 per cent of the average wage of unskilled male workers. It is recommended to adopt a definition of the minimum pension accordingly and to consider increasing the level of the minimum pension at a level close to the minimum standard of the ILO Convention 102 and to index its level annually in future in line with increases in the national average wage or in the average wage of male unskilled workers – a basis consistent with other indexation measures. The importance of the minimum pension could become very significant in future if the pension formula uses a longer reference period for earnings as discussed below.

The most vulnerable groups of insured persons, e.g. those with lower earnings, those having possible holes in their insured career and those having had years of low earnings when taking care of children, may at present greatly benefit from the decreasing benefit accrual pension rates and final average earnings formula and may not need the minimum pension. However once a new pension formula is introduced moving towards a career-average pension formula, the pension formula will provide very low pensions for many of them – possibly well below acceptable minimum standards as prescribed in the ILO C.102 – such that they will become entitled instead to a minimum pension.

(b) Maintaining the relative value of the ceiling

The present ceiling on insurable earnings is of 3,000 EC\$ monthly since 1998. It is important that its level be reviewed regularly, on an automatic basis ideally, to ensure it covers the majority of the actual earnings of insured workers as they do not have access to other meaningful means of ensuring their income replacement in old age. Regular ceiling increases will ensure the social security programme remains relevant to higher income earners. In this respect, it would be important to consider a reference basis upon which to benchmark such increases in the ceiling. For example, a national average wage statistics could be used, provided it is available. In its absence, one could use a combination of changes in the consumer price index or changes to the average insured wages. An annual indexation would be ideal. The overall basis for setting and adjusting the ceiling should be reflected in the regulations of the social security scheme so future adjustments will be predictable, appropriate and free of political pressures.

(c) Extending the reference period for past insurable earnings

The public social security system normally defines reference earnings to account for the following factors, which can sometimes become contradictory:

- the need to ensure there is a minimum link between earnings used in the past to collect contributions and earnings used to determine future pensions; and
- the need to provide meaningful income replacement in relation to the living standards enjoyed in the later years of active life prior to retirement.

At present the pension formula in Grenada is based on the average of the best three years of insurable earnings out of the ten years preceding retirement. Whilst this can help insured workers obtain a pension more closely related to their final living standard preceding retirement, this provides a limited link between the pension definition and the contributory earnings over someone's career. It also provides more possibility for the abuses where employers and workers agree to declare higher insurable earnings in the years immediately preceding retirement so that a higher pension can be obtained. In addition, some people may argue that it is not possible to control one's career earnings and it becomes unfair if

two persons with completely different earnings patterns throughout their respective careers but with similar earnings in the final three years would obtain the same pension. This latter situation is most unlikely but possible on the basis of a final-average earnings pension formula. It is also noted that ad hoc wage-ceiling increases that occur irregularly, as in the past, unfairly benefit to some higher income earners who happen to retire immediately after one such ad hoc increase is enforced – as opposed to insured persons with a similar earnings profile who happen to retire before such an ad hoc increase in the wage-ceiling and hence obtaining a lower lifetime pension when compared to the luckier ones.

It is recommended to consider the possibility of gradually extending the reference period up to a past period of ten years whilst adjusting the past earnings to reflect possible changes in average wages. Consideration may eventually focus on the desirability and feasibility of later introducing an indexed career-average earnings pension formula although this later approach may not be so desirable if it is shown that nearly all income groups end up receiving a lower pension in the end.

The proposed approach to calculate reference earnings based on the past ten years takes into account the actual insurable earnings upon which contributions were collected throughout someone's ten-year reference period in the past and re-valued to reflect their real value at the time of calculating the pension.

Most countries in Latin America and The Caribbean use a final-average earnings pension formula at present whilst most OECD countries, where national statistics databases are well developed, provide some form of average indexed career-earnings pensions. The extension of the reference period for past insurable earnings should be achieved over a gradual period to account for the lack of past time series on national average wage data. A gradual phasing-in of the extension would also diminish the potential impact of a sudden increase in the ceiling on reference earnings if occurring just before entitlement to a pension. The extension of the reference period would require the establishment of an official national average wage statistics.

In most OECD countries, special provisions exist to account for the years during which a worker may receive lower earnings due to irregular employment (part-time and temporary work), spells of unemployment or child rearing.

(d) Reviewing the schedule of pension accrual rates

The present pension formula in Grenada provides a higher income replacement rate for the first ten years of insurance, the minimum required to qualify for an age pension, compared to the following years of credited service as shown in the table below. This implies that an insured person retiring with a record of ten years of service would receive a pension representing 30 per cent of his/her final three-year average insurable earnings, implying an annual pension accrual rate of 3.0 per cent on average. The insured person retiring with a record of 40 years of insurable service would receive a pension equivalent to 60 per cent of his/her final three-year average insurable earnings, implying an annual pension accrual rate of 1.5 per cent on average.

Table 4.3. Benefit accrual rates per year of credited contributory service (% of 3-year final-average earnings)

Years of credited contributory service	Benefit accrual rate per year of credited contributory service
1-10	3.0
11 & above	1.0

The present schedule of pension accrual rates favours careers with shorter service. It provides a minimum income replacement protection for those who could only accumulate a limited number of years of insurable service soon after the NIF was established. It satisfies the minimum standards of the ILO Convention no. 102 recommending, in broad terms, that a worker with a 15-year record should receive a pension equivalent to 40 per cent of his/her average insurable earnings. Some countries mostly found in OECD countries use a flat benefit accrual rate for each year of credited service instead of a schedule of decreasing rates. It may be worthwhile considering the review of the Grenada benefit accrual rates to determine whether they should remain as they are or if they should be modified into a flat benefit accrual rate applicable to each year of credited service. The analysis should take into account the income replacement objective of the NIF beforehand whereby decision makers should re-examine the objective of the NIF in terms of what is the target career length and target income replacement level of the social security programme.

The ILO Convention 102 of 1952 on Minimum Standards of Social Security states the principles of solidarity and pooling of risks. The present three-year final average pension formula satisfies these principles whereas a pension formula moving towards a pure career-average earnings basis would move away from these basic social security principles and more towards individualistic approaches as found in private insurance. At present, the NIF seems to focus its income replacement objective on workers accumulating a 35- to 40-year career so they receive a pension representing nearly 60 per cent of their three-year final-average insurable earnings. The target career length expected to be protected by the NIF may be verified against actual average employment profiles found in Grenada to ensure most people work on average for 35 to 40 years in Grenada itself. In the event where migrant working practices are widespread, account should be taken of the typical profiles to be protected by the NIF when defining the income replacement objective of the system.

In addition, consideration should be given to the future cost implication on the overall scheme and overall desired affordability. If the estimated present NIF benefit provisions are considered too expensive with a general average premium of 13.4 percent of insurable earnings, then policy makers should determine what is an acceptable contribution rate in the long term and from thereof address the main design parameters of the pension formula. In this way, it is possible to define more realistic expectations in terms of income replacement in old age and to determine accordingly a new pension formula meeting the intended objective.

Utmost care must be taken in comparing the present pension accrual rates with possible future ones by taking into account the impact of the possible extension in the reference period for past insurable earnings. Hence, it is important to determine for all career profiles what a pension of today equivalent to 60 per cent of the three-year final-average insurable earnings, for example, would be on the basis of a longer reference period used to calculate pensions – much likely requiring a higher flat benefit accrual rate to remain equivalent.

Not only higher income earners but also middle and lower income classes will be affected by such changes in the method of calculating pensions. If the main aim is to reduce the overall long-term cost of the scheme, benefit reductions should be carefully assessed to ensure they do not fall below the replacement rate for old-age pensions as prescribed by C. 102. According to Articles 28 and 29 in conjunction with the Schedule to part X of C. 102: the old-age pension shall amount to at least 40 per cent of the former earnings of the beneficiary whereas the former earnings have to be equal to the earnings of a skilled manual male employee at the moment of retirement. As employees usually earn less at the beginning of their working life, the pension will be much lower when using the indexed carrier earnings formula. It should also be mentioned that the adoption of an indexed

career-average earnings pension formula requires an elaborate administration system able to adjust all paid contributions during the whole career.

4.2.3 Payment of both old-age and survivors' pensions

When NIS was first established, the concept of Survivors' benefit was predominantly geared towards the non-working widow of a contributor. Today, women make up a significant part of the workforce and thus are often entitled to their own old-age pension. Should her husband die and the widow be in receipt of, or later qualify for, an old-age pension, she will only receive the larger of her old-age pension and the survivors' pension.

As a consequence of present rules, it is possible for household income to fall by more than 50 per cent should one pensioner die. For example, if the husband's weekly pension is EC\$150 and the wife's EC\$100, total household income would fall from EC\$250 to EC\$112.50 after the husband's death. (EC\$112.50 is 75 per cent of \$150 which is greater than EC\$100) Therefore, there would be a strong argument that in such a case more than just the greater benefit be paid as household expenses do not fall by as much as 50 per cent following the death of one person.⁶

Also, if both spouses are receiving old-age pensions, the pension to the surviving spouse upon death of one party may be different depending on who dies first. Using the above example, if the wife dies first, the husband's pension would have been EC\$150. (EC\$150 is the larger of EC\$150 and 75 per cent of EC\$100) Therefore, if household income is considered to be equally shared by both spouses, regardless of whose pension is bigger, the current survivors' pension discriminates against the spouse with lower pension.

There are also instances where current rules may result in the surviving spouse of a household where only the husband worked, receiving a larger pension than the surviving spouse of a household where both spouses worked and both households had the same income.

To eliminate such anomalies and possible financial hardship that present survivors' pension provisions may create, it is recommended that one of the following options for paying survivors' pensions be adopted:

- payment of both Age and Survivors' up to a maximum combined weekly pension,
- payment of full old-age pension plus a portion (say ½) of the survivors' pension, or
- payment of the higher of the two old-age pensions.⁷

If any of the above options is adopted, persons who have already claimed survivors' pensions and who are now receiving only the greater of two benefits would have their pensions reworked under the new laws. It is not possible to determine how many persons fall into this category or how many additional pensions will be paid. Therefore, an estimate of the financial impact of these changes has been made assuming that there are 50 per cent more Survivor pension awards each year for persons 60 and over. (It has also been assumed that the qualifying conditions for widowers will soon be made the same as those for widows) Under these assumptions, the increase in general average premium (GAP) is 0.3 per cent. Prior to selecting one of the above or any other options, internal calculations

⁶ The US poverty line for an individual is only 20 per cent less than that for a couple.

⁷ Payment of two pensions should also be allowed for Invalidity and Survivors.

could be made to see how current pensioners will be affected and thus the impact on long-term costs.

While reviewing Survivor pension provisions, a change in the way the minimum pension is defined should be considered. Presently, the minimum pension to a widow(er) is 75 per cent of the minimum pension to an old-age pensioner – EC\$30 per week. This rate is rather low. Also, if the minimum pension for old age is designed to provide income to support a basic standard of living, then a similar objective should exist for survivors, especially where the pension is the only reliable source of income for an elderly person. Therefore, the Board may wish to consider setting the minimum pension payable to any adult for Age, Invalidity, Survivors', Disablement or Death pensions at the current Age/Invalidity rate.

