Saint Kitts and Nevis

Report to the Government

Seventh actuarial review of the Social Security Fund as of 31 December 2002

International Financial and Actuarial Service
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Foreword

Section 39 of the *St. Christopher and Nevis Social Security Act, 1977*, requires that an actuarial review of the Social Security Fund be conducted at least every three years. This is the seventh such review and it has been performed as at 31 December 2002, three years after the sixth review.

In 1999, the International Labour Organisation (ILO) and six Caribbean countries, including St. Kitts & Nevis, 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 Social Security Fund (SSF) and to review contribution and benefit provisions, making recommendations where appropriate. During discussions in St. Kitts & Nevis requests for specific issues to be dealt with in the report were made including:

- using wages over one's career when calculating age pensions,
- allowing persons receiving invalidity pensions to also receive some employment income,
- the large number of persons who fail to qualify for an age pension and only receive the age grant,
- increasing the funeral grant,
- increasing the normal retirement age,
- studying the impact of HIV/AIDS,
- broadly addressing the feasibility of introducing unemployment benefits, and
- preparing for social security reform.

These and other matters that arose during discussions are discussed in Section 4.

This report is divided into two parts – the main report and the appendices. The main report contains an analysis of historical experience, the results of population, economic and Social Security Fund projections up to 2062 and the assessment of the financial sustainability of the SSF. This is followed by a brief discussion of several policy and operational issues and investments. A discussion on the feasibility of introducing unemployment benefits is presented.

The appendices that follow contain a summary of key Social Security contribution and benefit provisions, a description of the methodology used for the valuation and detailed tables of the Social Security finances for 2000 to 2002, key data inputs, assumptions and projection results. They also provide additional information on unemployment benefits as found in other countries.

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Abbreviations and acronyms

AIDS	Acquired immune deficiency syndrome
AWIE	Average weekly insurable earnings
CSME	CARICOM Single Market and Economy
CSSA	CARICOM Social Security Agreement
EC$	Eastern Caribbean dollar
EIB	Employment injury benefits
GDP	Gross Domestic Product
HIV	Human immunodeficiency virus
ICE	Indexed career earnings
ILO	International Labour Office
IPS	Investment Policy Statement
LTB	Long-term benefits
PAYG	Pay-as-you-go
PV	Present value
SKN	St. Kitts & Nevis
SSB	Social Security Board
STB	Short-term benefits
US$	United States dollar

Exchange rate

As of 31 December 2002: US$1 = EC$2.67

Acknowledgements

The ILO Umbrella Programme's Project Actuary, Mr. Derek Osborne, was appointed by the ILO to undertake this assignment. Mr. Osborne visited St. Kitts & Nevis in November 2003 to gather the necessary data and to discuss with the Minister for International Trade, Labour, Social Security, CARICOM Affairs, Telecommunications and Technology, members of the Social Security Board, management and staff, and representatives of workers and employers' organisations.

This actuarial review is the product of contributions by Ms. Paulette, Ms. Tweed and Mr. Oral Courlbourne, St. Kitts & Nevis' national counterparts under the ILO Umbrella Programme. Their tasks included gathering the data and assisting the actuary during his visit to St. Kitts & Nevis.

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 Social Security Board for their collaboration and assistance provided throughout this project.

The ILO Director-General wishes to express his sincere thanks to the Director of the Social Security Board, Mrs. Sephlin Lawrence, for her collaboration and assistance provided throughout this project.

Executive summary

Some of the benefits that current Social Security contributors anticipate receiving will be paid more than fifty years from today. Therefore, to determine whether or not St. Kitts & Nevis's social security system is sustainable over the long term, periodic actuarial reviews are conducted. In these reviews an examination of the Fund's current and projected future financial status is made. The actuary is also 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.

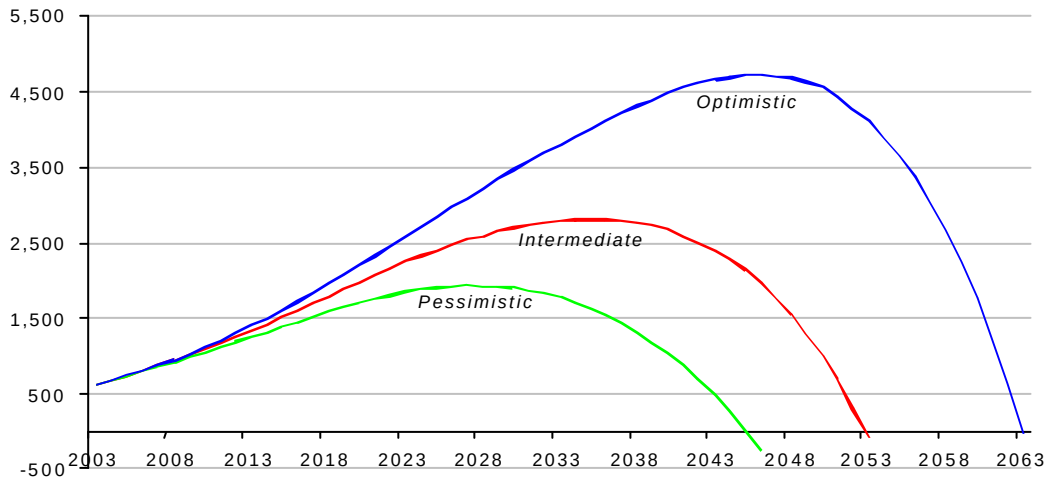
During its first twenty-five years, the Social Security Board (SSB) has experienced steady growth in contribution and investment income, benefit expenditure and reserves. However, in recent years, the number of contributors has remained around 22,000 while the number of pensioners continues to increase. At the end of 2002, Social Security Fund (SSF) reserves stood at EC$542 million or 21.5 times total expenditure in 2002 or equivalent to 67 per cent of GDP. While this is a relatively high level of funding and the Fund is large relative to the local economy, total assets are less than the present value of total benefits already earned by past and present contributors, in line with the partially-funded approach followed by the SSF.

With birth rates declining and increased longevity among the elderly, future Social Security finances will show a different pattern from those of its first twenty years. While reserves are expected to continue growing for some time, the consequences of a declining contributor-pensioner ratio and a contribution rate that is below the long-term cost of all benefits will gradually emerge as the scheme matures.

Along with a review of the SSF's financial position as of 31 December 2002, this report includes projections of income, expenditure and reserves through 2062. Since the estimation of future experience is uncertain and depends on many demographic and financial assumptions, three scenarios are presented to show the plausible range of likely outcomes. These scenarios have been dubbed *Pessimistic*, *Intermediate* and *Optimistic*, and differ with respect to future population, economic and Social Security-specific assumptions.

Chart ES.1 below shows the projected trend for Social Security reserves under the three scenarios, assuming that the contribution rate and benefit provisions remain unchanged.

Chart ES.1. Projected reserves of St. Kitts & Nevis' Social Security Fund (millions of EC$)



The key results of the *Intermediate* scenario projections based on the contribution and benefit provisions in place as of the valuation date on 31 December 2002 may be summarised as follows:

- The population should increase from 46,111 in 2001 to around 56,000 in mid-2040, remaining relatively constant thereafter.

- The ageing of the general population will have a major impact on the ratio of workers to retirees. For Social Security, it is projected that the number of contributors for each pensioner will fall from 7.7 in 2002 to only 1.7 in 2062.

- Contribution income is expected to be sufficient to meet total expenditure through 2020.

- Reserves are expected to begin decreasing in 2036 when total expenditure will exceed total income for the first time. Reserves are projected to be depleted by 2053.

- The pay-as-you-go (PAYG) cost rate, or the contribution rate that would be required to produce just enough income each year to meet expenditure, will increase gradually from 5.9 per cent in 2002 to 27.9 per cent in 2062.

- 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 15.7 per cent (also referred to as the general average premium-GAP). To secure a reasonable reserve level of at least five times expenditure in 2062, four rate increases of 1 per cent every five years from 2006 to 2021 would be required. This would bring the ultimate contribution rate to approximately 15 per cent of insurable earnings.

Under the *Pessimistic* scenario, the first cash flow deficit is expected in 2028 with Fund depletion in 2046, while under *Optimistic* assumptions expenditure is projected to exceed income beginning in 2047 with Fund depletion in 2063.

Based on the conclusions of the actuarial projections, a decision should be made as to what is the acceptable ultimate level of the contribution rate in view of the projected cost if benefit provisions remain unchanged. Accordingly, measures should be adopted to eventually reduce projected expenditure by altering benefit levels within acceptable limits (c.f. ILO C.102). At the same time, a number of simple measures to improve benefit provisions, at a low cost to the scheme, could be introduced immediately as these could significantly improve the income security of the concerned beneficiaries. A set of specific recommendations is formulated as follows:

(1) Beginning in 2006, wage-ceiling increases should occur annually in line with changes in average wages in St. Kitts & Nevis with the rules governing such increases placed in Regulations. To estimate changes in average national wages, the government's Planning Unit should investigate how to create a wage index. Until such an index is available, Social Security data may be used as a proxy. (Section 4.11)

(2) Pensions-in-payment should be increased annually in future in line with average inflation over the previous three 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 dollar amounts should be adjusted automatically each year on a coherent basis adopted to reflect increases in the cost of living. Accordingly, the set level of the minimum age and invalidity

pension should be increased annually to represent at least 15 per cent of average insurable wages. (Sections 4.1.2 and 4.14)

(3) The pension formula for age pensions could be modified from the current basis using the best three years' wages in the last 15 years, to one that uses re-valued or indexed insurable wages over a longer period, such as the ten years (up to entire career possible) with equal weight awarded to each year used in reference period. In addition, it is recommended to consider adopting a flat benefit accrual rate for every year of contributions paid to the SSB. Such changes to the pension formula should only be adopted once a thorough discussion on the income replacement objective of the SSB and the affordability of the scheme is conducted and follows an in-depth policy review of the winners and losers. (Section 4.1.3)

(4) Careful consideration should be given to the possibility of paying more that just the higher of the two pensions for persons who would otherwise qualify for an age pension in their own right and a survivors' pension if their spouse has deceased. There are several reasonable alternatives to paying both pensions so that the total amount is not excessive yet ensures that the surviving spouse is not made worse off following the death of their partner. (Section 4.17)

(5) For survivors' pension, a review of the minimum pension rate as well as the payment duration – now only one year – for spouses who are under 45 but who have dependant children could be made. (Sections 4.1.7 and 4.1.8)

(6) Consideration could be given to increasing gradually the normal pension age from 62 to 65 over at least a nine-year period. Reduced pensions would be offered from as early as age 62 so that insured persons have the flexibility to choose the age at which they wish their pension to begin whilst not causing additional financial burden to the scheme. (Section 4.1.5)

(7) Participation among the self-employed should be significantly improved through increased education, linkages with government departments that issue permits and/or licenses to self-employed persons, and a simplified approach to the way self-employed persons are required to contribute, the level of their benefits, etc. (Section 4.3.1)

(8) Consideration should be given to allowing persons receiving an invalidity pension and who wish to return to work with the possibility of receiving a portion of the pension or the whole pension for a limited period. (Section 4.1.6)

(9) A review should be undertaken of all claims processed under the CARICOM Social Security Agreement so as to ensure the correct type and amount of benefit, pension or grant, is paid. (Section 4.4.1)

(10) For the Assistance pension, specific criteria should be introduced to clearly determine whether the applicant is "in need" and if this adequately reflects the social welfare objective attributed to the SSF. (Section 4.2)

(11) Board members should be appointed in accordance with the provisions set out in the *Social Security Act* and consideration should be given to including one or two skilled investment professionals on the Investment Committee (Sections 4.4.2 and 4.5.3)

(12) Annual financial statements and reports of operations as well as actuarial reports should be widely publicized and disseminated so that key stakeholders and the general public are fully aware of the current and projected states of the St. Kitts

& Nevis social security system and appreciate better the protection received. (Section 4.4.3)

(13) Government should amend the pension arrangement for public officers so that combined Social Security and civil service pensions cannot exceed pre-retirement pay while at the same time being equitable to low- and high-income retired officers. (Section 4.3.2)

(14) Consideration could be given to introducing a modest unemployment insurance benefit that can be enhanced once experience unfolds with the objective of not only providing income to unemployed individuals but also of stabilising the economy in times of recession. The Barbados experience is referred to. The ILO Convention 168 or 1988 on Employment Promotion and Protection Against Unemployment should be referred to. (Section 6)

(15) Gradual improvement of the diversification in the asset allocation of the Social Security investments could be emphasized to minimize risks to the SFF. Such changes relate to reducing the amount held in fixed deposits, especially the amount held in one bank, investing in longer-term securities and placing up to 15 per cent of the portfolio in regional and international investments. (Section 4.5)

(16) While no contribution rate increase is being recommended at this time, changes to the allocation rates for contribution income to the three benefit branches could be made as outlined in Section 6.4. Transferring reserves out of the Short-term and Employment Injury Benefit branches and into the Long-term benefits branch should also take place. While these changes do not affect the overall funding of Social Security benefits, the changes would bring consistency to the financing method chosen for each benefit branch. (Section 1.5.4)

Although St. Kitts & Nevis is not yet a party to any social security instrument of the ILO, when reforms are considered, the ILO encourages policy makers to refer to the ILO Convention 102 of 1952 on Minimum Standards of Social Security reflecting still general accepted principles of social security at the international level. (Section 4.1)

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 40 years away and the contribution rates required to avoid this will be more than twice what they are today. With St. Kitts & Nevis having a relatively young social security system, the projected depletion of the Fund in the next 40 to 50 years may seem very distant. But while Social Security 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.[1]

The Social Security Board is therefore encouraged to share the findings, projections and recommendations of this actuarial review through extensive public consultation to obtain support for the changes that are acceptable and to ensure benefit expectations are in line with contributory capacities. The two main focus areas should be the strengthening of the Fund for future generations and making major improvements in the participation of self-

[1] See Osborne, Derek (2004): State of Social Security in the CARICOM Single Market and Economy.

employed persons. It is not too early to make meaningful changes that will lessen the burden on future generations of Kittitian and Nevisian workers and employers. It is also extremely important that the security of a lifetime social security pension will be a reality for the growing number of self-employed persons. For the Government, leadership and support for changes that will bring equity and long-term sustainability to the Social Security Fund are paramount. The consequences of inaction could lead to high contribution rates, reduced pensions and/or higher required government subsidies.