4.2.4 Increasing the normal retirement age

When NIS was established in 1983, age 60 was considered an appropriate age at which national pensions should be first payable. Today, Grenadians are entering the workforce later and are generally in good health at age 60. Therefore, consideration should be given to gradually increasing the normal retirement age from 60 to 65. If this change is made, age 60 could remain the age at which pensions are first payable, but at a reduced amount – such as 70 per cent. Increases in normal retirement age are presently occurring in Barbados, from 65 to 67, and in St. Lucia where it is moving from 60 to 65 over 15 years. In the region, retirement ages above 60 exist in Anguilla, Bahamas, Belize, British Virgin Islands, Jamaica and St. Kitts-Nevis.

Increasing the NIS retirement age should not be done in isolation. Presently, government employees retire at 60 and practice varies in the private sector, where in many cases there is no mandatory retirement age. For NIS, increasing the age at which full pensions are payable would result in a significant reduction in long-term costs as people will contribute for a few additional years and possibly receive a slightly bigger benefit but for a shorter period, or receive a smaller benefit for the same period if they opt to take a reduced pension at age 60.

Projections of the financial effect of increasing the retirement age from 60 to 65 over a 15-year period with pension reduction factors of 6 per cent per year indicate that the long-term savings would be 2.5 per cent of insurable earnings. That is, the GAP would fall from 13.4 per cent to 10.9 per cent. Also, the projections suggest that with a higher normal retirement age the current contribution rate would be sufficient such that the NIS reserve would remain positive through the period up to 2062.

4.2.5 Payment of death pensions to children up to age 18

Under Survivor benefit provisions, dependant children and orphans can receive benefits up to age 16, or 18 if still in full-time education. For the survivor benefits payable to children whose parent dies as a result of an employment related accident, (referred to as Death benefits) the pension payment ceases at age 16, with no provision for continued payment if still in school. This may have been an oversight when the Employment Injury regulations were being prepared as both pensions are designed to be same. It is therefore recommended, that the relevant regulations be amended so that Death Benefit pensions payable to children shall cease at age 16, or 18 if still in formal education.

The overall financial implication of this change is negligible as Death benefits make up a very small portion of NIS benefits.

While this change is being considered, increasing the age at which dependent children could receive either Survivor or Death pensions may also be contemplated.

4.2.6 *Survivors' pensions to parents*

Upon the death of an insured person, persons eligible for survivors' pensions are spouses and children. The payment of a pension to dependent parents has now been suggested.

Financial support to elderly parents is commonplace in Grenadian society and thus death of an adult child could bring hardship to the dependent parents. Therefore, consideration could be given to making parents eligible if the total pension that would otherwise have been payable (100 per cent of Invalidity pension) has not been awarded to a spouse and/or children. However, like other pensions, a minimum pension rate would have to be set. This could be the rate payable for children. If this change is made, the financial implications are expected to be negligible.

A similar case could be made for two adults, say two elderly sisters who lived together, and depended on one Age pension. Should the pensioner die, no benefit will be available to the surviving sister.

While expanding the definition of "survivor" too broadly could give rise to increased costs and debates surrounding moral issues, scenarios such as those mentioned above should be given consideration. To ensure that total Survivor benefit costs do not escalate if additional persons are considered, precise rules and criteria should be established. These include payment only if a spouse and/or children have not already exhausted the full pension payable and payment if the survivor was financially dependent on the deceased.

4.2.7 *Common law for maternity grant*

There appears to be an inconsistency in the regulations relating to the definition of "husband". This is found in the qualifying conditions for Maternity grant, whereby the couple must be legally married in order for the husband's contributions to be used to qualify for a grant. For Funeral grants and survivors' benefit, "spouse" includes common law relationships. Consistency should be brought to regulations and thus the requirement that the spouse applying for Maternity grant be legally married should be removed.

4.2.8 *Age pensions claimed late*

Regulations dictate that only one year of retroactive payments should be made to persons who claim an old-age pension well after their 60th birthday. [National Insurance (Claims and Payments) Regulations 11(3)(b)] This is consistent with other claims that have a set timeframe within which claims must be made. From a financial standpoint, the payment of many years worth of pensions could affect scheme cash flows. On the other hand, old-age pension from age 60 may be considered a right that should not be lost just by the passage of time.

For old-age pensions, the only criterion in addition to sufficient contributions is age. Therefore, there is no need to verify sickness, invalidity or loss of earnings. Also, the number of cases for which retroactive payments may be necessary will likely be few and the total EC dollar values relatively small. Therefore, the Board may wish to consider increasing the one-year limit to three or five years.

If the recommendation regarding the increase to the normal retirement age is accepted, then the provision for retroactive payments will no longer be necessary as actuarial

adjustments will be introduced for early (lower pension) or postponed (larger pension) retirement.

4.3 Self-employed coverage

At the time of writing this report no official estimates of the number of self-employed persons in the economy were available. However, it is fair to conclude that the 119 self-employed persons who make contributions in 2002 represent a very small percentage of this group.

In Grenada, social security coverage for the self-employed is still voluntary. However, even in countries where it is mandatory, the compliance rate among this group is very low. While the attitudes of self-employed persons vary and the reasons for not contributing many, the consequence of not securing higher participation by the self-employed will manifest itself in the future when a large percentage of the elderly population is left without a reliable source of income in old age. Therefore, to avoid high levels of poverty among the elderly and/or expensive government assistance programs in the future, special initiatives are required to raise the level of coverage among both high and low-income self-employed persons. Consideration should also be given to making coverage and contributions mandatory.

4.3.1 Extending coverage to the self-employed

For the self-employed category, NIS could not only view compliance simply from the perspective of collecting contributions but instead from that of “people and pensions.” This implies that the focus of inspectors and public relations campaigns should be on the real benefits that being a regular participant will bring and the long-term consequences of not providing for old age in a changing society where there will be fewer children to personally support their parents. Additionally, a review of the contribution and benefit structure that presently exists for all workers – employed and self-employed – should be made. The income patterns of self-employment are different from those of regular employment. Also, the record keeping and support that an employer provides is non-existent for many self-employed. Therefore, a structure that is more attractive and consistent with their types of employment is required.

Also, given the control over which self-employed persons have over the earnings they declare the following may be considered:

- Increase the number of years used to compute average earnings for the calculation of the old-age pension from “best-3” to over one’s full career.
- Restrict self-employed persons from increasing their declared earnings just prior to retirement.
- Increase the minimum amount of earnings subject to contributions.

If the pension formula is changed to a career-average approach as recommended in section 4.3, the above recommendations may be ignored as the pension will be commensurate with contributions made. Also, such a change may eliminate the need for self-employed persons to contribute in the same way as employed persons – monthly forms and number of weeks worked in the month – as only the total income during the year will be necessary.

4.3.2 *Sickness and maternity benefits for voluntary insured and self-employed persons*

Sickness and Maternity benefits are income replacement benefits and thus their payment is made in situations when a worker's regular income is reduced or lost when he/she is unable to work due to sickness or the recent birth of a child. Under current rules, voluntary insured and self-employed persons are not entitled to receive Sickness and Maternity benefits and as a result, they pay lower contribution rates than other insured persons.

Self-employed coverage is available to "own account workers" or persons who work for themselves. Voluntary insurance coverage, meantime, is available to insured persons who are no longer working but who choose to continue making contributions that will either enable them to qualify for a pension or to enhance that pension. By definition, therefore, voluntary insured persons have no current employment income.

Given the principle behind the payment of Sickness and Maternity benefits, voluntary insured persons should not be allowed coverage for these benefits – they have no current income and thus have no lost income when sick. For self-employed persons, however, there is the potential for loss of income and thus coverage could be considered. The exclusion from these income-replacement benefits for self-employed persons may have been due to the concern of possible abuse as it could be difficult to determine the extent of lost earnings. While coverage among the self-employed is very low, experience in The Bahamas and Barbados where self-employed persons are covered for all short-term benefits shows no excessive payments to self-employed persons.

If coverage for Sickness and Maternity benefits are offered to the self-employed, the contribution rate should be increased to 8 per cent.

Concern has been raised about the inability of persons who leave Grenada to make Voluntary contributions while residing outside Grenada. This is provided for in Section 3(4)(b) of the National Insurance (Voluntary Contributions) Regulations. This requirement could be relaxed to allow persons who may move abroad but plan to return to Grenada, to enhance their ultimate pension. However, changes should only be made if the method of calculating the old-age pension is changed so that the pension amount is closely related to actual contributions. (See Section 4.3)

4.3.3 *Employment injury benefits for the self-employed*

Since employment injury benefits were introduced in 1998, self-employed persons have been excluded. Similar exclusions are found in most Caribbean countries. The main reasons for their exclusion relate to the difficulty in establishing whether or not the injury was work-related and the possibility for self-employed persons to contribute after the injury has occurred, simply to qualify for the benefits. (This is different for employed persons who have contributions made on their behalf by an employer, and even if their employer is in arrears, benefits are paid and then contributions recovered from the employer.) To date, employment injury benefit expenditure has been well below the 1 per cent of insurable earnings that is charged, averaging 0.08 per cent between 1999 and 2002.

Permitting employment injury coverage could be one way of encouraging more self-employed persons to register and make NIS contributions. To overcome the possibility of self-employed persons abusing such coverage, a contribution requirement could be imposed. (No such requirement exists for employed persons.) For example, payment of employment injury benefits may be made only if the self-employed person is less than 60 days in arrears with respect to contributions. Such a provision will ensure that only regular contributors qualify for benefits.

If all benefits available to employed persons are made available to self-employed persons the contribution rate should be increased to 9 per cent. If employment injury benefits are offered but not Sickness and Maternity benefits, then the contribution rate should be 8.2 per cent.

4.4 *Additional former Provident Fund members awarded new pensions*

When this report was being prepared, it was envisaged that additional persons will be added to the list of former Provident Fund pensioners in early 2004. While no exact figure has been provided, the cost implications of adding 500 persons effective January 2004 show that the long-term cost implications are negligible since most are already at advanced ages. However, total pension payments in 2004 would be approximately EC\$800,000 higher.

5. Unemployment insurance considerations

While almost all industrialised countries have some form of unemployment insurance (UI), Barbados remains the only Caribbean country with an unemployment insurance benefit, having introduced it in 1981. Such a benefit provides partial income replacement to eligible covered workers for short periods following involuntary unemployment. Like other contributory social security benefits, unemployment benefits are paid as a matter of right with no demonstration of need required.

At the request of the National Insurance Board, a description of unemployment benefits is presented. A detailed assessment of whether or not the introduction of an unemployment benefit scheme is feasible at this time is beyond the scope of this review. However, a brief discussion of the issues that must be considered prior to implementing such a programme is presented here. An historical review and summary of recent experience of the Barbados Unemployment scheme and a comparative summary of the key provisions of schemes in Cyprus, Canada, Venezuela and Barbados may be found in Appendix VI.

When considering the possibility of introducing unemployment insurance benefits, the ILO encourages policy makers to refer to the ILO Convention No. 102 on Minimum Standards of Social Security and ILO Convention No. 168 on Employment Promotion and Protection Against Unemployment.

Unemployment insurance programmes have both primary and secondary objectives.⁸ The primary objectives involve assisting individual workers during periods of involuntary unemployment while the secondary objectives stress the promotion of economic efficiency and stability. Specifically, these objectives may be summarised as follows:

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

In 2003, government estimates place the unemployment rate at between 12 per cent and 13 per cent, down from 15 per cent in 1999. Therefore, this may be an appropriate time to introduce an unemployment scheme so that when the next economic downturn occurs and unemployment starts to rise, a well-funded unemployment Fund would be in place to relieve some of the financial hardship that accompanies loss of employment income.

⁸ From: Rejda, George E. 1994. *Social Insurance and Economic Security*, 5th edition (Prentice Hall, USA).

In designing an unemployment insurance benefit, the following issues have to be considered:

- Who will be covered?
- What will be the eligibility requirements for benefit?
- What level of benefit will be paid?
- How long will benefits be payable for?
- How will benefits be financed?
- Who will administer the scheme?

5.1 Coverage

Unemployment insurance schemes usually cover only those who are in regular paid employment - that is, those most at risk of becoming involuntarily unemployed. Therefore, self-employed persons are generally not covered because they have complete control over whether they work or not and thus they could easily abuse the scheme.

The need to cover or desire to exclude permanent government employees, who in many countries have historically been at very low risk of being involuntarily unemployed, is not as clearcut. Such decisions should be based on considerations of whether there truly is a need for insurance from job loss as well as on issues related to solidarity among workers. Including the largest single group of workers in Grenada will bring two key advantages. Firstly, all workers will contribute and thus all will be entitled to benefit and secondly, the inclusion of an extra 14 per cent of the workforce will broaden the collection base of the scheme, resulting in a lower contribution rate. In today's economic environment where increasing productivity and improving efficiency is paramount, civil servants as a group may not be as secure in their employment as they care to believe. Therefore, there is a risk of being involuntarily unemployed, albeit smaller than that of the private sector, and thus coverage under an unemployment insurance benefit would meet conditions for insurability. The ILO, therefore, supports the inclusion of civil servants in an unemployment benefits programme.

Coverage for seasonal workers is also recommended, but there may have to be special eligibility or benefit provisions that will allow them to receive full or partial benefits during the off-season.

5.2 Eligibility conditions

Unemployment benefits are usually subject to the condition that the claimant is:

- involuntary out of work;
- registered as unemployed with the Employment Service;
- capable of working;
- available for and actually seeking employment.

Eligibility for benefits also depends on having been in insured employment for a certain qualifying period, such as at least 12 months since the person was registered with the NIS, and at least eight months during the 12-month period immediately preceding unemployment. Provisions are also usually made for requiring a minimum time period between two successive periods of unemployment benefits, although two periods of

unemployment separated by only a few weeks may be considered as the same claim and thus limit the total duration of payment, as is the case for Sickness benefit.

When deciding on the eligibility criteria, special consideration may have to be given to typical employment patterns in sectors that are traditionally seasonal – hotels and other tourist-related activities, for example. This issue can be dealt with by either introducing contribution requirements that will prevent such workers from qualifying for benefits every year, or instead, receive partial benefits that are proportional to the number of contributions made in the preceding year.

Persons claiming an unemployment benefit should also be required to satisfy a minimum period of unemployment before a benefit award is made. This will ensure that only claims by those who are not able to find a job relatively quickly after being unemployed are considered. Initially, a waiting period of two weeks would be recommended with an objective of reducing this as experience unfolds.

5.3 Level of benefits

Like the sickness and maternity benefits presently offered by the NIS, an unemployment benefit should be designed to replace a portion of lost income for a limited period. In deciding on the benefit structure, consideration must be given to the benefit rate and to the earnings to be used as the basis for calculating the benefit. While the level of benefits should be sufficient to allow the recipient to maintain a certain standard of living, it should not be excessive so that it may serve as a disincentive to seek new employment.

For Sickness and Maternity benefits, the benefit rate is now 65 per cent. For an unemployment benefit, the rate could be lower, and it could also decline over time. For example, if the benefit is to be paid for a maximum of 26 weeks, the first half of the period may be paid at one rate and the remaining period at a lower rate.⁹ This structure often serves as an incentive for recipients to actively seek employment.

Upon introduction of an unemployment insurance benefit in Grenada, a modest benefit rate of between 40 per cent and 50 per cent would be recommended. This would limit the initial cost of the scheme and would ensure that unemployed persons have an incentive to return to work as soon as possible. Once the scheme has been established and experience observed, the benefit rate could then be raised to a high of 60 per cent once adequate contribution rates and reserve levels are in place.

5.4 Financing unemployment benefits

The factors that have the greatest impact on the cost of an unemployment insurance benefit are:

- benefit rate or the rate applied to average insurable earnings;
- eligibility conditions, waiting period and maximum benefit duration;
- actual average benefit duration;
- actual percentage of contributors that will be awarded a benefit each year;

⁹ Several ILO conventions deal with minimum benefit rates and payment duration.

- relationship between the average wage of contributors and the average wage of beneficiaries.

Factors 1 and 2 are design factors and thus will be set by local authorities. Factors 3 and 4, however, will be influenced by scheme design but will also be impacted by economic conditions and changes in employment levels. Factor 5, meantime, will be determined by which classes of workers become unemployed and on the cyclical nature of various economic sectors.

Rough estimates of the incidence of unemployment claims and the likely average duration suggest that a contribution rate of 1.5 per cent to 2 per cent of insurable earnings should be sufficient to meet expenditure for a scheme that replaces 40 per cent of earnings for a maximum of 13 weeks. The following matrix shows the contribution rates required for various combinations of unemployment incidence rates and average benefit durations. For example, at a benefit level of 40 per cent of previous earnings, incidence rate of 15 per cent and average duration of ten weeks would require a contribution rate of 1.5 per cent plus administrative costs.

Table 18 Sample contribution rates required for unemployment benefits (as percentage)

Incidence rates	Benefit rate (40%)			Benefit rate (60%)		
	Average duration (weeks)			Average duration (weeks)		
	7	10	13	7	10	13
10	0.7	1.0	1.3	1.1	1.7	2.0
15	1.1	1.5	2.0	1.6	2.5	3.0
20	1.4	2.1	2.7	2.2	3.4	4.0

In addition to benefit costs, provisions should be made for costs related to administering an unemployment benefit. If NIS is selected as the administrator, there should be little additional costs to the NIS, as only a few, if any at all, new staff will have to be hired to effectively oversee the new benefit. The principal increase in administrative costs for the NIS would relate to creating the computer systems and forms and doing adequate public education. The setting up of the Employment Service should be done by Government. Alternatively, such a service may be privately operated and paid for all services provided by either the Government or NIS.

If unemployment benefits are introduced, no portion of the current NIS contribution rate or monies from the National Insurance Fund should be used to meet expenditure. Instead, unemployment benefits should be financed with a separate contribution rate paid by both the employer and employee, and these payments should be held in a newly created Unemployment Benefits Fund. This fund would earn income on assets invested while charges to the fund would be unemployment benefits expenditure and administrative costs. While the distribution of the contribution rate need not be 50/50, equal shares by worker and employer is recommended and the contribution rate should be explicitly differentiated from other NIS contributions. That is, if 1.5 per cent is charged for the new benefit, workers and employers should not be told that the new NIS rate is 10.5 per cent, but instead 9 per cent for NIS short-term, employment injury and long-term benefits and 1.5 per cent for unemployment benefits. To maintain simplicity, the earnings ceiling presently applied for NIS contributions and benefits should also apply to the unemployment scheme.

Given the need for a reasonable reserve to accumulate prior to the payment of benefits, payments out of the Fund should begin no sooner than six months after the first

unemployment insurance contributions are collected. While a longer period may be preferred, especially if the initial contribution rate does not have much margin in it, six months will allow workers to quickly see the real benefits provided by the scheme.

The nature of unemployment benefits is that contributions made in the recent past qualify workers for a short-duration benefit, when the worker involuntarily ceases employment. Therefore, the most appropriate funding method for such a benefit is PAYG, similar to that of the Short-term benefits Branch. Under this approach, current scheme income should be just sufficient to meet current expenditure. On the other hand, a UI benefit should be financed in such a way as to contribute to a counter-cyclical stabilization of the economy. Its revenue income should remain as stable as possible over time and especially its contribution rate should not be increased with the onset of a recession, as this would only make the recession worse. This implies the need for some form of dedicated reserve that can be used during periods of recession and increased expenditure. Thus, a reserve of at least twelve months of scheme expenditure would be sufficient to leave time for an adjustment of the contribution rate in case of unfavourable experience. Some variation of the reserve below or above that level may be tolerated before considering a modification of the contribution rate.

Given the cyclical nature and volatility that is involved with unemployment benefits, frequent rate revisions may be necessary. Therefore, continued monitoring of experience and informed short-term projections of expenditure are required. At a minimum, an actuary should review the contribution rate at three-year intervals so that rate revisions can be recommended to avoid either over-funding or depletion of the scheme reserve. Such scheduled actuarial reviews should not, however, preclude rate changes from taking place between reviews, should they become necessary.

5.5. Administering unemployment benefits

Unemployment benefits are probably the most difficult of all social security benefits to administer. Benefit claims must be carefully checked, the reason for unemployment verified, and efforts of jobseekers to find employment closely monitored, necessitating a well staffed Employment Service. The combined efforts of two agencies are therefore required to properly administer this benefit.

While for NIS as the administrator, there will be no change regarding the registration of insured persons, collecting of contributions and recording contributions made, claims processing will be different and more involved. In addition to verifying the fulfilment of contribution conditions, calculating and paying benefits, other tasks will include checking that claimants are indeed involuntarily unemployed, are available for work and are actively seeking employment, and once in payment, monitoring that these conditions continue to exist.

For the initial verification of unemployment and continued eligibility to a benefit, a combined mechanism involving the NIS and a separate independent Employment Service should be used. While NIS inspectors may play a limited role, the Employment Service will be best suited to check the eligibility requirements related to the capacity and availability for work, as well as assist in the search for suitable re-employment. These include checking that unemployment was in fact involuntary, and that unemployment continues with the claimant being available for work and seeking employment. Together with the typical NIS functions, these make the administration of an unemployment benefit more complex and difficult than the other regular tasks performed for other social security benefits. Therefore, proper planning leading to the selection and staffing of the employment agency, and a clear description of its mandate, is required.