When reforms are considered, the ILO encourages the social security policymakers of St. Kitts & Nevis to refer to Convention No. 102 concerning minimum standards on social security and other conventions and recommendations on social security as adopted by ILO member States.

1. Review of SSF experience, 2000-2002

The SSB began operations in February 1978 by introducing a defined-benefit system of social security that replaced a provident fund pension system. Two main types of social security benefits were initially offered – long-term benefits or pensions and short-term benefits. Employment injury benefits were introduced in 1986.

1.1 Recent amendments to the Social Security *Act* and Regulations

In 2002, several amendments to the *Act* and Regulations aimed at consolidating previous Regulations and introducing several new policies were made as follows:

- The Second Schedule of the *Social Security Act* was amended to permit the Board, subject to the approval of the Minister, to invest up to 1 per cent of the Fund within certain guidelines as follows: overseas, in local corporate bonds or equities, in domestic or regional corporations or funds that are endorsed by the Government and established for the execution of specific mandate.

- The Social Security (Benefit) Regulations, 1978, was replaced by the Social Security (Benefit) Regulations, 2002.

- The Self Employment Regulations, 2002, was introduced.

- Amendments were made to the Financial and Accounting Regulations, Classification Regulations, Registration, Regulations and Contributions Regulations.

The following amendments each with direct financial implications took effect in July 2002:

- All age, invalidity and survivors' pensions-in-payment awarded before January 2000 were increased by 6 per cent. Those awarded in 2001 were increased by 5 per cent.

- The minimum monthly age and invalidity pension was increased from EC$200 to EC$250.

- The minimum monthly survivors' pension for spouses was increased from EC$100 to EC$125 and for children from EC$50 to EC$60.

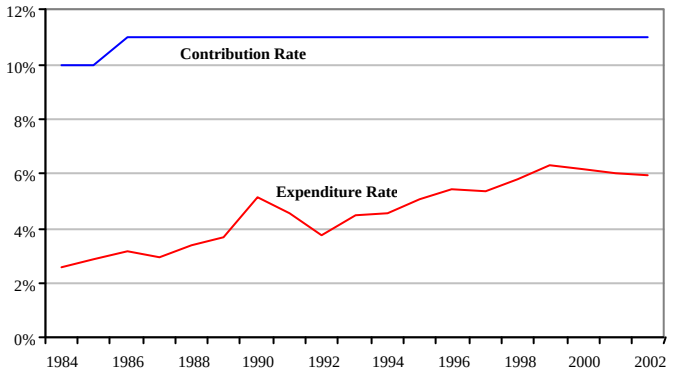
- The assistance pension rate was increased from EC$40 per week to EC$100 twice per month.

- The funeral grant (under employment-related death) was increased from EC$2,500 to EC$4,000.

1.2. Financial experience

The following charts illustrate various aspects of the Social Security Board's (SSB) financial experience between 1984 and 2002.[2] These charts compare annual contribution and expenditure rates and illustrate changes in the relative funding level over time, the changes in the relative size of each benefit type as a proportion of total benefit expenditure, the yield on reserves and administrative costs. The trends noted in the first three charts are consistent with this type of scheme and the financing method adopted, and they confirm the gradual maturing of St. Kitts & Nevis' social security system.

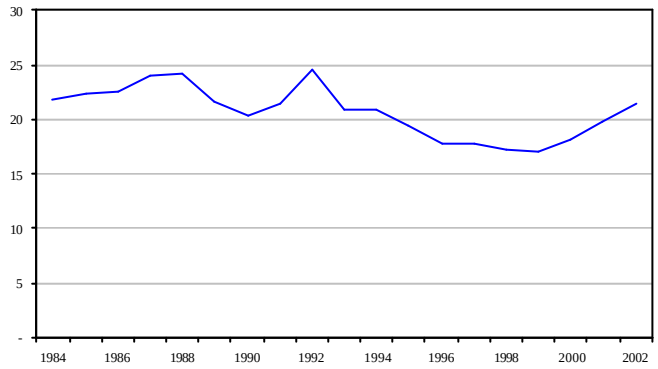
Chart 1.1. Contributions and expenditure (as % of insurable wages)



When expenditure is expressed as a percentage of insurable earnings, it can be readily compared with the contribution rate. While the contribution rate has remained constant since 1986, expenditure has trended upwards, with continued upward movement expected.

With the contribution rate higher than the expenditure rate by over 5% in 2002, contributions alone are more than sufficient to meet expenditure.

Chart 1.2. Reserve-to-expenditure ratio

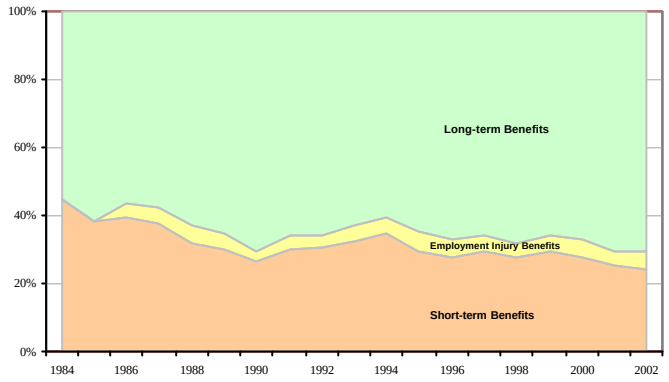


The reserve-expenditure (RER) ratio reflects the size of the year-end reserve relative to that year's expenditure and is a useful measure of how well a social security scheme is funded at any time. Until 1999, this ratio gradually declined but has since increased due to the higher returns on investments and lower administrative costs over the past few years. At the end of 2002 the RER ratio stood at 21.5.

Although a ratio of over 21 indicates a high level of funding, total assets are less than the total value of benefits already earned by past and present contributors.

[2] Financial statements prior to 1984 were not available.

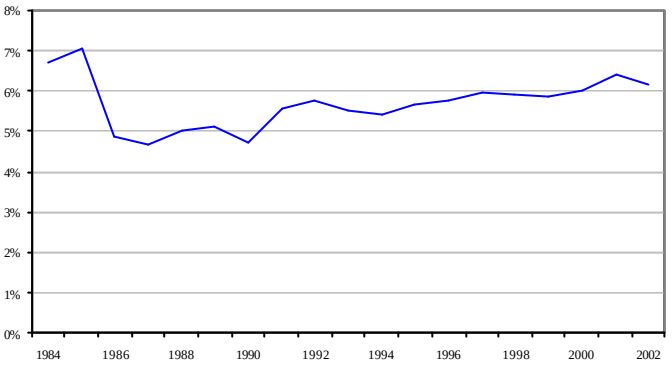
Chart 1.3. Distribution of benefit expenditure (as % of total)



As illustrated, long-term benefits or pensions make up the majority of SSB benefit expenditure – 71% in 2002. In that year, short-term benefits represented 24% and employment injury benefits 5%.

As the scheme matures and more persons qualify for larger pensions, long-term benefits will make up an even higher percentage of expenditure.

Chart 1.4. Yield on reserves (as % p.a.)



With reserves approaching EC$600 million, the rate of return on these reserves is a very important factor in the long-term sustainability of the Fund. In recent years, returns have generally increased.

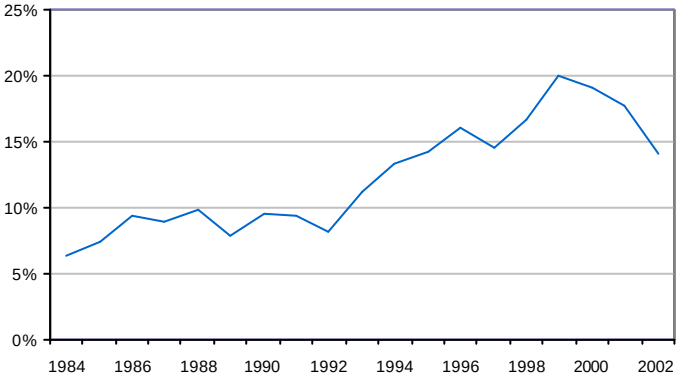
Nominal rates of return (% p.a.)

– 2002	6.2
– Last 5 years	6.1
– Last 10 years	5.9

Real rates of return (% p.a.)

– 2002	4.3
– Last 5 years	3.5
– Last 10 years	2.8

Chart 1.5. Administrative expenditure (as % of contribution income)



Between 1992 and 1999 operating costs as a percentage of contribution income increased from 8% to 20%. Since 2000, though, there have been reductions in administrative costs both in absolute EC$ and relative to contributions.

Although the current level of operating costs relative to contributions is acceptable, partly because of the high wage ceiling and 11% contribution rate, there appears to be room for further cost reductions, especially as it relates to staff strength.

After a decade of relatively high economic growth in St. Kitts & Nevis, expansion slowed in 2002. While inflation has remained low, it is estimated that the unemployment rate has risen over the past few years from 5 per cent to nearly 10 per cent in 2003. For Social Security, the rate of growth of contribution income has slowed and the number of active contributors has remained between 21,500 and 22,500 for 1999 to 2002. Although benefit expenditure increases were in line with expectations, the higher-than-expected growth of investment income offset smaller increases in contributions, allowing the SSB to realise growing surpluses each year.

In the *Sixth Actuarial Review*, dollar-value projections were only presented for the Long-term Benefits (LTB) branch. Overall, 2002 year-end LTB branch reserves were EC$4 million higher than projected and the reserve-expenditure ratio was also higher – 23.7 instead of 20.7, due mainly to lower administrative expenses in 2002. For the short-term and employment injury benefit branches, where expenditure was estimated as a percent of insurable earnings, costs were lower than projected.

Table 1.1. Summary of SSF finances, 2000 – 2002 (millions of EC$)

	2000	2001	2002
Income			
Contributions	43.5	45.5	46.9
Investment	24.3	28.8	30.7
Other	0.7	0.4	1.2
Total	**68.5**	**74.7**	**78.8**
Expenditure			
Benefits	15.9	16.7	18.6
Administrative	8.3	8.0	6.6
Total	**24.2**	**24.7**	**25.2**
Annual surplus (Income minus Expenditure)	44.3	50.0	53.6
Year-end reserves	438.5	488.5	542.1

1.3. 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. Table 1.2 provides a summary of several key indicators of coverage and benefit levels provided by the SSB and its operational performance, highlighting changes between 1999 and 2002.

Table 1.2. SSB performance indicators, 1999-2002

	1999	2002	Comments
Ratio of ceiling to average insurable wage	3.5	3.1	Ceiling still at a high level. No major increase needed.
Minimum pension as % of average wage	11	12	Minimum increased in 2002 but still low relative to wages.
Average old-age pension as % of average insurable wage	25	28	Increase expected as more people with larger pensions are added.
Active insured persons as % of employed population	Not available	105	More contributors than permanent jobs due to transient labour. Does not mean 100% compliance.
% of self-employed persons to number of contributing insured members[1]	Not available	15	Very low.
Number of contributors per pensioner	8.2	7.7	Gradual decline expected as scheme matures.
% of persons over-62 in general population receiving a SSB pension	N/A	56	Adequate.
SSB benefits and pensions as % of GDP	2.2	2.3	Gradual increase expected as scheme matures.
SSB reserves as % of GDP	57	67	High. Gradual increase expected.
Contribution rate as % of insurable wages	11	11	Increased only once from 10% in 1986 when EIB's[2] were added.
Expenditure rate as % of insurable wages	6.3	5.9	Decrease due to a fall in administrative expenses in 2002.
Investment income expressed as % of insurable earnings	5.9	7.2	Higher yields and bigger Fund over last few years.
Three-year average annual nominal yield on reserves (%)	5.9	6.2	Higher yields over last few years.
Three-year average real annual yield on reserves (net of inflation) (%)	0.7	4.2	Low inflation in recent years.
Administrative expenses as % of insurable wages	2.2	1.5	Significant fall in operating costs in 2002.
% of assets held in government securities	21	19	Acceptable.
% of assets held in short-term deposits	65	65	Too high as assets not consistent with long-term liabilities
Reserve-to-expenditure ratio	17.1	21.5	Decrease expected but increase due to higher investment returns.