5.6 Miscellaneous issues

5.6.1 Role of employers

Along with paying the employer portion and submitting monthly remittances to the NIS, additional cooperation between the employer and claims administrators will be required. If an employee becomes unemployed, the employer will be required to prepare a Termination Certificate that indicates the reason for the termination of employment, as well as the amount of earnings and NIS contributions for the two months preceding unemployment. The information on such a form will be very important in verifying the eligibility of the claimant to the benefit (reason for unemployment) and will provide the information not already recorded in the NIS database due to delays in contribution payment or processing.

In addition, employers should be actively involved in a job-matching service where vacancies are publicised and individuals indicate their willingness to work. Employers could also play a pivotal role in any training aspect of an unemployment insurance programme. In this regard, special incentives may be created to enhance the interest and participation of employers, in coordination with national skills development efforts.

5.6.2 Fraud

In all social security system there are attempts to obtain benefits through fraudulent means. For an unemployment benefit, several additional means will arise with the more common cases being those related to claimants who work in the informal sector while collecting UI benefits. In other cases, collusion between the worker and the employer exists as the employer may indicate that the employment was terminated as a result of cutting staff while this may be a case of voluntary leave. Strict penalties will be necessary to reduce incidents of abuse such as those found in Canada, where the penalty for fraudulent claimants may be up to three times the amount of overpayment. In addition, employers who engage in fraud, such as falsifying or selling a Termination Certificate are also liable for severe financial penalties.

5.6.3 Appeals

An effective system through which claimants can appeal denied unemployment benefit claims would be essential as more appeals will be likely for unemployment than for other social security benefits. To ensure impartiality, the Appeal Tribunal should be made up of representatives of the government, workers and employers. Persons not satisfied with the decision of the Appeal Board could eventually appeal to the courts.

5.6.4 Legal framework

Prior to introducing an unemployment benefit scheme, appropriate legislation that contains all the provisions that govern the scheme should be put in place.

5.6.5 Coordination with severance benefits

Labour legislation in Grenada provides for the payment of Severance benefits for persons who have been employed for more than two years, in cases where the enterprise is closed down, reorganized or amalgamated. This benefit is equal to a multiple of the weekly pay per year of service.

Employers may be reluctant to the introduction of an unemployment insurance benefit, considering that they already support the cost of Severance benefits. They may find that

they pay twice for the same risk. However, it must be observed that Severance benefits do not cover exactly the same risk as UI. Severance benefits are paid under certain circumstances only, while UI is paid in general without regard to the cause of unemployment. The amount of the Severance pay is weighted in favour of employees with long service history and, under the present law employees with less than two years of service are not eligible for any benefit. Consequently, young workers would normally get low Severance benefits or no benefit at all. In addition, Severance benefits are not combined with measures to train and re-employ redundant employees.

It is possible, though, for Severance benefits and UI to co-exist by adopting coordination measures between the two schemes. For example, unemployment benefits may be suspended for a period corresponding to the compensation offered by the Severance pay. Alternatively, the Severance pay may be reduced by an amount corresponding to the value of UI benefits paid. This second approach, however, has the disadvantage of postponing the timing of payment of the residual Severance benefit.

5.6.6 Effect on future NIS contribution rate increases

The financial projections of the National Insurance Fund discussed earlier in this report highlight the need for the NIS contribution rate (now 9 per cent) to be increased in the future. Such an increase will be required to ensure that the Fund remains solvent as the population ages and the scheme matures.

The introduction of an additional contribution for an unemployment insurance benefit will increase deductions from workers' wages and employer contributions. Therefore, it would likely have the effect of making future rate increases for current benefits more difficult to sell to the public and get approved by the Government. The same applies to National Health Insurance, which is also being considered at this time. Additional contributions demanded to employers and employees must therefore be seen as providing meaningful benefits to employees, employers and the society as a whole in order to be accepted.

5.7 Moving forward on the feasibility of introducing unemployment insurance

Unless unemployment is at an all-time low, it may never be the ideal time to introduce an unemployment benefit that requires contributions from employers and workers. With unemployment having fallen in the past few years and now estimated at 12 per cent, the introduction of such a scheme at this time appears quite feasible. With a properly structured benefits package that is well promoted and sold as another means of providing additional security for workers, such a benefit could serve workers, employers and the overall economy of Grenada well.

The decision on whether or not an UI benefit will be introduced should therefore be made following a close look at the entire spectrum of social benefits and the areas that require most urgent attention at this time. It should also take account of the present economic environment, and the effect that additional deductions from gross wages and contributions by employers will have on employment, and individuals. Broad consultations should also be had with stakeholders.

Apart from the financing aspect, the most important element to consider before introducing an unemployment insurance benefit is the administrative capacity of the NIS. To complement the work of the NIC, there should also be a properly organised and efficient Employment Service whose establishment should precede the first benefit payment.

In addition to paying a weekly benefit, the scheme should focus on aspects of training and retraining unemployed persons. A hands-on review of the operations of the Barbados Unemployment programme should also be conducted. This will highlight some of the practical aspects of operating such a scheme and enable those who will be responsible for administering the Grenada scheme to see first hand the areas requiring special attention.

If a decision to introduce an unemployment benefit is made, it is recommended that one with a modest benefit and contribution rate be established at the outset. This implies a relatively low benefit rate, a low maximum benefit period and a longer waiting period. Finally, the time frame for implementing a new scheme would be at least six months from the time that the decision to implement is made. This should allow adequate time for the final determination of the scheme's structure, adequate public relations as well as for the NIS to create the necessary forms and procedures. Employers' and workers' organizations should be consulted at an early stage in the process of designing and implementing an UI system, and they should be involved throughout the entire process as acceptance of UI from these groups is a necessity for it to be successful.

Appendix I. Summary of financing and benefit provisions

Following is a general description of the coverage, contributions and benefits provisions of the Grenada National Insurance Scheme as at 31 December 2002.

I.1 Contingencies covered

The Grenada National Insurance Scheme provides for the following benefits:

- (a) *Short-term benefits:* Sickness Benefit, Maternity Allowance, Maternity Grant, and Funeral Grant.
- (b) *Long-term benefits:* Age, Invalidity and Survivors' Pensions and Grants.
- (c) *Employment injury benefits:* Injury Benefit, Disablement Benefit, Constant Care Allowance, Medical Expenses, Death Benefit and Funeral Grant.

I.2 Insured persons

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

- (a) employed persons in the private and public sector are covered for all contingencies;
- (b) self-employed persons and voluntary insured persons are covered for long-term benefits and funeral grant only.

Contributions by self-employed persons are made on a voluntary basis.

I.3 Insurable earnings and contributions

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

Earnings that are covered for the purpose of determining contributions and benefits, are limited to EC\$693 per week or EC\$3,000 per month. The monthly ceiling on insurable earnings has increased as follows (in EC\$):

1983 – 1995	1,250
1995 – 1998	2,500
1998 – present	3,000

Contributions are computed as a percentage of insurable earnings. The contribution rate is 9 per cent, 4 per cent paid by the employee and 5 per cent by the employer. (Before Employment Injury Benefits were introduced in 1998, the contribution rate was 8 per cent). Self-employed and voluntary contributors pay at 6.75 per cent of insurable earnings.

I.4 Benefit provisions

I.4.1 Long-term benefits

(a) Age pensions

Contribution requirement: 150 weekly contributions paid and 500 weekly contributions paid or credited.

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

Amount of benefit: 30 per cent of average insurable earnings over the best 3 years out of the last 10 years, plus 1 per cent for every set of 50 weeks credited over 500.

If between 260 and 500 credits have been credited and the insured was 46 or older on the Appointed Day, the insured qualifies for a Reduced Age Pension of 16 per cent of average insurable earnings plus 1 per cent for each set of 25 credits between 150 and 500. Reduced Age Pension provisions will apply up to 2008 after which 500 contributions will be required for old-age pensions.

- Maximum: 60 per cent of average insurable earnings.
- Minimum: EC\$40.00 per week. The minimum pension also applies to Invalidity Pension.

Age credits were awarded to those between ages 50 and 57 on the date the scheme was established (4 April 1983) – 50 contributions were awarded for each age over 50. These credits will be used for Age Pension only.

(b) Age grants

Contribution requirement: 50 weekly paid or credited contributions.

Eligibility: The person must be ineligible for Age pension.

Age requirement: 60.

Amount of benefit: 5 times average weekly insurable earnings for each set of 50 weekly contributions paid or credited. This amount is paid as a lump sum.

(c) Invalidity pensions

Contribution requirement: 150 weekly contributions paid.

Eligibility: The insured is:

- i) less than 60,
- ii) invalid, other than as a result of an employment injury, and
- iii) not in receipt of sickness benefit.

Amount of benefit: Calculated in same manner as for Age pension.

Duration of pension: Payable for as long as invalidity continues.

(d) Invalidity grants

Contribution requirement: 50 contributions weeks, paid or credited.

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

Amount of benefit: Calculated in same manner as for Age Grant.

(e) Survivors' pensions

Contribution requirement: The deceased, at time of death, had paid at least 150 contributions.

Eligibility: Widows must have been married to or living with the deceased for at least 3 years.

Widowers must have been married to or living with the deceased for at least 3 years, be a person with disabilities, and were wholly maintained by the deceased.

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

Amount of benefit: The proportion shown below of the pension being received by the deceased or the Invalidity Pension the deceased would have been entitled to:

- Widow or widower: 75 per cent;
- Child: 25 per cent;
- Full orphan or orphan with disabilities: 50 per cent;
- Minimum child benefit: EC\$8.50 per week
- Minimum benefit for orphan with disabilities: EC\$17.00 per month
- Maximum family benefit: 100 per cent of age pension. However, minimum pension(s) cannot prevent more than 100 per cent.

Duration of benefit:

Widows' pension:

- (i) For life, if at the date of death she was either at least 50 or less than 50 but a person with disabilities, and married for at least 3 years
- (ii) For 1 year only, if at the date of the spouse's death she was less than 50 and not a person with disabilities, or she was at least 50 but married for less than 3 years.
- (iii) For as long as she continues to wholly or partly maintain children of the deceased, if not being remarried

For a widower, pension is payable as long as conditions for invalidity eligibility continue or until remarriage/cohabitation with a woman. For a widow, pension ceases upon remarriage/cohabitation.

For dependant children, pension will be paid up to age 16, or 18 if in full-time education, or until recovery from invalidity.

(f) Survivors' grants

Contribution requirement: 50 paid contributions

Amount of benefit: The same proportion of the Age Grant as Survivors' Pension bears to the Age Pension.

I.4.2 Short-term benefits

(a) Sickness benefit

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

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

Amount of benefit: 65 per cent of average weekly insurable earnings during the last 13 weeks prior to the illness. (60 per cent before April 1998)

Duration of benefit: Maximum of 26 weeks. May extend another 26 weeks if at least 150 paid contributions and at least 75 paid or credited contributions in the last 3 years.

(b) Maternity allowances

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

Amount of benefit: 65 per cent of average weekly insurable earnings during the last 30 weeks. (At least EC\$450 in total)

Duration of benefit: 12 weeks, starting no earlier than 6 weeks before the expected date of confinement.

(c) Maternity grants

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

Amount of grant: EC\$450. The Maternity Grant has increased on an ad hoc basis as follows:

1994 – 1998	400.00
1998 - present	450.00

(d) Funeral grants

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

Amount of grant: EC\$2,000 for the insured, EC\$1,500 for an uninsured spouse, and EC\$750 for a dependent child. The funeral grant for the insured has been increased on an ad-hoc basis as follows (in EC\$):

1979 – 1983	300
1984 – 1988	500
1988 – 1995	1,000
1995 – 1997	1,600
1998 - present	2,000

1.4.3 Employment injury benefits

(a) Injury benefits

Eligibility: Incapable of work as a result of a work-related accident or a prescribed disease. There are no qualifying contribution requirements for any Employment Injury benefits.

Amount of benefit: 70 per cent of average insurable earnings in the last 13 weeks before the accident occurred (or less if the person was in employment for a shorter period).

Duration of benefit: Maximum of 26 weeks.

Waiting period: 3 days. If incapacity lasts for more than 3 days, benefit is payable from the first day.

(b) Disablement benefits

Eligibility: Disablement resulting from an accident at work or a prescribed disease.

Waiting period: The period of payment of injury benefit.

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

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

(c) Constant care allowances

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

(d) Death benefits

Eligibility: Dependants are defined as for survivors' benefit.

Amount of benefit: Proportion of Disablement Pension, the same percentage as for Survivors' Pension. In the case of remarriage, a lump sum of 1 year's payment is paid.

(e) Medical expenses

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

Appendix II. Methodology, data and assumptions

This actuarial review makes use of the comprehensive methodology developed at the International 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 modelling tools to fit the specific case of Grenada and the National Insurance Scheme (NIS). These modelling tools include a population model, an economic model, a labour force model, a wage model, a long-term benefits model and a short-term benefits model.

The actuarial valuation begins with a projection of Grenada's future demographic and economic environment. Next, projection factors specifically related to social security are determined and used in combination with the demographic and economic framework to estimate future cash flows and the scheme reserve. Assumption selection takes into account both recent experience and future expectations, with emphasis placed on long-term trends rather than giving undue weight to recent experience.

II.1 Modelling the demographic and economic developments

Grenada's population has been projected beginning with totals obtained from the preliminary results of the 2001 national census and age distribution of the projections of the *Sixth Actuarial Review*, and applying appropriate mortality, fertility and migration assumptions. For the *intermediate* scenario the total fertility rate is assumed to decrease from 2.25 to 1.9 in 2020, and remain constant thereafter. Table 19 shows ultimate age-specific and total fertility rates. For the *pessimistic* and *optimistic* scenarios, the ultimate total fertility rates are assumed reached in 2022 and 2012, respectively.

Table 19 Grenada age-specific and total fertility rates (per 100 women)

Age Group	2002	Ultimate Rates		
		Optimistic	Intermediate	Pessimistic
15 - 19	0.049	0.027	0.025	0.024
20 - 24	0.100	0.068	0.065	0.062
25 - 29	0.118	0.108	0.102	0.097
30 - 34	0.104	0.099	0.094	0.089
35 - 39	0.061	0.085	0.081	0.077
40 - 44	0.020	0.017	0.017	0.016
45 - 49	-	-	-	-
TFR	2.25	2.00	1.90	1.80

Mortality rates have been determined using the mortality patterns obtained from the 1999-2001 Barbados Life Table. Life expectancy at birth in 2001 has been assumed at 70.2 and 73.6 for males and females, respectively.

Improvements in life expectancy for the *intermediate* scenario have been assumed to follow the “slow” rate as established by the United Nations with a “very slow”¹⁰ rate assumed for the *pessimistic* scenario and “medium” for the *optimistic* scenario. Sample mortality rates and the life expectancies at birth and at age 60 for sample years under the “medium” rate of improvements are provided in Table 20.

Table 20 Grenada mortality rates and life expectancy (per 1,000 persons)

Age	Males			Females		
	2002	2032	2062	2002	2032	2062
0	0.0131	0.0088	0.0070	0.0132	0.0079	0.0059
5	0.0003	0.0002	0.0001	0.0002	0.0001	0.0000
15	0.0006	0.0004	0.0003	0.0003	0.0002	0.0001
25	0.0017	0.0010	0.0007	0.0012	0.0009	0.0008
35	0.0026	0.0016	0.0012	0.0018	0.0012	0.0010
45	0.0048	0.0033	0.0026	0.0029	0.0020	0.0016
55	0.0094	0.0070	0.0059	0.0062	0.0043	0.0035
65	0.0187	0.0149	0.0131	0.0122	0.0079	0.0061
75	0.0472	0.0403	0.0368	0.0344	0.0232	0.0186
85	0.1318	0.1204	0.1143	0.1087	0.0871	0.0770
95	0.2935	0.2855	0.2810	0.2882	0.2589	0.2438
Life Exp at:						
Birth	70.2	74.9	77.0	73.6	79.4	81.9
Age 60	18.6	20.4	21.3	20.1	23.8	25.5

Net migration (in minus out) for each scenario is assumed to decline over the projection period at varying rates and reaching different ultimate levels. The following table shows the age distribution of net migrants for the first projection year and the ultimate levels (2042 and beyond) for each of the three scenarios

Table 21 Grenada net immigration (no. of persons)

Age	Initial Year - 2001		Ultimate Rates - 2041					
			Optimistic		Intermediate		Pessimistic	
	Male	Female	Male	Female	Male	Female	Male	Female
0 - 9	(25)	(24)	-	-	(8)	(8)	(17)	(16)
10 - 19	(20)	(27)	-	-	(7)	(9)	(13)	(18)
20 - 29	(131)	(149)	-	-	(44)	(50)	(87)	(100)
30 - 39	(86)	(75)	-	-	(29)	(25)	(57)	(50)
40 - 49	(28)	(19)	-	-	(9)	(6)	(19)	(13)
50 - 59	(8)	(4)	-	-	(3)	(1)	(5)	(3)
60 - 69	(2)	(1)	-	-	(1)	(0)	(1)	(1)
70+	(0)	(0)	-	-	(0)	(0)	(0)	(0)
All Ages	(300)	(300)	-	-	(100)	(100)	(200)	(200)

¹⁰ Midpoint of rates depicted by “slow” improvements and no improvements.

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. Labour force participation rates have been estimated using the results of the 1999 Labour Force Survey conducted by the Central Statistical Office. Between 2001 and 2062, age-specific labour force participation rates are assumed to increase at advanced ages for males and females. Table 22 below shows the assumed age-specific labour force participation rates in 2002 and 2062. Between these two years, rates are assumed to change linearly.

Table 22 Grenada age-specific and total labour force participation rates

Age	Males		Females		Year	Males	Females
	2002	2062	2002	2062			
17	38%	38%	31%	32%	2002	76%	62%
22	89%	89%	74%	77%			
27	95%	95%	83%	86%	2012	81%	67%
32	90%	90%	80%	84%	2022	82%	68%
37	94%	94%	81%	85%	2032	83%	70%
42	96%	96%	78%	82%			
47	94%	96%	75%	78%	2042	83%	69%
52	89%	93%	69%	74%	2052	82%	67%
57	77%	89%	52%	69%	2062	82%	68%

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. Such increases are assumed to be gradual over the projection period from ½ per cent to 1.5 per cent. The inflation assumption affects nominal average wage increases.

II.2 Projection of NIS income and expenditure

This actuarial review addresses all Grenada National Insurance Scheme 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 2062, the number of contributors and pensioners, and the EC dollar value of contributions, benefits and administrative expenditure, is estimated.

Once the projections of the insured (covered) population, as described in the previous section, are complete, contribution income is then determined from the projected total insurable earnings, the contribution rate, contribution density and the collection rate. 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. NIS' administrative expenses are modelled as a decreasing percentage of insurable earnings.

Finally, the year-end reserve is the beginning-of-year reserve plus the net result of cash inflow and outflow.

II.3 NIS population data and assumptions

The data required for the valuation of the NIS is extensive. As of 31 December 2002, required data includes the insured population by active and inactive status, the distribution of insurable earnings among contributors, the distribution of paid and credited contributions and pensions-in-payment, all segregated by age and sex.

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

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

Details of NIS specific input data and the key assumptions used in this report are provided in tables 23 through 27.

Table 23 NIS active insured population, earnings and past credits, 2002

Age	# of Active Insureds		Average Monthly Insurable Earnings		Average # of Years of Past Credits	
	Male	Female	Male	Female	Male	Female
15 - 19	982	521	741	762	1.1	1.2
20 - 24	2,736	2,361	1,063	1,033	4.1	4.1
25 - 29	2,468	2,310	1,370	1,215	7.6	7.6
30 - 34	2,436	2,183	1,599	1,334	11.1	11.1
35 - 39	2,312	2,280	1,666	1,379	14.0	14.0
40 - 44	2,479	2,312	1,743	1,446	15.0	15.0
45 - 49	1,786	1,693	1,819	1,483	15.4	15.4
50 - 54	1,151	1,023	1,803	1,401	15.6	15.6
55 - 59	831	719	1,725	1,359	15.5	15.5
All Ages	17,181	15,402	1,504	1,296	10.8	11.2

Table 24 NIS pensions-in-payment, December 2002

Age	Age Pension		Invalidity Pension		Survivors Pensions		Disablement Pension		Provident Fund	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
0 - 4	-	-	-	-	11	11	-	-	-	-
5 - 9	-	-	-	-	40	48	-	-	-	-
10 - 14	-	-	-	-	83	96	-	-	-	-
15 - 19	-	-	-	-	97	97	-	-	-	-
20 - 24	-	-	-	-	1	-	1	-	-	-
25 - 29	-	-	-	-	-	1	4	-	-	-
30 - 34	-	-	3	3	-	2	-	-	-	-
35 - 39	-	-	8	4	-	7	1	-	-	-
40 - 44	-	-	8	9	-	7	2	-	-	-
45 - 49	-	-	19	21	1	10	-	1	-	-
50 - 54	-	-	33	24	-	17	1	-	-	-
55 - 59	-	-	31	39	-	32	-	-	-	-
60 - 64	499	406	31	26	1	33	-	-	66	107
65 - 69	283	224	7	17	-	25	-	-	174	199
70 - 74	231	179	3	3	-	29	-	-	171	252
75 - 79	73	66	-	-	1	16	-	-	129	218
80 - 84	14	24	-	-	-	5	-	-	54	94
85 - 89	3	27	-	-	-	-	-	-	21	45
90 - 94	6	4	-	-	-	-	-	-	10	13
95 - 99	-	3	-	-	-	-	-	-	2	3
# of Pensioners	1,109	933	143	146	235	436	9	1	627	931
Avg Weekly Pension	\$ 88	70	\$ 72	\$ 67	\$ 21	\$ 32	97	\$ 33	\$ 30	\$ 30

The following table shows assumed density factors, or the average portion of the year for which contributions are made for non-civil servants.