[1] Number of self-employed persons in population taken from *2001 Population Census*.
[2] Employment injury benefits

1.4 Investment performance

Relative to the economy, the Social Security Fund[3] is large – 67 per cent of GDP. At the end of 2002, SSB investments stood at EC$512 million, up from EC$367 million at the end of 1999. During this period the average yield on reserves was 6.2 per cent. With inflation averaging 2 per cent, the real return over the three-year period was 4.2 per cent. While these rates of return are reasonable given the limited opportunities available, the overall portfolio remains poorly diversified and heavily concentrated in a single institution. Table 1.3 provides a summary of the investment mix of the Social Security Fund at year-end 2002 and 1999.

[3] National Provident Fund not included.

Table 1.3. Summary of investments, year-end 2002 and 1999

	2002		1999	
Investment category	**EC$**	**% of total**	**EC$**	**% of total**
Government securities and loans	98.0	19.1	76.2	20.8
Fixed deposits	332.1	64.9	239.2	65.1
Loans	64.3	12.6	44.8	12.2
Local equities	6.8	1.3	0.5	0.1
Regional bonds and equities	6.2	1.2	2.4	0.7
International	4.7	0.9	3.9	1.1
Total	**512.1**	**100.0**	**367.1**	**100.0**

The *Sixth Actuarial Review* highlighted the poor diversification of the Fund in terms of the type and the location of assets. As seen from the above table, there has been little change in portfolio allocations between 1999 and 2002 with almost two-thirds still held in short-term fixed deposits. A detailed analysis of the portfolio reveals the following:

- 19 per cent is held directly in government securities (loans and bonds).
- 11 per cent is held in loans to Statutory Bodies, most of which are backed by government guarantees.
- 81 per cent of fixed deposits or 53 per cent of the portfolio is held at one commercial bank which is 51 per cent owned by Government.
- 83 per cent of the portfolio is held in government securities or backed by government agencies if the National Bank is classified as a government agency.
- 97.9 per cent of the portfolio is invested within St. Kitts & Nevis.

To gradually achieve a more prudent asset mix with improved diversification and better asset-liability matching, the Board may consider the following actions:

- Gradually reduce the proportion of the Fund's investments held with the National Bank of St. Kitts & Nevis and Anguilla.
- Seek long-term investments instead of placing more funds in short-term fixed deposits.
- Given government's high indebtedness, limit future lending to Government and statutory bodies.
- Gradually increase the portion of the Fund held in regional and international investments.

More details on the discussion of investments and crucial recommendations are presented in section 4.5.

1.5 Experience by benefit branch

The SSB administers three major types of social security benefits – long-term or pensions, short-term benefits and employment injury benefits. While the projections presented in Section 3 combined all 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 branch is also expected to meet its expenditure from its income and accumulated reserves.

1.5.1 Long-term benefits branch

The Long-term benefits (LTB) branch presently receives the largest share of contribution income, 8 per cent of insurable wages or approximately 73 per cent of contribution income. Benefits payable from this branch are age, invalidity and survivors' pensions and the age grant. Since most pensions are payable for life, LTB branch expenditure will continue to increase as more pensioners with larger pensions are added.

At 31 December 2002, the LTB branch reserves stood at EC$425 million or 23.7 times expenditure in 2002. (The amount of reserves relative to annual expenditure is a useful measure of how well benefits are funded.)

Expenditure for each pension for 2000 to 2002, expressed as a percentage of insurable wages, is shown in Table 1.4, along with total branch expenditure. (Actual amounts paid by benefit type are provided in Appendix IV.)

Table 1.4. Long-term benefits branch expenditure, 2000 – 2002 (as % of insurable wages)

	2000	2001	2002
Age pensions	1.88	1.93	2.15
Invalidity pensions	0.13	0.14	0.16
Survivors' pensions	0.23	0.24	0.25
Assistance pensions	0.46	0.42	0.44
Age grants	0.07	0.11	0.08
Administrative expenses	1.49	1.40	1.12
Total	**4.26**	**4.24**	**4.20**
Total benefits (millions of EC$)	**10.7**	**11.8**	**13.2**

As shown, branch expenditure as a percentage of insurable earnings increased in 2001 but decreased in 2002 due to lower administrative expenses.

Table 1.5 highlights changes in the number of pensioners and increases in average pensions for each of the four pension categories. 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 STB and Employment Injury benefits (EIB) branches will hold only small reserves, if the LTB branch becomes exhausted, depletion of the entire SSF would follow shortly thereafter. Therefore, future contribution rate increases will be required, with most of the increased revenue allocated to the LTB branch.

Table 1.5. Pensions-in-payment, numbers awarded and terminated, 2000 - 2002

	Paid in Dec. 1999	Awarded 2000 - 2002	Terminated 2000 - 2002	Paid in Dec. 2002	Average weekly pension (in EC$)	
					Dec. 1999	Dec. 2002
Age pensions	1,193	333	131	1,395	476	587
Invalidity pensions	84	113	68	129	415	480
Survivors' pensions	437	276	205	508	130	168
Assistance pensions	885	155	210	830	173	200

1.5.2 Short-term benefits branch

Unlike the LTB branch, the Short-term benefits (STB) Branch is financed on a pay-as-you-go (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 wages 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 three, the allocation rate is considered adequate.

The benefits covered under the STB branch are Sickness benefit, Maternity Allowance (benefit and grant), and Funeral grant. Each year, 2 per cent of insurable wages or 18.2 per cent of contribution income and investment income on branch reserves are allocated to this branch. Costs for the benefits listed above and a portion of administrative expenditure are charged to the STB branch. On 31 December 2002, branch reserves stood at EC$50.3 million, or 8.6 times branch expenditure in 2002.

A summary of STB branch experience for 2000 to 2002 is provided in Tables 1.6 to 1.9.

Table 1.6. Sickness benefit experience, 2000 - 2002

Year ended	No. of claims awarded per 1,000 insured persons	Average benefit duration (days)	Average weekly benefit	Cost as % of insurable wages
2000	198	11.9	228.66	0.51
2001	206	10.7	246.46	0.49
2002	214	11.1	270.27	0.56

Table 1.7. Maternity benefit experience, 2000 - 2002

Year ended	No. of claims awarded per 1,000 insured persons	Average benefit duration (days)	Average weekly benefit	Cost as % of insurable wages
2000	28	73	188.37	0.37
2001	27	73	211.86	0.37
2002	22	75	241.60	0.35

Table 1.8. Maternity grant and funeral grant experience, 2000 - 2002

Year	No. of births	No. of grants awarded	Cost as % of insurable wages	No. of deaths	No. of grants awarded	Cost as % of insurable wages
2000	838	615	0.11	357	162	0.12
2001	803	582	0.06	352	160	0.09
2002	758	531	0.06	335	168	0.09

Table 1.9. Total expenditure of STB branch, including administrative expenditure, 2000 - 2002
(as % of insurable wages)

Year	Administrative and other expenditure	Total STB expenditure
2000	0.43	1.54
2001	0.39	1.41
2002	0.31	1.37

With an allocation of 2 per cent of insurable earnings plus investment returns, the STB branch incurred growing surpluses each year.

Estimates of STB branch annual expenditure for the next three years are shown in Table 1.10. This serves as the basis for future projections of STB expenditure (Section 3.1).

Table 1.10. Projected annual STB expenditure, 2003-2005 (as % of insurable earnings)

Benefit expenditure	Projected expenditure
Sickness benefits	0.60
Maternity benefits	0.35
Maternity grants	0.07
Funeral grants	0.10
STB administrative expenses	0.35
Total	**1.47**

1.5.3 Employment injury benefits branch

Similar to the approach used for the STB Branch, the analysis of the 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, travel expenses, disablement grant, death and disablement pensions.

Each year this branch receives 1 per cent of insurable wages or 9.1 per cent of contribution income, plus investment income on its reserves, while benefit costs and a portion of SSB administrative expenditure are deducted. On 31 December 2002, Branch reserves stood at EC$63.9 million, or 46 times branch expenditure in 2002.

The following tables highlight EIB branch experience for 2000 to 2002.

Table 1.11. Injury benefit experience, 2000 - 2002

Year ended	No. claims awarded per 1,000 insured persons	Average benefit duration (days)	Average weekly benefit	Cost as % of insurable wages
2000	16	14.2	441.66	0.07
2001	14	14.9	504.13	0.09
2002	18	11.8	485.43	0.08

Table 1.12. Medical and travel expenses and disablement grant experience, 2000 - 2002

Year	Medical expenses		Travel expenses		Disablement grant	
	No. claims awarded	Cost as % of insurable wages	No. claims awarded	Cost as % of insurable wages	No. claims awarded	Cost as % of insurable wages
2000	170	0.04	49	0.02	4	0.01
2001	193	0.02	41	0.01	2	0.00
2002	219	0.03	36	0.01	6	0.01

Table 1.13. Disablement and death benefit awards and pensions-in-payment, 2000 - 2002

Year	Disablement benefit			Death benefit		
	No. of pensions awarded	Pensions-in-payment (December)	Payments as % of insurable wages	No. of pensions awarded	Pensions-in-payment (December)	Payments as % of insurable wages
2000	6	14	0.02	-	33	0.04
2001	5	19	0.02	-	30	0.04
2002	4	21	0.03	-	30	0.04

Table 1.14. Administrative and total expenditure – EIB branch, 2000 - 2002 (as % of insurable wages)

Year	Administrative and other expenditure (1)	Total EIB expenditure
2000	0.17	0.39
2001	0.15	0.32
2002	0.12	0.32

(1) Included in administrative expenses in 2001 were termination expenses related to a staff voluntary separation plan.

With 1 per cent of insurable wages allocated from contribution income plus investment returns, the EIB branch incurred large surpluses each year.

Estimates of EIB annual expenditure as a percentage of insurable earnings for the next three years are shown in Table 1.15. This serves as the basis for future projections of EIB expenditure (Section 3.1)

Table 1.15. Projected EIB expenditure, 2003-2005 (as % of insurable wages)

	Projected expenditure
Injury benefits	0.10
Medical care	0.03
Travel expenses	0.02
Disablement benefits and grants	0.05
Death benefits	0.05
EIB administrative expenses	0.15
Total	**0.40**

1.5.4 Branch accounting allocations and transfer of reserves

At the end of 2002, the STB and EIB branches were both over funded – STB branch by EC$50.2 million or 8.6 times year 2002 expenditure and EIB branch by EC$63.9 million or 46 times branch expenditure in 2002. Adequate funding levels for the STB and EIB branches are one and two times annual expenditure, respectively. Therefore, transfers of reserves out of both branches and into the LTB branch are recommended as follows: EC$45 million from the STB branch and EC$60 million from the EIB branch.

The large surpluses that have accumulated over time are a result of the investment of the portion of annual contribution income exceeding annual expenditure. As indicated in Table 1.10, expenditure in the coming years is expected to be around 1.47 per cent of insurable wages, which is less than the present 2 per cent of the allocation to the STB branch. Therefore, a reduction in the allocation of contribution income to the STB branch is recommended. The same is true for the EIB branch where projected costs are estimated at 0.4 per cent of insurable wages (Table 1.15), which is well below the 1 per cent presently collected and allocated. Therefore, it is recommended that allocations of contribution income between the three benefit branches be changed as follows:

- STB branch: 1.5% of insurable earnings or 13.6% of contribution income.
- EIB branch: 0.5% of insurable earnings or 4.5% of contribution income.
- LTB branch: 9.0% of insurable earnings or 81.9% of contribution income.

These adjustments are for internal accounting purposes and are consistent with the manner in which the SSB has elected to finance the various types of benefits. It is important that the reserve of the LTB remains available only for the payment of lifetime pensions in future as the LTB scheme matures. Annual or triennial actuarial valuations should ensure the STB and EIB remain in financial balance.

2. Projections of the general population and economic variables

Future Social Security Scheme (SSB) 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. Therefore, to best estimate future SSB finances, projections of St. Kitts & Nevis' 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 that consistent assumptions are used throughout.

For this review 60-year projections of the population, economy and SSB finances have been performed. Given the significant uncertainty inherent in forecasting such a long period, projections have been performed using three sets of baseline demographic and economic assumptions. These assumptions have been developed following considerations of historical trends and reasonable future expectations. A summary of assumptions and projection results are discussed in this Section. See Appendix II for further details.

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 St. Kitts & Nevis 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 from 40,618 to 46,111, or some 5,500 people for an average annual growth rate of 1.3 per cent. With the number of births exceeding the number of deaths over the same period by over 4,500, there was net in-migration of approximately 900 persons, an average of 90 per year.

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. The St. Kitts & Nevis TFR is estimated at just over 2.0 in 2002, having fallen from 2.71 in 1991.

Life expectancy at birth in 2003 has been estimated at 68.6 for males and 74.9 for females. While further improvements in life expectancy are expected, the increasing prevalence of HIV and AIDS in St. Kitts & Nevis 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

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

the HIV/AIDS pandemic. With the above assumptions, life expectancy at birth in 2062 for the *Intermediate* scenario is estimated to be 76 for males and 83 for females. At age 62, life expectancy is projected to increase from 16.2 to 19.5 years and from 18.8 to 24.5 years for males and females, respectively. Table 2.1 summarizes the main general demographic assumptions used for this actuarial valuation. Further details may be found in Appendix II.