Table 25 NIS density of contributions

Age	Males	Females
17	40 %	45 %
22	61 %	66 %
27	67 %	71 %
32	70 %	72 %
37	69 %	73 %
42	71 %	75 %
47	71 %	75 %
52	71 %	75 %
57	70 %	68 %

The following table shows the expected incidence rates of insured persons qualifying for Invalidity benefit.

Table 26 NIS rates of entry into invalidity (per 1,000 persons)

Age	Males	Females
17	-	-
22	-	-
27	0.103	0.115
32	0.411	0.458
37	0.433	0.439
42	0.941	0.288
47	3.546	2.954
52	7.240	5.211
57	12.034	7.422

Table 27, below, shows the assumed probability of Survivor benefit claims and the average ages of new claimants, groups by the age of the deceased.

Table 27 Probability of a deceased having eligible survivors and their average ages

Age	Males		Females	
	Probability of Eligible Spouse	Avg # of Eligible Children	Probability of Eligible Spouse	Avg # of Eligible Children
17	0%	-	0%	-
22	0%	0.0	0%	0.0
27	32%	0.1	0%	0.2
32	23%	0.3	0%	0.4
37	63%	0.5	0%	0.8
42	66%	0.8	0%	0.8
47	88%	0.8	0%	0.7
52	50%	0.5	0%	0.5
57	53%	0.3	0%	0.1
62	43%	0.3	0%	0.1
67	24%	0.1	0%	-
72	22%	0.1	0%	-
77	27%	0.1	0%	-
82	15%	0.0	0%	-
87	0%	0.0	0%	-

Appendix III. NIS projections under *Pessimistic* and *Optimistic* scenarios, 2001/2 - 2062

Table 28 Projected Grenada population, *Pessimistic* scenario

Year	Total	Age 0 - 15	Age 16 - 59	Age 60 & over	Ratio of Persons 16-59 To 60 & Over
2001	102,632	35,486	57,142	10,004	5.7
2002	102,979	34,475	58,476	10,028	5.8
2003	103,410	33,576	59,789	10,045	6.0
2004	103,877	32,748	61,069	10,060	6.1
2005	104,377	32,003	62,293	10,081	6.2
2006	104,903	31,355	63,437	10,111	6.3
2007	105,450	30,811	64,484	10,155	6.3
2012	108,274	29,435	68,068	10,771	6.3
2022	112,664	28,561	69,219	14,884	4.7
2032	114,086	24,627	71,596	17,863	4.0
2042	112,894	21,396	68,384	23,114	3.0
2052	109,357	19,968	58,930	30,459	1.9
2062	102,506	17,644	53,752	31,110	1.7

Table 29 Projected NIS cash flows and reserve, *Pessimistic* scenario (millions of \$'s)

Year	Cash Inflows				Cash Outflows			Surplus/ (Deficit)	Reserves	
	Contribution Income	Investment Income	Other Income	Total	Benefits & Pensions	Admin. & Other Expenses	Total		End of Year	# of times current year's expenditure
2002	52.8	20.8	0.2	73.8	16.6	4.4	21.0	52.8	343.9	16.3
2003	36.2	21.9	0.2	58.3	18.0	4.7	22.7	35.6	379.9	17.0
2004	41.4	23.3	0.2	64.9	20.4	4.9	25.3	39.6	419.9	16.8
2005	43.6	24.6	0.3	68.5	22.1	5.2	27.3	41.2	461.6	17.2
2006	40.5	25.7	0.2	66.4	23.9	5.5	29.4	37.0	499.1	17.3
2007	42.4	26.5	0.3	69.2	25.8	5.8	31.6	37.6	537.3	17.3
2008	44.5	27.2	0.3	71.9	27.8	6.1	33.9	38.0	575.9	17.3
2012	53.1	35.2	0.3	88.6	38.3	7.3	45.6	43.0	744.1	16.6
2022	78.1	56.3	0.5	134.9	90.5	11.0	101.5	33.4	1,170.5	11.7
2032	108.8	62.9	0.7	172.4	173.6	15.7	189.3	(16.9)	1,282.6	6.9
2042	142.4	26.0	0.9	169.3	318.0	21.3	339.3	(170.0)	449.4	1.3
2052	176.5	(135.9)	1.1	41.7	553.3	27.4	580.7	(539.0)	(3,054.4)	(5.3)
2062	228.4	(519.8)	1.4	(290.0)	761.3	36.1	797.4	(1,087.4)	(11,196.2)	(14.2)

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

Table 30 Projected NIS benefit expenditure– *Pessimistic* scenario (millions of \$'s)

Year	Pensions, Grants & Benefits						Benefits as a % of:	
	Age	Invalidity	Survivors	Provident Fund	Short-term	Emp. Injury	Insurable Wages	GDP
2002	8.4	1.0	0.8	2.5	3.5	0.4	4.4%	1.5%
2003	9.1	1.2	1.0	2.4	4.0	0.4	4.6%	1.6%
2004	10.8	1.5	1.1	2.5	4.1	0.4	5.0%	1.7%
2005	11.9	1.6	1.2	2.5	4.4	0.4	5.1%	1.8%
2006	13.1	1.9	1.4	2.4	4.6	0.5	5.3%	1.8%
2007	14.4	2.1	1.5	2.3	4.9	0.5	5.5%	1.9%
2008	15.9	2.3	1.6	2.3	5.1	0.6	5.6%	2.0%
2012	23.6	3.4	2.2	2.0	6.2	0.8	6.5%	2.3%
2022	66.7	6.9	4.9	0.9	9.5	1.6	10.4%	3.8%
2032	136.1	11.2	9.6	0.2	13.7	2.9	14.4%	5.2%
2042	258.0	19.5	17.1	0.0	18.5	4.9	20.1%	6.9%
2052	467.1	27.5	27.6	-	23.8	7.4	28.2%	9.2%
2062	644.2	33.4	41.3	-	31.7	10.7	30.0%	10.1%

Note: Age pensioners includes Reduced Age pensioners and Funeral Grant is included in Short-term Benefits

Table 31 Projected NIS contributors and pensioners, *Pessimistic* scenario

Year	# of Contributors	# of Pensioners					Total # of Pensioners	Ratio of Contributors to Pensioners
		Age	Invalidity	Survivors	Provident Fund	Death & Disablement		
2002	32,582	2,042	289	673	1,558	16	4,578	7.1
2003	32,731	2,217	320	702	1,492	19	4,750	6.9
2004	33,329	2,397	350	713	1,424	20	4,904	6.8
2005	33,973	2,594	380	734	1,356	22	5,086	6.7
2006	34,651	2,805	411	765	1,287	23	5,291	6.5
2007	35,351	3,026	441	796	1,217	25	5,505	6.4
2008	36,070	3,259	472	824	1,147	27	5,729	6.3
2012	38,594	4,342	599	895	866	35	6,737	5.7
2022	43,100	8,878	862	1,285	285	57	11,367	3.8
2032	45,719	12,978	1,099	1,812	35	85	16,009	2.9
2042	45,654	18,131	1,519	2,319	1	127	22,097	2.1
2052	42,986	24,564	1,648	2,800	-	157	29,169	1.5
2062	39,555	24,997	1,512	3,133	-	168	29,810	1.3

Note: Age pensioners includes Reduced Age pensioners

Table 32 Projected Grenada population, *Optimistic* scenario

Year	Total	Age 0 - 15	Age 16 - 59	Age 60 & over	Ratio of Persons 16-59 To 60 & Over
2001	102,632	35,486	57,142	10,004	5.7
2002	103,186	34,499	58,658	10,029	5.8
2003	103,842	33,634	60,157	10,052	6.0
2004	104,556	32,850	61,628	10,078	6.1
2005	105,326	32,165	63,048	10,113	6.2
2006	106,146	31,592	64,393	10,162	6.3
2007	107,013	31,140	65,645	10,228	6.4
2012	111,853	30,531	70,318	11,004	6.4
2022	122,103	32,351	74,057	15,695	4.7
2032	130,770	30,189	80,801	19,780	4.1
2042	138,656	28,435	83,081	27,141	3.1
2052	145,573	29,513	78,901	37,159	2.1
2062	149,486	29,101	80,020	40,365	2.0

Table 33 Projected cash flows and reserve, *Optimistic* scenario (millions of \$'s)

Year	Cash Inflows				Cash Outflows			Surplus/ (Deficit)	Reserves	
	Contribution Income	Investment Income	Other Income	Total	Benefits & Pensions	Admin. & Other Expenses	Total		End of Year	# of times current year's expenditure
2002	52.8	20.8	0.2	73.8	16.6	4.4	21.0	52.8	343.9	16.3
2003	36.3	22.8	0.2	59.3	18.0	4.7	22.7	36.6	380.8	17.0
2004	41.7	24.9	0.3	66.9	20.5	4.9	25.4	41.5	422.6	16.9
2005	44.5	27.2	0.3	72.0	22.0	5.3	27.3	44.7	467.7	17.4
2006	41.9	29.4	0.3	71.6	23.7	5.6	29.3	42.3	510.5	17.7
2007	44.5	31.6	0.3	76.4	25.6	5.9	31.5	44.9	556.0	18.0
2008	47.3	33.8	0.3	81.4	27.6	6.2	33.8	47.6	604.1	18.2
2012	59.5	46.6	0.4	106.5	38.0	7.7	45.7	60.8	830.5	18.5
2022	97.2	90.8	0.6	188.6	92.9	11.9	104.8	83.8	1,601.5	15.6
2032	150.1	143.6	0.9	294.6	187.8	17.3	205.1	89.5	2,510.8	12.5
2042	222.6	181.2	1.3	405.1	382.9	24.5	407.4	(2.3)	3,111.5	7.8
2052	322.1	93.4	1.9	417.4	747.4	33.5	780.9	(363.5)	1,423.6	1.9
2062	486.1	(278.7)	2.9	210.3	1,169.1	47.0	1,216.1	(1,005.8)	(5,281.2)	(4.4)

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

Table 34 Projected benefit expenditure – *Optimistic* scenario (millions of \$'s)

Year	Pensions, Grants & Benefits						Benefits as a % of:	
	Age	Invalidity	Survivors	Provident Fund	Short-term	Emp. Injury	Insurable Wages	GDP
2002	8.4	1.0	0.8	2.5	3.5	0.4	4.4%	1.5%
2003	9.1	1.2	0.9	2.4	4.0	0.4	4.6%	1.6%
2004	10.8	1.5	1.1	2.5	4.2	0.4	5.0%	1.7%
2005	11.8	1.6	1.2	2.4	4.5	0.4	5.0%	1.7%
2006	12.9	1.8	1.3	2.4	4.8	0.5	5.1%	1.8%
2007	14.1	2.1	1.4	2.3	5.1	0.5	5.2%	1.8%
2008	15.5	2.3	1.5	2.2	5.5	0.6	5.2%	1.8%
2012	22.9	3.4	2.0	1.8	7.0	0.9	5.7%	2.0%
2022	66.5	7.6	4.3	0.7	11.8	1.9	8.6%	3.1%
2032	142.9	13.9	8.3	0.1	18.9	3.7	11.3%	3.9%
2042	304.6	27.0	15.4	0.0	29.0	6.9	15.5%	5.3%
2052	622.6	43.2	26.5	-	43.3	11.9	20.9%	6.9%
2062	976.3	62.1	43.2	-	67.5	20.0	21.6%	7.3%

Note: Age pensioners includes Reduced Age pensioners and Funeral Grant is included in Short-term Benefits

Table 35 Projected contributors and pensioners, *Optimistic* scenario

Year	# of Contributors	# of Pensioners					Total # of Pensioners	Ratio of Contributors to Pensioners
		Age	Invalidity	Survivors	Provident Fund	Death & Disablement		
2002	32,582	2,042	289	673	1,558	16	4,578	7.1
2003	32,750	2,219	321	700	1,492	19	4,751	6.9
2004	33,585	2,401	351	708	1,424	20	4,904	6.8
2005	34,627	2,601	382	726	1,356	22	5,087	6.8
2006	35,720	2,815	414	753	1,287	23	5,292	6.7
2007	36,852	3,041	447	780	1,217	25	5,510	6.7
2008	38,020	3,281	480	803	1,147	27	5,738	6.6
2012	42,393	4,405	625	855	866	36	6,787	6.2
2022	50,819	9,226	987	1,195	285	62	11,755	4.3
2032	56,514	14,001	1,379	1,684	35	98	17,197	3.3
2042	59,372	20,899	1,998	2,205	1	153	25,256	2.4
2052	57,803	29,957	2,330	2,728	-	200	35,215	1.6
2062	58,954	32,932	2,337	3,197	-	227	38,693	1.5

Note: Age pensioners includes Reduced Age pensioners

Appendix IV. Review of NIS benefit experience

The National Insurance Scheme (NIS) administers three major types of social security benefits – long-term or pensions, short-term and employment injury. While the projections presented in Section 3 combined all NIS benefit expenditure, internal accounting procedures separate them into three branches. This allows for better monitoring of experience and separate financing methods as each benefit type has different characteristics and funding objectives. Each benefit branch is also expected to meet its expenditure from its income and accumulated reserve.

IV.1 Long-term Benefits Branch

The Long-term Benefits (LTB) Branch presently receives the largest share of contribution income, 74.85 per cent, equivalent to 6.74 per cent of insurable earnings. Benefits payable include old-age, invalidity and survivors' pensions and grants. Over 75 per cent of NIS benefit expenditure relates to this branch, since most pensions are payable for life. As a result, LTB Branch expenditure will continue to increase as more pensioners with larger pensions are added.

At 31 December 2002, the reserve of the LTB Branch stood at EC\$285 million or 17.1 times expenditure in 2002.¹¹

Expenditure for each benefit type for 2000 to 2002, expressed as a percentage of insurable earnings, is shown in Table 36, along with total branch expenditure. (Actual amounts paid by benefit type are provided in Appendix VI.)

Table 36 Long-term Benefit Branch expenditure, 2000 – 2002 (% of insurable earnings)

	2000	2001	2002
Pensions and grants			
– Old-age	1.82	1.99	2.16
– Invalidity	0.22	0.23	0.27
– Survivors'	0.21	0.21	0.22
– Provident fund	0.04	0.56	0.65
– Funeral	-	0.13	0.15
– All other	0.06	0.05	0.05
Administrative expenses	0.74	0.88	0.89
Total (% of insurable earnings)	3.09	4.05	4.39
Total benefits (millions of \$'s)	8.20	11.8	13.3

Note: Funeral Grant was charged to the STB Branch in 2000.

As shown, branch expenditure increased each year but remains well below the 6.75 per cent of insurable earnings allocated in contributions.

¹¹ The amount of the reserve relative to annual expenditure is a useful measure of how well benefits are funded. While a ratio of just over 17 for pensions indicates that reserves are insufficient to cover total accrued liabilities, it is consistent with the partial-funding method adopted by NIS.

The following table highlights pension activity between year-ends 2000 and 2002. While the number of old-age pensions-in-payment increased by 25 per cent, the number of Invalidity pensioners remained almost unchanged while the number of survivors' pensions decreased. However, the average weekly pension amounts for all benefits have increased.

Table 37 NIS Pensions-in-payment, awarded and terminated, 2000 - 2002

	Paid Dec. 1999	Awarded 2000 - 2002	Terminated 2000 - 2002	Paid Dec. 2002	Average weekly pension (EC\$)	
					Dec. 1999	Dec. 2002
Old-age	1,563	602	123	2,042	71.54	79.50
Invalidity	211	142	64	289	61.95	69.00
Survivors'	570	227	124	673	23.21	28.19
Provident Fund	-	1,839	281	1,558	-	30.00

Details of long-term projections of both the number of pensioners and expenditure are presented in Section 3. Given the long-term nature of pension benefits, expenditure will continue to increase, eventually surpassing income if the contribution rate is not changed. Since it is expected that the other benefit branches will hold only small reserves respectively, if the LTB Branch becomes exhausted, depletion of the entire National Insurance Fund would follow shortly thereafter. Therefore, future contribution rate increases will be required, with most of the increased revenue allocated to the LTB Branch.

IV.2 Short-term Benefits Branch

Unlike the LTB Branch, the Short-term Benefits (STB) Branch is financed on a PAYG basis. That is, current income is expected to meet current expenditure, with only a small reserve required to cover fluctuations in income and/or expenditure. Over time, the cost of benefits in this branch is not expected to increase significantly, and if it does, small adjustments to the allocation of contribution income between branches may be made.

Analysis of the STB Branch is limited to determining whether or not the present portion of contribution income allocated is sufficient to meet projected payouts until the next actuarial review. By comparing total branch expenditure in recent years as a percentage of insurable earnings to the proportion of insurable earnings allocated to that branch, the adequacy of the present allocation is assessed. If the percentage of contribution and investment income allocated is expected to meet the projected cost of benefits for the next five years, the allocation rate is considered adequate.

The benefits covered under the Short-term Benefits Branch are cash sickness benefits, maternity allowances (including cash benefits and grants) and funeral grants. Each year, 14.04 per cent of contribution income (equivalent to 1.26 percentage points of insurable earnings) is accumulated into the reserve of this Short-term Benefits Branch along with investment returns. Short-term benefits and a portion of administrative expenditure are charged to the STB Branch. On 31 December 2002, the STB reserve stood at EC\$32.4 million, or 9.1 times short-term benefits expenditure in 2002.

A summary of Short-term Benefits Branch experience for 2000 to 2002 is provided in Tables 38 through 42.

Table 38 **Sickness benefits experience, 2000 - 2002**

Year ended	# claims awarded per 1,000 insured persons	Average benefit duration (days)	Average weekly benefit	Cost as % of insurable earnings
2000	149	14.1	171.27	0.54
2001	149	13.6	173.05	0.51
2002	166	11.9	175.74	0.49

Table 39 **Maternity allowances experience, 2000 - 2002**

Year	# births	# benefits awarded	# grants awarded	Cost as % of insurable earnings
2000	1,883	529	64	0.30
2001	1,839	557	75	0.31
2002	1,756	479	54	0.27

Table 40. **Maternity benefits experience, 2000 - 2002**

Year ended	# claims awarded per 1,000 insured persons	Average benefit duration (days)	Average weekly benefit (EC\$)	Cost as % of insurable earnings
2000	16	70	169.25	0.29
2001	17	71	152.24	0.30
2002	17	71	157.96	0.26

Table 41 **Funeral grants experience, 2000 - 2002**

Year	# deaths	# grants awarded	Cost as % of insurable earnings
2000	716	175	0.09
2001	738	254	0.13
2002	877	299	0.15

Note: In 2001 and 2002, Funeral grant expenditure was charged to the LTB Branch.

Table 42 **Administrative and total expenditure, STB Branch, 2000 – 2002 (% of insurable earnings)**

	Administration & other expenditure	Total branch expenditure
2000	0.18	1.11
2001	0.19	1.01
2002	0.17	0.94

Note: In 2001 and 2002, Funeral Grant expenditure was charged to the LTB Branch.

With an allocation of 1.26 per cent of insurable earnings plus investment returns, the STB Branch incurred surpluses each year. Estimates of STB Branch annual expenditure for the next three years are shown in Table 43:

Table 43 Projected STB Branch costs

Benefit /Expense	As % of insurable earnings
Sickness benefit	0.55
Maternity allowance	0.30
Funeral grant	0.15
Administration expenses	0.20
Total	1.20

IV.3 Employment Injury Benefits Branch

Similar to the approach used for the Short-term Benefits Branch, the analysis of the Employment Injury Benefits (EIB) Branch adopts a short-term perspective. Employment Injury benefits are those payable following on-the-job accidents and illnesses that arise due to employment. Benefits include Injury benefit, Medical Care, Disablement grant, Death and Disablement pensions.

Each year this branch receives 11.11 per cent of National Insurance contribution income or 1 per cent of insurable earnings, plus investment income on its reserve, while benefit costs and a portion of NIS administrative expenditure are deducted. On 31 December 2002, the reserve of the benefits branch stood at EC\$26.0 million, or 32 times branch expenditure in 2002.

The following tables highlight Industrial Benefit Branch experience for 2000 to 2002.

Table 44 Injury benefits experience, 2000 to 2002

Year ended	# claims awarded per 1,000 insured persons	Average benefit duration (days)	Average weekly benefit	Cost as % of insurable earnings
2000	9.3	21.9	141.58	0.04
2001	8.9	17.0	211.38	0.05
2002	8.4	19.8	231.08	0.06

Table 45 Medical care and disablement grants experience, 2000 - 2002

Year	Medical expenses		Disablement grant	
	# claims awarded	Cost as % of insurable earnings	# claims awarded	Cost as % of insurable earnings
2000	149	0.01	8	0.02
2001	167	0.01	10	0.01
2002	180	0.01	10	0.03

Table 46 **Disablement and death benefit awards and pensions-in-payment, 2000 – 2002**

Year	Disablement benefit			Death benefit		
	# pensions awarded	Pensions-in-payment (December)	Payments as % of insurable earnings	# pensions awarded	Pensions-in-payment (December)	Payments as % of insurable earnings
2000	3	3	0.00	5	8	0.01
2001	2	5	0.00	-	6	0.01
2002	6	10	0.01	1	3	0.01

Table 47 **Administrative and total expenditure, EIB Branch (% of insurable earnings)**

	Administration & other expenditure	Total branch expenditure
2000	0.09	0.17
2001	0.09	0.17
2002	0.11	0.21

Note: Termination expenses related to a Staff Voluntary Separation Plan were included in Administrative expenses in 2001.

With 1.0 per cent of insurable earnings allocated from contribution income plus investment returns, the EIB Branch incurred large surpluses each year. Estimates of Industrial Benefits Branch annual expenditure as a percentage of insurable earnings for the next three years are shown in Table 47.