Table 2.1. Main general demographic assumptions under the three baseline scenarios

	Pessimistic	***Intermediate***	***Optimistic***
Ultimate fertility rate (from 2.0)[1]	1.7 in 2021	1.85 in 2021	2.0 in 2021
Mortality improvement pattern[2]	Very slow	Slow	Medium
Net outward migration (no. persons)	Decrease from 300 in 2001 to 200 in 2021, then to 50 in 2041, then to 0 in 2061; constant thereafter	Decrease from 200 in 2001 to 100 in 2021, then to 0 in 2041; constant thereafter	Decrease from 100 in 2001 to 0 in 2021; constant thereafter

[1]Number of children per woman of child-bearing age.

[2]UN mortality improvement rates.

2.2 Economic variables

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.

Table 2.2 indicates the principal economic assumptions of the three projection scenarios. Further details may be found in Appendix II.

Table 2.2. Main macro-economic assumptions under the three baseline scenarios (as % per annum)

		Pessimistic	***Intermediate***	***Optimistic***
Real GDP growth rate	Short-term	1.50	2.50	3.50
	Medium-term	1.00	1.75	2.50
	Long-term	0.50	1.00	1.50
Inflation rate		2.50	2.50	2.50

2.2.1 General demographic and macro-economic projections

Chart 2.1 shows how St. Kitts & Nevis' population has changed since 1871 along with projected populations for each of the three assumption sets. For SSB, 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 financial consequences (Table 2.3). Population ageing will also create major challenges for the St. Kitts & Nevis 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 SSB are required to ensure that the needs of future generations will be sufficiently met.

Table 2.3. Projected St. Kitts & Nevis population by age group (*Intermediate* scenario)

Year	Total	Age			Ratio of persons 16-61 to 62+
		0-15	16-59	62+	
2002	46,111	14,634	27,511	3,966	6.9
2003	46,327	14,416	27,988	3,923	7.1
2004	46,557	14,184	28,490	3,883	7.3
2005	46,801	13,936	29,016	3,849	7.5
2006	47,057	13,686	29,549	3,822	7.7
2007	47,320	13,457	30,061	3,802	7.9
2012	48,994	12,650	32,328	4,016	8.0
2022	51,876	11,825	33,366	6,685	5.0
2032	54,428	11,389	33,209	9,830	3.4
2042	55,903	10,750	33,539	11,614	2.9
2052	56,261	10,398	32,386	13,477	2.4
2062	55,875	10,153	31,084	14,638	2.1

For the projections under the *Intermediate* scenario, the age distribution of the total population is shown in Chart 2.2. The changes in the relative size of each age group – fewer children and many more pension-age persons – illustrate the forecasted ageing of St. Kitts & Nevis' population. Such ageing is a direct result of reducing birth rates, improvements in longevity and the migration of mainly working-age persons.

Highlights of *Intermediate* scenario population projections are:

- The total population will increase to just over 56,000 in the 2040's, remaining relatively constant thereafter.
- The number of children will fall by more than 25 per cent over the next 60 years while there will be almost four times as many residents aged 62 and over.
- By 2040, St. Kitts & Nevis will have more pension-age residents than children.
- The number of working-age persons for each pension-age resident will fall from 6.9 to 2.1.

Chart 2.1. **Historical and projected St. Kitts & Nevis population** (no. of persons)

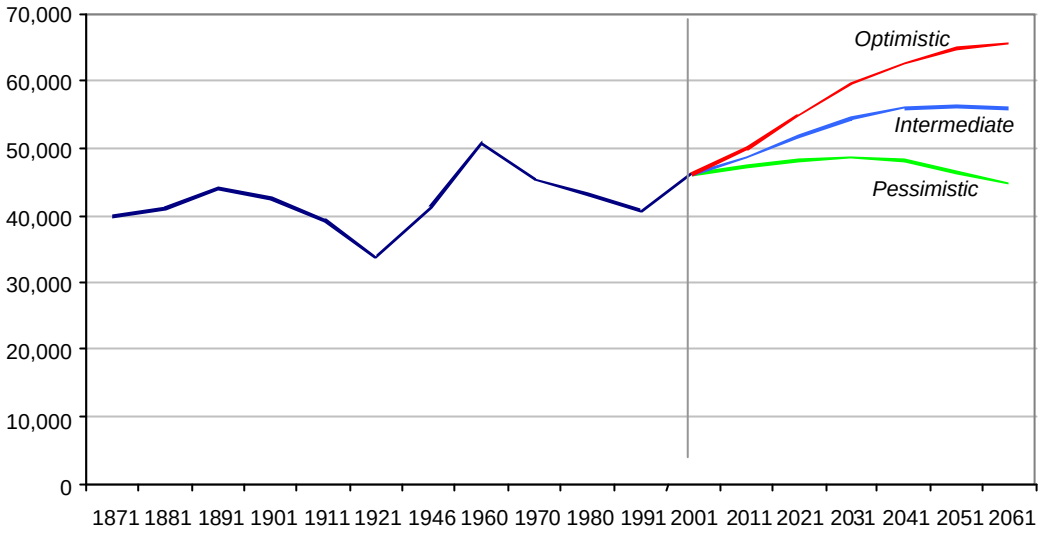
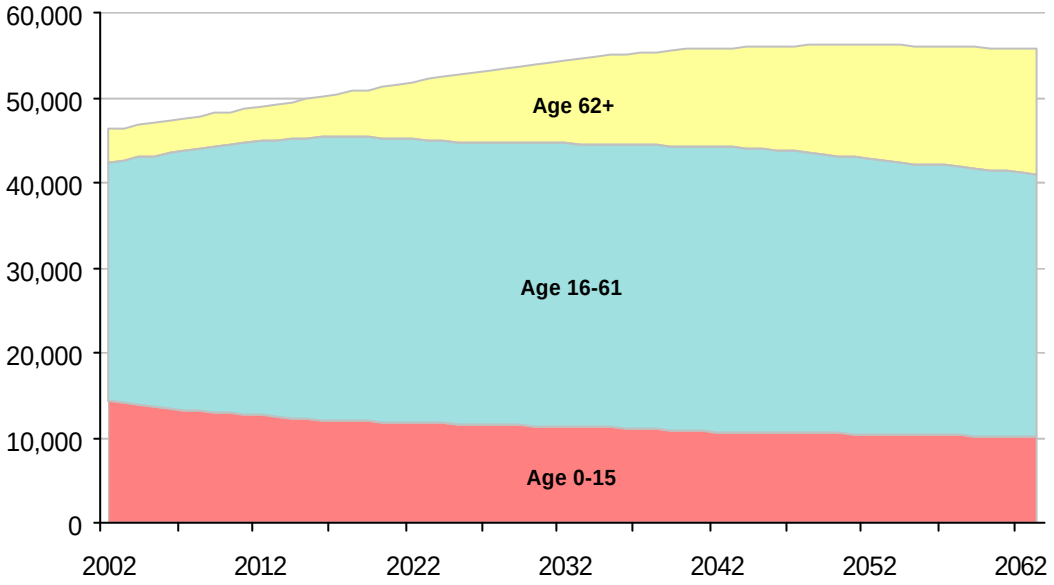


Chart 2.2. **Projected distribution of St. Kitts & Nevis population, *Intermediate* scenario** (no. of persons)



3. Actuarial projections and financing requirements under present provisions

This Section presents and analyses projections of Social Security finances up to 2062. The purpose of these projections is twofold. First, they are used to identify long-term trends for contributions, benefits and the reserve, so that the financial viability of the Social Security Fund (SSF) 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.

3.1 Scheme specific assumptions under SSB provisions as of December 2002

These projections are based on results of the population and economic projections presented in Section 2, on Social Security specific assumptions and the contribution and benefit provisions in place on 1 January 2003. While increases to the contribution ceiling and pensions-in-payment are not legislated, periodic adjustments are expected, and thus have been assumed.

The main assumptions that have been made are:

- The insurable wage ceiling will increase annually in line with the change in average wages beginning in 2006.

- Short-term benefits branch expenditure will increase from 1.14 per cent to 1.4 per cent of insurable wages between 2003 and 2062 (Section 1.5.2, Table 1.10).

- Employment Injury benefits branch expenditure, excluding Disablement and Death benefits, increases from 0.11 per cent to 0.2 per cent of insurable wages between 2003 and 2062. This assumption is based on the limited exposure observed (Section 1.5.3, Table 1.15).

- The number of newly awarded Assistance pensions will be 50 each year and all Assistance pensions will be adjusted at the same rate as for contributory pensions.

- The minimum monthly age and invalidity pensions will increase from EC$250 to EC$400 in 2006 and other pensions-in-payment will increase by an average of 5 per cent in 2006 and annually thereafter by the annual pension increase rates shown in Table 3.1.

- The projected number of active insured persons each year is determined by applying coverage rates (active insured persons as a per cent of employed persons) to the number of projected employed persons each year. Future coverage rates have been assumed to increase annually by 5 per cent for females and 15 per cent for males over the 60-year projection period.

The main scheme-specific assumptions that vary for each of the three scenarios are summarized in Table 3.1.

Table 3.1. Scheme-specific assumptions under each population-economic scenario
(as percentage per annum)

	Pessimistic	Intermediate	Optimistic
Annual pension increases	3.00	2.50	2.00
Long-term yield on reserves	4.50	5.00	5.50
Administrative expenses as % of insurable wages	Decreasing linearly over 20 years from 1.58% in 2003 to:		
	1.25	1.00	0.75

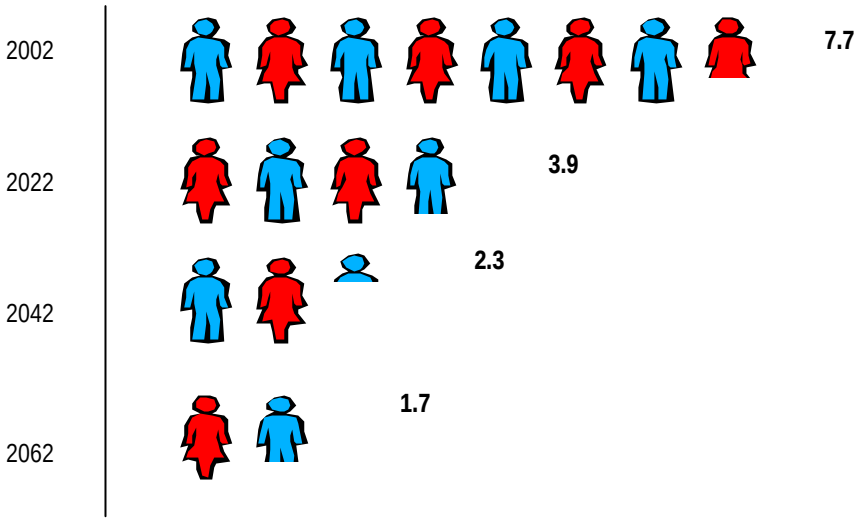
3.2 Demographic projections

The ageing of the general population is projected to affect Social Security demographic projections. The number of contributors is only expected to increase from around 22,000 to 30,000 and then decrease slightly, while the number of pensioners is projected to increase more than five times, to over 16,000 by 2062. As shown in the last column of the Table 3.2, the support ratio will fall dramatically from 7.4 contributors for each pensioner in 2003 to 1.7 in 2062. This dependency ratio is illustrated in Chart 3.1 at ten-year intervals from 2002 to 2062.

Table 3.2. Projected contributors and pensioners at year-end—*Intermediate* scenario, 2002 - 2062

Year	No. contributors	No. of pensioners					Total no. pensioners	Ratio contributors/ pensioners
		Age	Invalidity	Survivors	Assistance	Death and disablement		
2002	22,349	1,395	129	508	831	56	2,919	7.7
2003	22,410	1,458	133	580	817	53	3,041	7.4
2004	22,880	1,503	140	632	807	64	3,146	7.3
2005	23,305	1,576	153	679	798	71	3,277	7.1
2006	23,735	1,651	168	717	789	77	3,402	7.0
2007	24,167	1,731	187	748	780	84	3,530	6.8
2008	24,599	1,818	204	773	771	91	3,657	6.7
2012	26,233	2,256	272	831	740	116	4,215	6.2
2022	28,804	5,050	387	1,030	699	177	7,343	3.9
2032	29,466	8,363	440	1,300	712	237	11,052	2.7
2042	30,036	10,188	501	1,525	731	304	13,249	2.3
2052	29,440	12,077	504	1,594	734	343	15,252	1.9
2062	28,710	13,428	487	1,592	730	367	16,604	1.7

Chart 3.1. **Projected number of contributors per pensioner, 2002 - 2062**



As Social Security benefits are only partially funded, contributors in future generations 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 higher contribution rates for the same benefits.

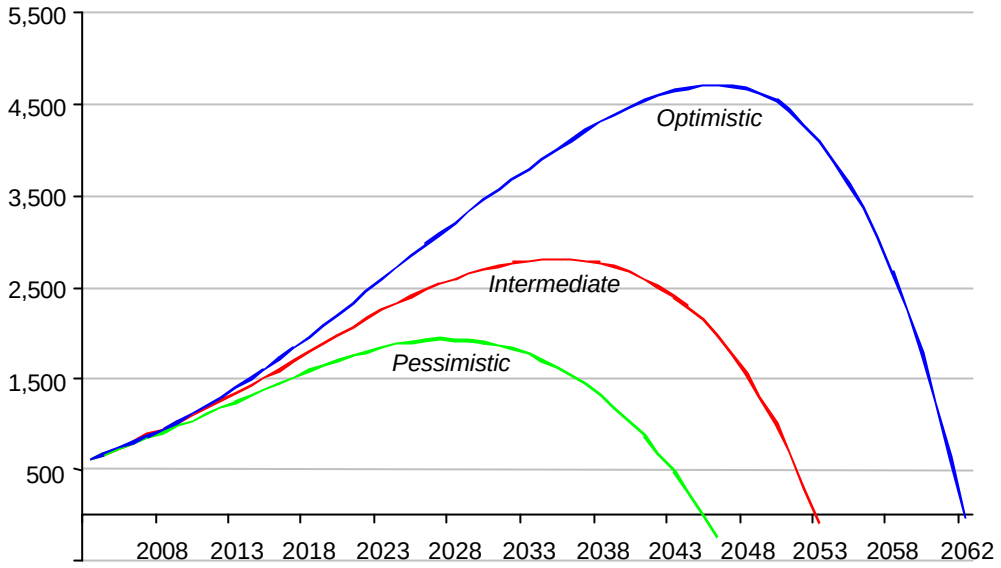
3.3 Financial projections

For accounting purposes, Social Security finances are separated into the Short-term, Employment Injury and Long-term Benefit branches, representing the three major benefit types that are offered. However, provisions exist for transferring reserves between branches and changing contribution income allocations. Therefore, shortfalls in one branch may be met from surplus reserves of another as long as the LTB remains in long-term financial equilibrium. For this report, the projections for the three benefit branches have been consolidated so that the complete financial picture may be shown. More details on the projections pertaining to the LTB are provided.

Projected total Social Security reserves under the three scenarios are illustrated in Chart 3.2; they are projected to continue growing through at least 2028 (*Pessimistic* scenario), possibly reaching more than eight times their current level under the *Optimistic* scenario.

If the contribution rate is not increased periodically, reserves will eventually reach their maximum level when total expenditure first exceeds total income. Thereafter, assets will have to be sold to meet expenditure and reserves will decrease quickly as the liquidation of investments continues. In partially-funded defined-benefit social security schemes the trend for reserves illustrated in Chart 3.2 is normal if the contribution rate remains below the PAYG cost rate of benefits while the number of contributors per pensioner falls.

Chart 3.2. Projected reserves under present provisions, 2002 - 2062 (millions of EC$)



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

Table 3.3 Main actuarial projection results under present provisions

	Pessimistic	*Intermediate*	*Optimistic*
Year when expenditure first exceeds contribution income	2018	2020	2022
Year when expenditure first exceeds total income	2028	2036	2047
Year when reserves are depleted	2046	2053	2063

While total reserves are projected to continue increasing for many more years, Social Security's relative level of funding is expected to decrease over time. As Chart 3.3 illustrates, the reserve-expenditure ratio has recently inclined significantly after generally declining over Social Security's first 20 years. Slight increases are forecast for a few more years, but as the scheme matures and expenditure growth outpaces the growth of reserves, Social Security's relative funding level will once again decline if the contribution rate is not increased or benefit reforms made.

Numerical details of the financial and demographic projections for the *Intermediate* scenario are provided in Tables 3.3 to 3.5. 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 reserves and the reserve-expenditure ratio;
- benefit expenditure by major benefit type in EC$ and as a percentage of insurable wages and GDP;
- number of contributors and pensioners by major benefit type; and,
- projected population.

Chart 3.3. Historical and projected reserve-to-expenditure ratios, 1984 - 2062

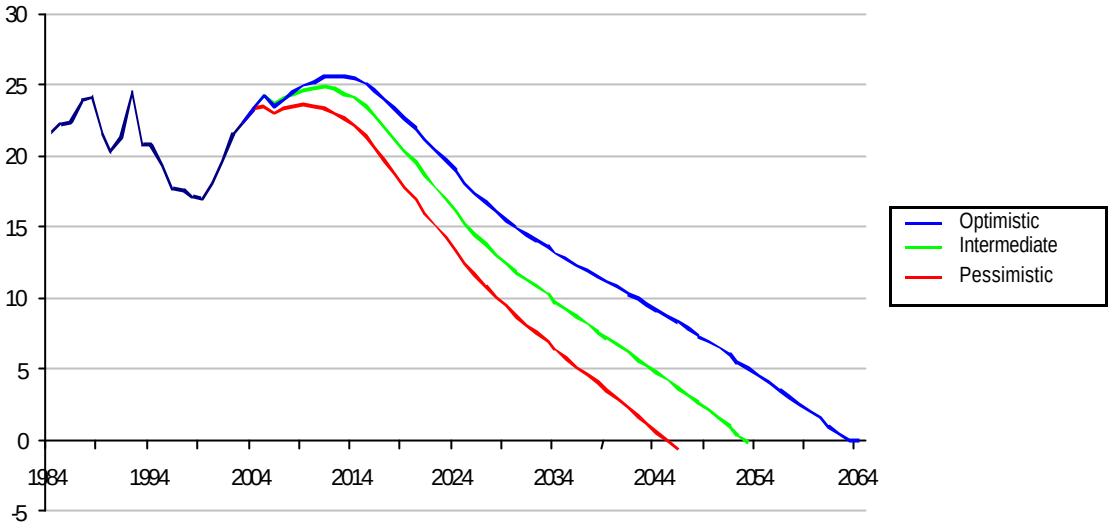


Table 3.4. Projected expenditure under present provisions – *Intermediate* scenario (millions of EC$)

Year	All benefits						Benefits as % of:	
	Age	Invalidity	Survivors'	Assistance	Short -term	Employment injury	Insurable wages	GDP
2002	9.5	0.7	1.1	1.9	4.5	0.9	4.4	2.3
2003	10.7	0.8	1.2	1.9	5.0	0.8	4.6	2.5
2004	11.5	0.8	1.4	1.9	5.2	0.8	4.8	2.5
2005	12.2	0.9	1.6	1.9	5.5	0.9	4.8	2.5
2006	13.8	1.0	1.8	3.0	5.8	1.0	5.3	2.8
2007	15.0	1.2	2.0	3.1	6.1	1.1	5.4	2.9
2008	16.5	1.3	2.2	3.1	6.4	1.2	5.6	2.9
2012	24.2	1.9	3.0	3.3	7.7	1.6	6.4	3.4
2022	81.8	3.6	6.3	4.0	11.7	3.0	11.5	5.9
2032	197.4	5.2	11.6	5.2	17.5	5.3	17.5	8.9
2042	344.3	8.2	19.7	6.8	26.3	9.2	20.6	10.7
2052	566.3	11.4	29.3	8.8	37.3	14.4	24.2	12.4
2062	876.6	15.2	41.2	11.2	53.1	21.5	26.9	13.9

Table 3.5. Projected income, expenditure and reserves under present provisions, *Intermediate* scenario (millions of EC$)

Year	Cash inflows				Cash outflows			Annual surplus (deficit)	Reserves (1)	
	Contribution income	Investment income	Other income	Total	Benefits & pensions	Administration & other expenses	Total		Year-end	Funding ratio (2)
2002	46.9	30.7	1.2	78.8	18.6	6.6	25.2	53.6	542.0	21.5
2003	48.4	34.5	12.0	94.9	20.4	7.7	28.1	66.8	609.5	22.3
2004	49.6	37.8	0.5	87.9	21.6	7.8	29.4	58.5	668.9	23.4
2005	52.5	40.8	0.5	93.8	23.0	8.1	31.1	62.7	732.5	24.2
2006	55.0	50.5	0.5	106.0	26.4	8.4	34.8	71.2	804.7	23.8
2007	57.6	45.7	0.6	103.9	28.4	8.7	37.1	66.8	872.5	24.2
2008	60.3	47.7	0.6	108.6	30.6	9.0	39.6	69.0	942.7	24.5
2012	72.1	58.9	0.7	131.7	41.8	10.2	52.0	79.7	1,248.3	24.8
2022	105.4	102.8	1.1	209.3	110.4	12.9	123.3	86.0	2,151.3	17.9
2032	152.1	134.0	1.5	287.6	242.3	19.2	261.5	26.1	2,762.1	10.8
2042	220.9	124.4	2.2	347.5	414.5	29.3	443.8	(96.3)	2,505.9	5.8
2052	302.9	24.2	3.0	330.1	667.5	41.9	709.4	(379.3)	310.2	0.4
2062	417.3	(271.4)	4.2	150.1	1,018.8	59.4	1,078.2	(928.1)	(6,018.3)	(5.7)

(1) Reserves at year-end reflect adjusted figures.

(2) The funding ratio is defined here as the reserve in terms of the multiple of the current year's expenditure.

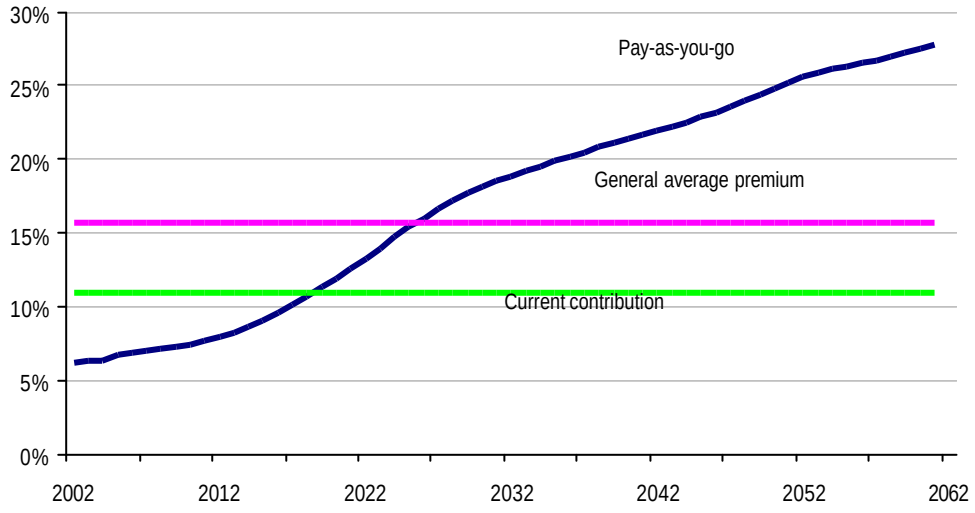
3.4 Financing requirements under present benefit provisions

The cost of social security 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 pay-as-you-go (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 is increasing gradually.

The second rate, called the general average premium, is the average 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 social security benefits package. In Chart 3.4 the relationships between the PAYG rate and the general average premium for the *Intermediate* scenario, and the present contribution rate, can be readily noted.

As shown in Chart 3.4, the current contribution rate of 11 per cent is today higher than the PAYG cost rate by almost 5 per cent, but it is 4.7 per cent below the *Intermediate* scenario general average premium of 15.7 per cent. The increasing trend of the PAYG curve will lead to deficient annual contributions to meet annual expenditure beginning in 2020. Thereafter, 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 approaching 30 per cent will be required to meet current expenditure.

Chart 3.4. Projected contribution rate under present provisions — *Intermediate* scenario, 2002 - 2062



The general average premium and PAYG rates for each scenario are shown in the table below. 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 3.6. Projected contribution rates under present provisions (as % of insurable wages)

Scenario	General average premium	Pay-as-you-go cost rate		
		In 2002	When reserves depleted	In 2062
Pessimistic	18.1	5.9	27.5	32.7
Intermediate	15.7	5.9	25.6	27.9
Optimistic	13.8	5.9	23.8	23.6

3.5 Actuarial balance as of valuation date

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 reserves and the present value of future contributions (money available to meet expenditure); and
- the present value of future expenditure,

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 East Caribbean dollars as shown in the table below.

Table 3.7. Actuarial balance under present provisions, 2003 – 2062 (millions of EC$)

	2002 year-end reserves	542
Plus	PV of future contributions	2,033
Minus	PV of future expenditure	(2,910)
Equals	PV of surplus/(shortfall)	(335)
	Actuarial balance (% of insurable earnings)	(1.8)
	Actuarial balance (% of GDP)	(41.0)

Consistent with previous discussions, the negative actuarial balance indicates that together with reserves, the current contribution rate is insufficient to meet future expenditure for the next 60 years. The shortfall of 1.8 per cent indicates that the contribution rate would have to be just below 13 per cent for the entire period in order for reserves to last up to 2062. In dollar terms, the shortfall of EC$335 million is slightly more than one-half of current reserves. Relative to the size of the economy, the contribution shortfall is 41 per cent of GDP.

3.6 Sensitivity of actuarial projections under present provisions to selected assumptions

This section analyses several additional projections of Social Security finances, showing the effect of different assumptions on long-term costs. For simplicity, only the

Intermediate scenario has been used to analyse changes in cost that are expressed in terms of the general average premium. Any change in the general average premium may be considered the change in the long-term cost of Social Security benefits.

3.6.1 Larger or smaller annual pension adjustments

One of the critical 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 due to inflation. 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 assumed at 2 per cent instead of 2.5 per cent per annum, the general average premium would be 15.1 per cent instead of 15.7 per cent and the PAYG rate in 2062 would be 1.5 per cent lower.

- pension increases of 3 per cent instead of 2.5 per cent per annum, the general average premium would be 16.4 per cent instead of 15.7 per cent and the PAYG rate in 2062 would be 1.7 per cent higher.