Table 48 **Projected EIB branch costs**

Benefit /Expense	As % of insurable earnings
Injury benefit	0.07
Medical care	0.02
Disablement benefit & grant	0.04
Death benefit	0.02
Administrative expenses	0.10
Total	0.25

IV.3 Branch allocations and transfer of reserves

At the end of 2002, both the STB and EIB Branches had excessive levels of their respective reserves – the reserve of the STB Branch amounted to EC\$32.4 million or 9.1 times annual expenditure (2002) and the reserve of the EIB Branch was of EC\$26.0 million or 32.1 times annual expenditure (2002). Adequate funding levels for the STB and EIB Branches are one and two times annual expenditure, respectively. Therefore, transfers of reserve funds out of both branches and into the LTB branch are recommended as follows: EC\$28 million from the STB Branch and EC\$24 million from the EIB Branch.

Over the years, the portion of contribution income allocated to these benefit branches exceeded expenditure, resulting in the build up of excessive reserves for each branch. As indicated in the previous two sections, expenditure in the coming years is expected to be much less than current allocations for the EIB Branch and almost the same for the STB Branch. Therefore, a reduction in the allocation of contribution income to the EIB Branch and an equal increase to the LTB Branch is recommended. For the next three years, the recommended allocations of the National Insurance portion of contribution income are:

Branch	Insurable earnings (or)	NIS contribution income
STB	1.26	14.0
LTB	7.47	83.0
EIB	0.27	03.0

It should be noted that the change in allocations of contribution income and transfer of reserve funds between branches has no impact on the overall present or future funded position of NIS. These adjustments are for internal accounting purposes only and are consistent with the manner in which NIS has elected to finance the various types of benefits.

Appendix V. NIS income, expenditure and reserves, 2000 - 2002

	2001	2002	2003
Income	45,539,368	49,563,471	73,768,622
Contribution	28,826,890	30,353,611	52,811,736
Investment	16,471,258	18,900,693	20,752,341
Other	241,220	309,167	204,545
Expenditure	15,207,156	19,459,776	21,049,423
Benefits			
Sickness	1,874,800	1,880,281	1,880,032
Maternity	999,359	1,121,665	998,446
Maternity grant	29,250	33,300	24,300
Funeral	324,600	490,000	564,750
Age pensions	6,336,235	7,398,627	8,203,348
Invalidity pensions	761,183	854,951	1,019,217
Survivors' pensions	744,132	794,416	840,048
Provident Fund pensions	132,840	2,075,283	2,484,999
Age grant	186,042	192,747	172,204
Invalidity grant	2,778	2,299	6,927
Survivors' grant	9,464	4,523	2,768
Employment injury	288,453	281,047	407,663
Administrative expenses	3,518,020	4,330,636	4,444,719
Excess of income over expenditure	30,332,212	30,103,695	52,719,199
Reserve at year-end	261,052,405	391,156,100	343,875,299
Short-term Benefits Branch	24,337,867	26,662,463	32,438,885
Long-term Benefits Branch	221,082,519	244,959,300	285,435,288
Employment Injury Benefits Branch	15,632,019	19,534,337	26,001,126

Appendix VI. Unemployment benefits in other countries

Within CARICOM, Barbados remains the only country that has an unemployment insurance programme. This scheme is administered by the National Insurance Board and has been in existence since July 1981. The initial contribution rate was set at 2 per cent and shared equally by the employer and employee. Since then this rate has been adjusted six times but the 50/50 relationship between employer and employee has remain unchanged. There have also been several changes to the benefit rate and maximum duration. In 1981, benefits were 40 per cent of average insurable earnings for a maximum of 13 weeks. Today, 60 per cent of average insurable earnings is payable for up to 26 weeks. The following two tables show the main changes made to benefit provisions and the contribution rate since 1981.

Table 49 Major changes to benefit provisions, Barbados

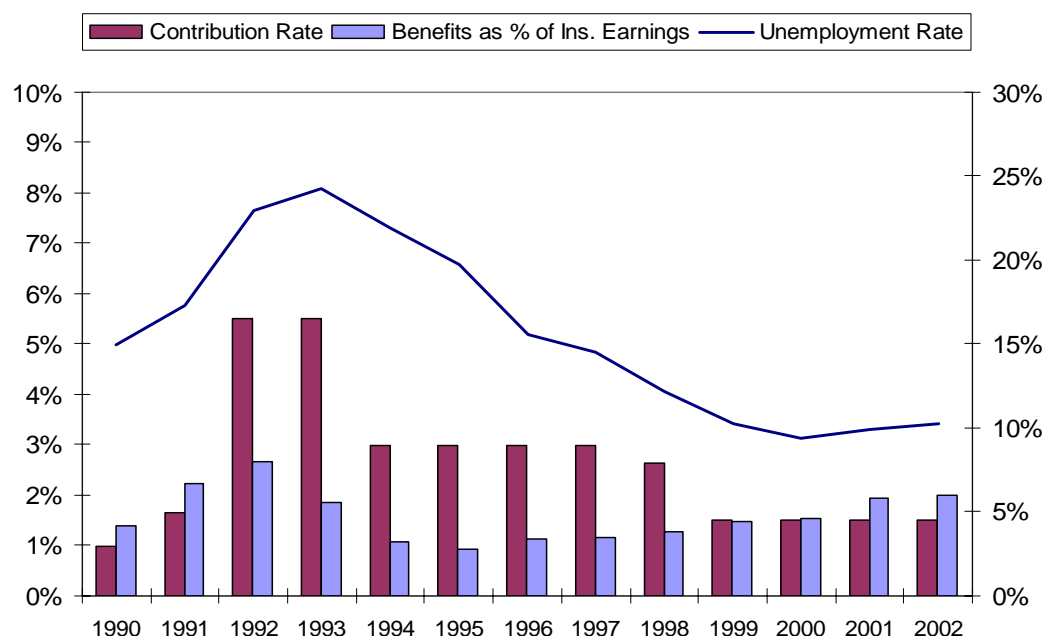
Month of change	Benefit rate (as % of AWIE)	Maximum duration (weeks)
July 1981	40	Up to 13
April 1984	50	Up to 13
June 1985	60	Up to 26
October 1991	+60	First 10
	40	Next 16
June 1996	60	Up to 26

Table 50 Changes to contribution rates, Barbados (% of insurable earnings)

Month of change	Combined contribution rate
July 1981	2.00
May 1987	1.00
October 1991	2.75
December 1991	5.50
January 1994	3.00
September 1998	1.50

The following chart shows how the Barbados national unemployment rate (top line using scale on right axis) changed between 1990 and 2002, how the Unemployment Fund contribution rate has been adjusted and the actual level of benefit expenditure (scale on left axis). During a recession in the early 1990's unemployment reached almost 25 per cent. In response, the combined contribution rate was increased to 5.5 per cent and benefit expenditure approached 3 per cent of insurable earnings. With benefit expenditure less than the contribution rate for several years, there were rate reductions and presently the contribution rate stands at 1.5 per cent. Since 1995 benefit expenditure has increased gradually, though, surpassing income since 2000. However, large annual surpluses in prior years have resulted in the Unemployment Fund being very well funded, with a reserve now of 3.5 times annual expenditure.

Chart: 15 Barbados unemployment, contribution and benefit expenditure rates, 1990 - 2001



The Barbados experience confirms that unemployment expenditure tends to be cyclical and more volatile than the traditional short-term social security benefits. As a result, authorities there have responded on several occasions by changing the contribution rate when necessary.

Some characteristics of the Barbados Unemployment Insurance scheme are:

- The Unemployment Benefits Fund is separate from the National Insurance Fund.
- Permanent government employees and self-employed persons do not contribute and are thus not covered.
- The employer and the employee share contributions equally.
- The contribution wage ceiling is the same as for other National Insurance benefits.
- To qualify, one must have been insured for at least 52 weeks, and
 - have 20 weeks weekly contributions in the three consecutive quarters ending with the 2nd quarter preceding unemployment;
 - 7 weekly contributions in the 2nd quarter preceding the one in which unemployment began.
- Benefits are 60 per cent of average weekly insurable earnings.
- Benefits are payable for a maximum of 26 weeks in any continuous period of unemployment, or for an aggregate of 26 weeks in the 52 weeks preceding.
- If the entitlement to benefit is exhausted, a new unemployment benefit may not be payable until the expiration of 52 contribution weeks from the last week in which benefit was paid.

-
- The first three days of a period of unemployment are treated as a waiting period. If, however, unemployment lasts at least three weeks, benefit is payable from the first day.

Table 51 **Highlights of recent unemployment benefit scheme experience**

	2002	2001	2000	1999
Unemployment rate (%)	10.3	10.4	9.3	9.9
Contribution rate (%)	1.5	1.5	1.5	1.5
Expenditure as % of insurable earnings	2.0	1.94	1.55	1.49
Average duration (benefit days)	69	69	67	68
# claims approved	15,135	15,946	10,533	10,570
# claims per thousand contributors	149	162	109	106

Table 52 Comparison of unemployment insurance provisions in four selected countries

	Barbados	Canada	Venezuela	Cyprus
Coverage	Employed persons aged 16-64 Self employed and permanent government employees excluded.	All employed persons excluding provincial & foreign government employees	Employed persons in public and private sector	Employed persons aged 16-63 (63-65 if not entitled to old-age pension)
Eligibility conditions	<ul style="list-style-type: none"> – 52 weekly contributions – 20 weeks of contributions in the 3 consecutive quarters ending with the 2nd quarter preceding unemployment – 7 weeks of contributions in the 2nd quarter preceding employment 	<ul style="list-style-type: none"> – without work & without pay for at least 7 consecutive days – in the last 52 weeks (or since last claim) have worked the required number of insurable hours 	<ul style="list-style-type: none"> – 52 weeks of contributions in 18 months preceding unemployment 	<ul style="list-style-type: none"> – 26 weeks of paid contributions – 20 contributions paid last year – Capable and available for work
Waiting period	3 days	2 weeks	1 month	3 days
Benefit percentage	60% of average weekly insurable earnings	55% of average insured earnings	60% of average insurable weekly earnings during last 50 weeks	60% of insurable earnings up to the basic earnings, plus 50% of insurable earnings in excess of the basic earnings up to a maximum of 2 times the basic earnings. (dependents' supplements payable)
Maximum duration of benefit	26 weeks	14 to 45 weeks. Depends on the unemployment rate in the region and the amount of insurable hours accumulated in the qualifying period	13 weeks (can be extended to 26 weeks)	26 weeks
Financing (as %)				
– Insured person	0.75	2.20 <i>Covers also sickness</i>	0.50	0.38
– Employer	0.75	3.08 <i>and maternity</i>	1.70	0.38
– Government	None	None <i>(UI alone: approx. 2.6)</i>	None	0.24

References

National Insurance Act and Regulations

National Insurance Fund Financial Statements

Preliminary 2001 Population Census Report

IMF, 2002. *2002 IMF Article IV Consultation Report*, Washington

ILO, 2000. *Sixth Actuarial Review of The National Insurance Scheme as of 31 December 1999*. Geneva

ILO, 2004, *Barbados: Eleventh Actuarial Review of the National Insurance, Unemployment and Severance Funds as at December 2002*. Geneva