These results indicate that future finances will be quite sensitive to actual pension increases.

3.6.2 Lower or higher rates of returns on reserves

At the end of 2002, Social Security reserves stood at EC$542, or 67 per cent of GDP. With such a large fund, the returns achieved on investments can help reduce future contribution rate increases. However, with the already large Fund projected to increase in size relative to the economy, returns may be negatively affected if suitable investments cannot be found. If instead of the long-term return assumption of 5 per cent per annum, an average return of 6 per cent is realised, the general average premium would be 1 per cent lower and reserves would be positive up to 2062. On the other hand, if nominal long-term returns of only 4 per cent per annum can be obtained, the general average premium would be 1.2 per cent higher and reserves would be exhausted in 2048 instead of 2053.

3.6.3 HIV/AIDS

The growing prevalence of HIV/AIDS in the Caribbean, and indeed St. Kitts & Nevis, has several implications for Social Security. 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. Also, there will be a reduction in the number of persons qualifying for an age pension. 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 Social Security pensioners have been conservatively projected because of HIV/AIDS, no explicit assumptions were made for its impact on scheme finances. If, however, HIV/AIDS incidence increases significantly and approaches levels now being experienced in sub-Saharan Africa, even the results of the *Pessimistic* scenario may show Social Security finances in too favourable a light. Without changing the assumptions that affect income, if invalidity and survivor pension incidence rates are assumed to be twice as high, overall

Social Security costs (general average premium) would be 0.7 per cent higher and the PAYG rate in 2062 would be 0.5 per cent higher.

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 3.8. Sensitivity of actuarial projections under present provisions (as % of insurable earnings)

Projection scenario	General average premium	PAYG cost rate in 2062
Intermediate scenario	**15.7**	**27.9**
Annual pension increases of 2% instead of 2½%	15.1	26.4
Annual pension increases of 3% instead of 2½%	16.4	29.6
6.0% long-term return on reserves instead of 5.0% p.a.	14.7	27.9
4.0% long-term return on reserves instead of 5.0% p.a.	16.8	27.9
Invalidity and survivors' incidence rates doubled – possible result of increasing HIV/AIDS prevalence	16.4	28.4

4. Policy considerations and recommendations

The St. Kitts & Nevis Social Security Board is about to embark on an exercise of reviewing its social security system with a goal of making reforms that will strengthen both financial and social aspects of the scheme. Given the projected aging of the population, the financial projections of the SSF, the contribution rates that will be required in the future and some of the weaknesses of current rules highlighted in previous sections, the ILO supports the Board in this initiative. However, the Board must ensure that the changes being considered are fair to both current and future workers and pensioners, and that persons who are near retirement age are not disadvantaged by the changes. In so doing therefore, there should be an appropriate balance placed on strengthening the long-term financial aspects of the system while ensuring that benefits and pensions are adequate, reasonable and relevant.

Prior to making changes, the Board should embark on a process of consultation among stakeholders and the general public. Adequate public education will be required, especially given the large amount of reserves and the possible misconception many residents have that the current Fund together with future contributions will be sufficient to indefinitely meet future expenditure. Throughout the reform exercise, the ILO will be available to assist the SSB in providing technical advice and actuarial projections.

The following sections deal with possible issues to be addressed in the course of reforms.

Local authorities have made several suggestions for changes to benefit provisions. Recommendations are formulated in this section. For those that have major financial implications, long-term projections have been made and the differences noted relative to the overall results of the *Intermediate* scenario projections.

4.1 Benefit provisions

4.1.1 Maintaining a sufficiently high ceiling on earnings

The present ceiling on insurable earnings is of 6,500 EC$ monthly. Following the inception of the SSB in 1978, its initial level of 2,000 EC$ monthly was increased four times in 1984, 1993, 1996 and 1998 such that its level today is more than three-fold its initial level. On each occasion increases of at least 10 per cent were made (100 per cent in the first instance) so that insurance coverage was once again adequate after several years of no adjustments.

Since 1998, the monthly ceiling on insurable wages has been fixed at EC$6,500. Although wages have increased by almost 15 per cent since the last increase, the ceiling presently stands at just over three times the average insurable wage of SSB contributors, with over 98 per cent of earnings being covered. The current earnings ceiling is at the high end of the acceptable range and thus no increase is recommended at this time. However, a new method to the way future adjustments are made to the earnings ceiling is being recommended.

It is reasonable to conclude that the ceiling covers the majority of earnings of the insured workers. It is recommended to maintain the ceiling on earnings at this current relative level as long as no other mandatory income replacement benefits are available in the country and the majority of the population must rely on the SSB.

Two main recommendations are formulated:

- It would be important in future to maintain a national average wage statistics so that the SSB can be in a position to evaluate the extent of its ceiling on earnings. Since there is presently no official St. Kitts & Nevis wage index, changes in the Consumer Price Index or an SSB wage index (that measures changes in average insurable earnings) may temporarily serve as alternatives. The creation of a national average wage index is encouraged.

- The level of the ceiling on earnings should be indexed annually to reflect actual increases in the national average wage. The timing and method of determining the exact adjustment should be placed in Social Security Regulations. For example, the ceiling could be adjusted each July based on changes in national average wages over the previous calendar year.

Frequent ceiling increases will ensure that St. Kitts & Nevis' social security programme remains relevant to higher income earners. Also, by placing the timing and method of determining ceiling increases in Social Security Regulations, future adjustments will be predictable, appropriate and free of political pressures.

4.1.2 Improving the minimum pension

The minimum pension for new age and invalidity pensioners was of EC$250 monthly in 2002. This represents only 12 per cent of average insurable wages under the SSB, and thus an effective lower percentage in terms of average real earnings (when including earnings above the ceiling level). Despite the 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 (Section 4.1.4).

The importance of the minimum pension could be come very significant in future if the pension formula uses a longer reference period for earnings, especially in the case of an indexed career-average earnings pension formula. 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. This explains the importance of the minimum pension in this context.

4.1.3 Modifying the pension formula

The present pension formula 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 age pension formula notably:

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

Recommendations concerning the first two elements on the minimum pension and the ceiling are discussed in the prior sections 4.1.1 and 4.1.2 whilst the review of the other two elements of the pension formula in the context of St Kitts and Nevis and recommendations are provided below.

Although St Kitts & Nevis is not yet a party to any social security instrument of the ILO, when reforms are considered, the ILO encourages policy makers to refer to the ILO Convention 102 of 1952 on Minimum Standards of Social Security reflecting still general accepted principles of social security at the international level. With regard to pension reform, 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 prorate 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.

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 St Kitts & Nevis is based on the average of the best threes years of insurable earnings out of the 15 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 increases 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 to approximately 10 years. Consideration may be given to the desirability and feasibility of later introducing an indexed career-average earnings pension formula. 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 – unless the primary objective of the SSB is to maintain a very low contribution rate (see below).

The proposed approach 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 statistic.

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.

Reviewing the schedule of pension accrual rates

The present pension formula in St. Kitts & Nevis 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. This implies that an insured person retiring with a record of ten years of service would receive a pension representing 30 per cent of 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 final three-year average insurable earnings, implying an annual pension accrual rate of 1.5 per cent on average.

Table 4.1 Benefit accrual rates per year of credited contributory service (as % of 3-year final-average-earnings)

Years of credited contributory service	Benefit accrual rate per year of credited contributory service
1-10	3
11-15	2
16 and above	1

The present schedule of pension accrual rates favours careers with shorter service. As the SSB was only introduced in 1978, it provides a minimum income replacement protection

for those who could only accumulate a limited number of years of insurable service. 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.

Income replacement objective of the Social Security programme of St. Kitts & Nevis

It is recommended to review in further depth the objective of the SSB in terms of what is the target career length and income replacement level.

The ILO Convention 102 of 1952 on Minimum Standards of Social Security states the principles of solidarity and pooling of risks. The present 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 SSB seems to focus its income replacement objective on workers accumulating a 35-year career so they receive a pension representing 60 per cent of their three-year final-average insurable earnings. The target career length expected to be protected by the SSB may be verified against actual average employment profiles found in St. Kitts & Nevis to ensure most people work on average for 35 years in St. Kitts & Nevis. In the event where migrant working practices are widespread, account should be taken of the typical profiles to be protected by the SSB when defining the income replacement objective of the system.

The agreed upon income replacement objective of the SSB should take into account the future cost implication on the overall scheme and overall desired affordability. If the estimated present SSB benefit provisions are considered too expensive with a general average premium of 15.7 percent of insurable earnings, then policy makers should determine what is an acceptable contribution rate in the long term. On the basis of this affordable contribution rate and a better idea of the main design parameters of the pension formula, 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. Under the present formula, a pension after 30 years of

contributions amounts to 55 per cent of the average earnings of the three best years (page 23), however, using the proposed formula, the average pension would be 15 per cent below the present pension and would therefore just reach the 40 per cent as prescribed by the ILO C.102.

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.

4.1.4 Automatic annual indexing of pensions-in-payment, grants and the minimum pension

Along with frequent and legislated ceiling increases, there should also be automatic annual increases to pensions-in-payment and all fixed-EC dollar payment rates. 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 and that grants maintain their real value.

Effective July 2002, most pensions-in-payment were increased – those that were awarded before 2001 receiving a 6 per cent adjustment; those awarded in 2001, 5 per cent; with no adjustment to those with a pension start date in 2002. The minimum pension was increased by 25 per cent from EC$200 to EC$250. The prior pension increase took place in January 1998 and cumulative inflation between January 1998 and July 2002 was 12.5 per cent – an average of 2.7 per cent per annum. Therefore, for persons whose pensions are higher than the minimum pension, the 2002 adjustment did not fully account for the impact of inflation on those whose pensions were awarded before 2000.

Under the present system of ad hoc pension increases, the Government decides when to adjust pensions and by how much they should be adjusted. The current method, therefore, may be less predictable, thus reducing the level of income security that pensioners have that their pension will keep 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. For example, if annual increases were awarded based on average inflation in the previous three years, the 2004 adjustment would be 2.1 per cent.

To avoid large adjustments should inflation be high for an extended period, thus potentially impacting negatively SSB's 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.

The method of adjusting pensions described above should also be applied to all SSB fixed-EC dollar rates such as the funeral and maternity grants, the minimum pension and the social assistance pension.

4.1.5 Increasing the normal retirement age

When the SSB was established in 1978, the normal retirement age was set at 62 in comparison to the normal retirement age of 60 that used to prevail under the former National Provident Fund. Over the years since 1978, the life expectancy of persons reaching the age of 62 has increased in line with improvements in the general standard of living. Today, Kittitians and Nevisians are living longer; they are entering the workforce later and are generally in good health at age 62. Therefore, consideration should be given to gradually increasing the normal pension age to 65. If this change is implemented over a

sufficiently long period, it could be possible to provide early retirement provisions starting at the age of 62 subject to an actuarial equivalence reduction. An appropriate actuarial reduction factor is of one-half of 1-percentage point for each month below normal retirement age.

Increases in pension 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, normal retirement ages above 62 already exist in Anguilla, Bahamas, Belize, British Virgin Islands, Jamaica and the Turks and Caicos Islands.

Increasing the SSB normal pension age should not be done in isolation. Presently, government employees retire at age 55 and practice varies in the private sector, where in many cases there is no mandatory retirement age. For Social Security, 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.

Projections of the financial effect of increasing the retirement age from 62 to 65 over a nine-year period beginning in 2007 indicate that the long-term savings would be 2.7 per cent of insurable wages. That is, the general average premium would fall from 15.7 per cent to 13.0 per cent and depletion of reserves would not occur before 2062.

4.1.6 Allowing employment income while in receipt of an ordinary invalidity pension

Under current rules, an invalidity pension is payable to someone who has been rendered unable to work as a result of a specific disease or medical condition that has existed for at least 26 weeks and is likely to be permanent. In most cases, an "own occupation" definition or one that considers "occupations for which one is suited by reason of skill or qualifications" is used. In some cases, though, persons are able to return to limited types of economic activity that may or may not be related to their usual occupation. Oftentimes, this re-employment produces very low earnings but the satisfaction gained from working is more personal and self-fulfilling (due to being productive again) than it is financial.

Allowing persons who are receiving Invalidity pension to receive some employment income is possible. For example, rules may be changed to allow persons to make up to say 50 per cent of their pre-invalidity earnings and keep their pension or alternatively, the pension amount could be reduced for every EC dollar earned over a certain threshold. Both options though may be difficult to administer and could create avenues for abuse and fraud.

Another approach that may be considered is to allow persons receiving an ordinary invalidity pension to accept employment for a limited period, such as six months, so that they may test their ability to work. Once this period has expired, a decision to keep working will result in the suspension of the benefit. In either case, the definition of an invalid or what constitutes invalidity may have to be revised.

4.1.7 Allowing the payment of combined old-age and survivors' pensions

When the Social Security Board 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 age pension or 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$400 and the wife's EC$250, total household income would fall from EC$650 to EC$250 after the husband's death. (EC$250 is the greater of 50 per cent of EC$400 and EC$250) Therefore, there would be a strong argument that in such a case more than just the greater benefit be paid as household income does not fall by as much as 50 per cent following the death of one person.[5]

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 had died first, the husband's pension would have been EC$400. (EC$400 is the greater of EC$400 and 50 per cent of EC$250) Therefore, if both spouses shared equally household income – regardless of whose pension is bigger – the current survivors' pension discriminates against the spouse with the lower pension.

There are also instances where current rules may result in the surviving spouse of a household in which 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 the present survivors' pension provisions may create, it is recommend that one of the following payment options for paying survivors' pensions be adopted:

- both age, and up to a maximum combined weekly pension;
- full age pension plus a portion (say, one-half) of the survivors' pension; or
- the higher of the two age pensions.[6]

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 and would receive larger pensions going forward only. It is not possible to determine how many persons fall into this category or how many additional pensions would have to be paid. Therefore, an estimate of the financial impact of these changes has been made assuming that survivor pensions-in-payment to those above age 61 are increased by 50 per cent and that the average new age pension is 5 per cent higher. Under these assumptions, the increase in general average premium is 0.6 per cent, from 15.7 per cent of insurable wages under status quo provisions to 16.3 per cent. The ultimate PAYG cost rate in 2062 would likewise increase from 27.9 per cent to 29.0 per cent. Prior to selecting one of the above or any other options, internal calculations could be made to see how current pensioners will be affected and thus the impact on long-term costs.

While reviewing survivors' pension provisions, a change in the way the minimum pension is defined should be considered. Presently, the minimum pension to a widow(er) is 50 per cent of the minimum pension to an old-age pensioner – EC$125 per month. 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 this 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

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

[6] Payment of two pensions should also be allowed for invalidity and survivors.

adult for age, invalidity, survivors', disablement or death pensions at the current minimum rate for age/invalidity pensions.

4.1.8 Extending the duration of spouse survivors' pensions

Under current rules, widow(er)s who are under the age of 45 when their insured spouse dies will receive a survivors' pension for only one year. A survivors' pension in respect of dependant children will continue to be paid as long as they are under 16 or under 18 and attending school or college.

The loss of regular income following the death of one spouse often creates financial hardship, especially in the case of young families, and thus suspending the widow(er)'s portion of the pension after only one year could affect the spouse's ability to provide for dependant children. Therefore, consideration should be given to continue paying survivors' pensions to widow(er)s as long as the widow(er) cares for dependant (under age 16 or under age 18 if in school) children.

The financial impact of this recommended improvement to benefit provisions is very small in terms of the contribution rate whilst it would significantly improve the life of the concerned unfortunate survivors' beneficiaries.

4.1.9 Funeral grant

At present, the funeral grant for a non-employment injury related death is of EC$2,500. It's level was last increased in 1998 at the same time as when the ceiling on earnings was updated as well.

Information gathered suggests that the cost of a basic funeral in St. Kitts is around EC$6,000. This indicates that the grant of EC$2,500 now covers about 40 per cent of basic funeral costs. The SSB should reconsider the objective of its social security system in relation to protection in case of death. Whilst it is desirable that the funeral grant covers the entire cost of the funeral, especially as families of the deceased insured person may not have sufficient savings to cover such sudden costs, it is important that the SSB monitors the behaviour of funeral homes so that they do not increase their costs as a reaction to the SSB.

Funeral grants, which are paid for just under 50 per cent of the reported deaths in St. Kitts & Nevis, account for about 0.1 per cent of insurable wages or 2.1 per cent of total benefit expenditure. Therefore, the increasing of the funeral grant should have a minimal impact on the long-term financial cost whilst providing significant protection to the concerned unfortunate families. If the funeral grant would be increased by 20 per cent to EC$3,000, the overall additional cost to the SSB would be of approximately EC$85,000 annually. If it would be increased to EC$4,000, the overall additional costs to the SSB would increase to around EC$250,000 annually.

In addition, it is recommended that the regular adjustment/indexation of the level of the funeral grant should follow the same basis as mentioned under section 4.1.4.

4.2 Considerations concerning the Social Assistance pensions

Since 1989, the Social Security Board has financed and paid non-contributory Social Assistance pensions to elderly and persons with invalidities who are not gainfully

employed and deemed to be in need. There is, however, no specific definition or criteria use to determine whether or not someone is in need.

While there is a genuine need in St. Kitts & Nevis for some form of financial assistance to the elderly and persons with disabilities who otherwise may be unable to enjoy basic necessities, it should be provided through government general revenues whilst its administration can rely on the SSB in view of the small size of St. Kitts & Nevis. The SSB may continue financing these Social Assistance payments whilst the SSB should seriously consider introducing a clearer criteria aimed at ensuring that only persons who are genuinely in need qualify and that persons who had previously worked but failed to contribute may be denied the Assistance pension upon attaining age 62. Specific items that should be factored into a needs test include cash, fixed and financial assets and real estate for which the claimant is beneficial owner. (Residence, personal property and tools of trade should be excluded.) An appropriate threshold for the needs test may be in the order of assets that are worth five times the annual amount of the Assistance pension. Also, there should be a larger differential between the level of the monthly minimum contributory pension (EC$250) and the Assistance pension ($200).

It has also been observed that several persons who are awarded the age grant also eventually are awarded an Assistance pension. As mentioned above, the Assistance pension should be payable to persons who are truly in need and, if this is the case, it is acceptable for one to receive both a grant and an Assistance pension. However, if it can be proven that while employed or self-employed the individual failed to contribute due to his/her negligence, then the pension should be denied. If poor, then they can get financial assistance from the government's social welfare department.

4.3 Extension of SSB coverage

4.3.1 Self-employed persons

Results from the 2001 national census indicate that the number of self-employed persons in St. Kitts was 1,925. Assuming that a similar proportion of the workforce in Nevis is self-employed, a fair estimate of the number within the Federation is 2,500. In 2002, only 424 self-employed persons made SSB contributions, with almost equal numbers in St. Kitts & Nevis.

Although Social Security coverage for the self-employed is mandatory, participation is extremely low – less than 20 per cent. 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.

For the self-employed category, SSB should 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 benefits that being covered 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.

In a recent report on the state of social security in the CSME conducted by the CARICOM Secretariat, a possible contribution and benefit structure to allow the required flexibility for the case of self-employed persons was presented. This approach encompasses the use of a pension formula based on indexed career-earnings pensions as discussed in section 4.1.3. In addition, it provides flexibility to contribute as often as and as much as desired. Sustained educational campaigns aimed at increasing the awareness of the need for self-employed persons to provide for their retirement years should be conducted.

Since the current contribution system works well for the majority of insured persons (employees) and some people may switch between being employed and self-employed, maintaining one system for all insured persons should be a vital component of any revisions to the current structure. A summary of the presented provisions to be considered is as follows:

- Provide coverage for all basic benefits including short-term, long-term and employment injury benefits;

- Establish several income classes that will provide contribution targets to be used only to determine the amount of any short-term benefits payable. While no selection of one particular class is required, having specific income targets will allow self-employed persons to have a fair idea of what short-term benefits would be paid if awarded;

- Allow full flexibility to pay contributions as often as and as much as possible without having to pay for a particular month and without having to complete any forms;

- Internally, based on the dollar value of contributions made during the past 12 months, the effective number of contribution weeks made in those 12 months can be determined, such that the highest possible income class is achieved. Together, this will allow for the determination of benefit eligibility and the amount of any short-term benefits. At the end of each year, the number of contribution weeks (or months) made for that year will be determined and stored for the purpose of determining future eligibility for pensions;

- Provide for the payment for short-term benefits at the applicable benefit percentage times the implied wage for the highest possible income class for which actual contributions allow;

- Calculate pensions based on an indexed career earnings approach where total "earnings" in each year are determined from the amount contributed and the applicable contribution rate for each year. Eligibility for pensions will be based on the number of "effective" contribution weeks in each year.

Table 4.2 illustrates how the number of "effective" contribution weeks made in a year and the income level at which short-term benefits will be paid would be determined. For this example, the self-employed person is assumed to have made contributions totalling EC$2,000 during the year and the contribution rate is assumed to be 10 per cent.

Table 4.2. Determination of number of "effective" contribution weeks for self-employed

Income class	Weekly insurable wage (EC$)	Weekly contribution amount (EC$)	Effective no. of weeks paid
I	200	20	100
II	300	30	66
III	400	40	50
IV	500	50	40
V	600	60	33

By dividing the amount contributed (EC$2,000) by the contribution amount due each week, the "effective" number of contribution weeks paid is determined.

If for sickness benefit, the contribution requirement for self-employed persons is at least 40 weekly "effective" contributions in the last 12 months, then this condition would be satisfied for all but income class V (c.f. last column of Table 4.2). Therefore, for payment of the benefit, the highest income class for which the conditions are met would be used – EC$500 per week. Thus if the benefit rate is 60 per cent, the weekly Sickness benefit would be of EC$300.

If instead of EC$2,000 only EC$1,000 was contributed in the previous 12 months, then the "effective" number of contributions made would be half of the number shown in the last column of Table 4.3. Therefore, a minimum of 40 "effective" contributions would only have been made for Class I (50 effective weeks for Class I and 33? for Class II) and the weekly sickness benefit would be 60 per cent of EC$200 or EC$120.

If the indexed career earnings approach is adopted for pension purposes, the number of contributions made is only used for eligibility purposes. Therefore, in the above example where EC$2,000 was contributed, 52 weeks will be awarded for the year given that sufficient contributions were made for at least one class. If only EC$1,000 was paid, then a maximum of 50 weeks would be awarded. This approach is fair and acceptable as the pension eventually payable will be directly related to the amount of money contributed, not the number of weeks paid for.

Under this approach, payment of contributions is made easier and more flexible. While the main thrust for a new approach for the self-employed is to allow then to secure a pension in their retirement years, this system would provide for the payment of short-term benefits that are not too dissimilar from those paid to employed persons who have an actual average wage on which the benefit would be paid. Also, seasonal workers would be treated fairly as wages over a 12-month period would be considered. And, with the indexed career earnings approach to age/retirement pensions, there is no advantage derived from paying on the highest earnings in the last few years before retirement.

If adopted, this proposed approach would require a few changes to present internal systems and require slightly different qualifying rules for employed and self-employed persons. There will also have to be special provisions to deal with claims that are made shortly after one moves from being employed to self-employed or vice versa. But for the self-employed person, social security may then be sold more like a savings scheme where people set their target and make whatever contributions they wish.

4.3.2 Public servants

Established civil servants are currently entitled to two pensions – one from Social Security and the other from their employment pension paid out of the Consolidated Fund. When combined, these two pensions can exceed 100 per cent of pre-retirement income, as the Social Security pension may be as high as 60 per cent of wages and the Public Service Pension up to 66 2/3 per cent. The payment of pensions to retired public servants that exceed pre-retirement salary is both costly and inefficient. Therefore, government should take immediate steps to limit the amount payable to former public officers in retirement. Other Caribbean governments have dealt with this in various ways:

- Public officers who were confirmed after the Social Security scheme was established are not covered for the public service pension;
- A lower Social Security ceiling and thus a lower pension is paid to pensionable civil servants;
- The maximum combined Social Security and public service pensions for a career civil servant will be 80 per cent of pre-retirement salary.

In addition to investigating the ways that Social Security and civil service pensions may be harmonised, Government should have an actuarial study conducted on the long-term costs of its non-contributory and unfunded pension scheme for civil servants.

4.4 Administration considerations

4.4.1 Observing a large number of age grants awarded

In 2002 and 2003, 32 per cent of the persons awarded an age benefit were awarded the one-time grant as opposed to a lifetime pension. In each case, the applicant failed to make the required 500 weekly contributions. While the ten-year contribution requirement is considered appropriate, the percentage qualifying for a pension is lower than is expected given that the SSB has existed for 26 years and is reason for concern. Upon review of these claims, such a high proportion of grants may be attributable to two factors:

- the large number of transient workers in the St. Kitts & Nevis labour force who may have spent fewer than ten years in the Federation; and
- an incorrect application of the CARICOM Social Security Agreement (CSSA) under which several persons have applied and been awarded a grant instead of a pension.

Regarding the CARICOM Social Security Agreement, once the total number of contributions made in participating countries exceeds the minimum required in any one country, the social security scheme in each country in which contributions were made must pay a pension, even though the minimum in that particular country was not met. The following two examples of Table 4.3 illustrate how the CARICOM Social Security Agreement should be applied if the claimant has made only 200 contributions in St. Kitts & Nevis and 1,000 weekly contributions elsewhere. In the first example, the applicant does not qualify in any country while in the second he/she qualifies in Country A only.

Table 4.3 Application of CSSA where an applicant fails to qualify for a pension in any country

National scheme	Contributions		Benefit rate applied to average insurable wages
	Made	Required	
A	450	500	450/1200 * benefit % for 1,200 contributions (A's rules)
B	400	500	400/1200 * benefit % for 1,200 contributions (B's rules)
St. Kitts & Nevis	350	400	350/1200 * benefit % for 1,200 contributions (St. Ktts & Nevis' rules)
Total	1,200		

Table 4.4 Application of CSSA where qualify in only one country

National scheme	Contributions		Rate applied to average insurable wages
	Made	Required	
A	700	500	Benefit % for 700 contributions (A's rules)
B	300	500	300/500 * benefit % for 500 contributions (B's rules)
St. Kitts & Nevis	200	400	200/400 * benefit % for 400 contributions (St. Kitts & Nevis 's rules)
Total	1,200		

Given that the insured person failed to qualify in any of the three countries worked, all contributions are summed. Since the total number of contributions exceeds the amount necessary in all states, the pension paid by each state is a proportion of the pension that would have been paid had all 1,200 contributions been made there. As indicated above, the proportion is the number of contributions made in that state divided by the number made in all states.

Because sufficient contributions were made in Country A, the CARICOM Social Security Agreement does not apply there and Country A thus pays a pension based on its rules. However, given that insufficient contributions were made in Country B and in St. Kitts & Nevis, proportionate pensions are paid. In this case the proportion is the number of actual contributions divided by the number required to qualify for a pension.

Given that several recent age benefit applicants who had made contributions in other CARICOM territories were awarded a grant instead of a pension, the SSB should immediately review each of these claims and award the pension with appropriate adjustments made for the time since the award should have been made and the lump sum payment that was actually made.

4.4.2 Appointment of members for a tripartite board

During the Actuary's visit to St. Kitts & Nevis, it was brought to his attention that Board members were not being appointed in accordance with the *Act.* Section 4 of the *Act* states that:

- the Board shall consist of not less than six nor more than nine members;
- one of the members shall be appointed to be Chairman and one shall be appointed to be Deputy Chairman;
- the Board shall be appointed by the Minister;
- two members representing employers shall be appointed after consultation with such association of employers or persons or bodies as are likely to produce representation for employers generally throughout the State; and
- two members representing employees shall be appointed after consultation with such association of trade unions or individual trade unions as appear to the Minister to be representative of workers generally throughout the State.

Although the *Act* requires that two members shall be appointed by each of the employer and labour associations after consultation by the Minister, both employer and labour associations have claimed that they have nominated only one member each.

The tripartite composition of the Board is considered a critical component for good governance of social security schemes. Therefore, Government is encouraged to immediately consult with the employer and worker associations, so that the Board may be constituted in accordance with the *Act.*

4.4.3 More public information on St. Kitts & Nevis social security system

Although the St. Kitts & Nevis' SSB has an active public information department, there is very little information provided on the current or future financial state of the scheme. For example, representatives of employers indicated in November 2003 that they had not seen SSB financial statements for at least five years and neither did they see the report of the *Sixth Actuarial Review*.

As a public entity that manages funds on behalf of the workers of St. Kitts & Nevis, it is very important that timely and accurate information on the performance of the SSB be provided in a format that is easily understood. Also, given the projected future finances of the scheme, the general public should be made aware of the challenges that lie ahead so that they can be active participants in the formulation of steps to strengthen their social security system.

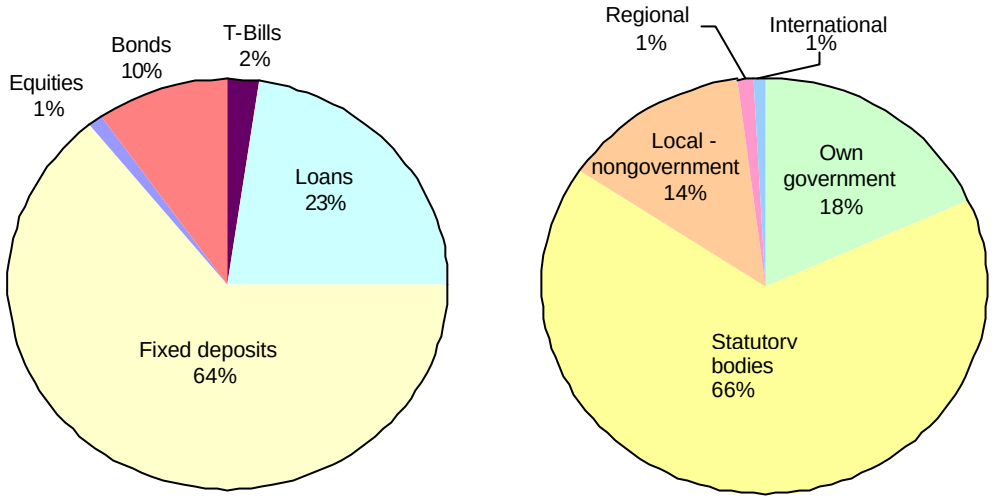
It is therefore recommended that annual reports that contain a summary of operations and financial statements be provided regularly and that this report be made public as soon as it is laid before Parliament. To increase readership of these reports, the Board may wish to produce simple and condensed versions for wider dissemination. Also, this actuarial review report should be widely disseminated both in its complete form as well as in summary form.

4.5 Investment considerations

4.5.1 Asset mix

At the end of 2003, Social Security investments stood at EC$578.2 million (EC$512.0 million at end of 2002). The following charts highlight portfolio diversification by asset type, by who issued the securities and the location of these investments as at December 2003.

Chart 4.1. Distribution of SSF investments, December 2003 (as % of total portfolio)



As illustrated in Chart 4.1, fixed deposits account for nearly two-thirds of the portfolio with other fixed income securities accounting for all but 1 per cent of the remainder, which is held in equities. Of the amount held in fixed deposits, 82 per cent is deposited with the National Bank of St. Kitts, Nevis and Anguilla, a majority-owned government bank, which is categorised as a Statutory body. With Government of St. Kitts & Nevis loans, bonds and T-bills accounting for 18 per cent of the portfolio, 84 per cent of the investments are either fully or partially backed by the Government.

The investments of the Social Security Fund are poorly diversified as they are heavily concentrated in four different ways:

- fixed deposits: 64 per cent,
- government or government-backed securities: 84 per cent,
- any one institution: 53 per cent, and
- local investments: 98 per cent.

The following table shows a comparison of the target asset allocations stated in the recently created *Investment Policy Statement* and the actual allocations as at December 2003. As shown, most of the actual allocations are well outside the desired range.

4.5.2 General guidelines for investing social security funds

In October 2001, the ILO hosted a two-day tripartite meeting in Barbados on 'Social Security Financing and Investment Policies For Pension Funds' that was attended by representatives of Caribbean governments, social security schemes, employers and workers. During the meeting, participants were placed in groups and asked to discuss several topics from which ideas and recommendations were presented. One such topic related to the investment of social security funds. The recommendations emerging from these working groups have been summarized and reviewed by the ILO and formed the basis for a paper entitled *ILO guidelines for the investment of social security funds in the Caribbean* of which the following table is a summary.

Table 4.5 **Actual and target asset allocation** (as % of total portfolio)

Asset class	Target policy allocation	Actual – December 2003
Treasury bills	5 - 10	2.2
Term deposits	20 - 30	64.2
Government securities[1]	20 - 30	29.3
Corporate securities	5 - 15	-
Equities	10 - 30	1.3
Real estate	3 - 7	-
Other	5 - 10	3.1

[1] Actual allocation % includes statutory bodies other than National Bank

General guidelines relating to investments include:

- Social security boards should, in consultation with Government, establish an Investment Policy Statement, which should be revised at least once every three years.

- A target rate of return for the entire investment portfolio should be established. Depending on the level of risk accepted the real-rate-of-return objective should be in the order of 3 per cent to 5 per cent.

- The Investment Policy Statement should also include an asset allocation, selected in order to achieve the target rate of return of the Fund, with maximum and minimum limits for each major category.

- Asset allocation rebalancing must be done in relation to the investment portfolio at the time of determination of the Investment Policy. A transition period before reaching the desired target asset allocation is desirable. And,

- Funds should be invested with consideration of the liquidity needs to meet cash flow requirements.

Guidelines concerning specific types of investments include:

- Government or government-backed securities should not exceed 50 per cent of the investment portfolio. The ability of the scheme to redeem government bonds must be measured against liquidity needs. Governments should pay interest and face amounts of maturing bonds in cash instead of rolling over the principal and interest. Where applicable, Government should also pay market rates for the rental of properties owned by the Social Security Fund.

- Overseas investments represent a measure of diversification and a way to reduce currency risk. For these particular types of investments, there is need for training of in-house investment managers and/or the hiring of international fund managers. And,

- Social investments, or those considered to enhance economic and social utility, could make up a small portion of the social security asset portfolio. Such investments include participation in private-sector initiatives, state enterprises, student loans, low-cost housing, old-age facility, culture, health infrastructure,

tourism, recreation, sport, and human resource enhancement. Before each investment is made, however, a study must be done showing the potential profitability and social benefits of the project. Once made, there should be regular monitoring of experience.

4.5.3 Specific SSF investment guidelines

As the projection results presented in Section 3 illustrate, the Social Security Fund is projected to grow both in absolute terms as well as relative to the overall economy. From EC$542 million at the end of 2002, or 67 per cent of GDP, the Fund is expected to grow to over EC$1.9 billion and over 110 per cent of GDP within the next twenty years. With Social Security assets growing at a faster rate than the local economy, the challenges that already exist to find suitable local investments that are consistent with the Fund's liabilities will be compounded. Therefore, allocating a greater portion of the Fund to overseas investments will be required to ensure that reasonable rates of return are realised.

The *Investment Policy Statement (IPS)* for the Social Security Fund that was prepared in late 2002 recommends appropriate and prudent levels of diversification for the Fund. To achieve these asset allocations as well as broader diversification to the Fund, the Board is encouraged to:

- gradually reduce the overall holdings of fixed deposits to no more than 30 per cent of the portfolio,
- maintain the amount invested in either Government of St. Kitts & Nevis securities or Statutory Bodies, excluding the National Bank, at below 30 per cent of the portfolio,
- gradually reduce the amount held in the National Bank to no more than 20 per cent of the portfolio (this applies to any single investment or institution),
- wherever possible, invest in long-term securities instead of short-term securities, and
- gradually increase the proportion of the fund held outside St. Kitts & Nevis, both regionally and internationally, to around 10 per cent to 15 per cent.

As indicated above the recommended changes should occur gradually over a period of around ten years. To assist in achieving this target and monitoring progress, specific asset allocation objectives for shorter periods – one year, three, five and seven years – should also be established at the outset.

To achieve a more diversified and balanced portfolio as recommended above, some amendments might be necessary to the Second Schedule of the *Act*, which outlines the 'Powers of the Board to Invest'. What may also be considered when the Second Schedule is amended, is the inclusion of all guidelines for investments in the IPS and then have the appropriate section in the *Act* refer to the IPS. By so doing, whenever the IPS is updated to reflect changing circumstances, no further changes will be required to the *Act* in order to implement new investments being considered.

The Investment Committee, like the Board, is tripartite in composition, and also includes the Director, Investment Manager and Chief Accounting Officer. Given the technical nature of investments and the importance of ensuring that the Fund is prudently invested, well diversified with assets that are consistent with the nature of the Fund's liabilities, the Board should consider including on the Investment Committee at least one, but possibly two, persons skilled in the area of investments. The inclusion of such persons could greatly enhance the ability of the Fund to achieve its long-term objectives.

5. Implications for SSB in case of secession of Nevis from Federation

During the actuary's visit to St. Kitts & Nevis in November 2003, a question was asked surrounding the implications for Social Security if Nevis were to secede from the Federation following a referendum being planned for 2004. In short, it concerned two basic options: two separate schemes may be created with each island's government managing the scheme that serves its residents and secondly, the current scheme could be maintained as a single entity with a different approach adopted to its operation.

There is precedence for both of these options. In Canada, for example, Quebec has a separate pension system (Quebec Pension Plan) from that of the other nine provinces and three territories (Canada Pension Plan). In the United States, on the other hand, one national pension system covers all states while other government income-replacement programs such as unemployment and employment injury benefit schemes are operated at a state level. The key difference, though, between the United States, Canada and St. Kitts & Nevis is size.

To obtain a complete picture of immediate and longer-term implications should Nevis secede from the Federation, the three main aspects of social security – policy, administration and investments – would need to be considered.

While the central or federal government conducts the affairs of St. Kitts, the Nevis Island Administration (NIA) handles most of the day-to-day government functions. For social security matters, government oversight rests with the Federal government but there is a NIA representative on the Board.

5.1 Policy

In this context, policy refers to the entire set of coverage, contribution and benefit provisions that make up the basic structure of social security coverage in St. Kitts & Nevis. These include the rules that govern who is covered and required to contribute, how much they must contribute, the benefits available to different categories of insured persons, the qualifying conditions, how benefits are calculated and adjusted, etc. Presently, the Federal government deals with these matters. With two separate schemes, each would be responsible for setting the policy for its workers and residents. If there are two separate countries but a single scheme is retained, then a more consultative approach between the St. Kitts & Nevis governments in making decisions that impact both countries would be required.

5.2 Administration

If upon secession a decision is made to keep a single operation, then no changes to the way contributions and benefits are administered would be necessary. Greater autonomy could, however, be considered for Nevis with regards to certain aspects. However, as the cost of administering social security in St. Kitts & Nevis is already relatively high, the small size of the joint operation should be a key deciding factor on what functions are duplicated.

Two separate and smaller schemes would likely make each operation even more costly than it is now, especially for Nevis given its fewer than 12,000 people. Therefore, even with two separate entities, the Nevis operation may wish to buy certain services from the larger St. Kitts operation, such as computer support. Otherwise, each operation would have to hire staff that are underemployed and purchase expensive equipment that would be under utilised.

Given the level of worker mobility between the two islands that would likely continue if the Federation is dissolved and two separate systems were created, a reciprocal arrangement between the two countries would be required. This agreement would be additional to the CARICOM Social Security Agreement .

5.3 Investments

Probably the most difficult single aspect of separating schemes would be splitting the Social Security Fund and deciding which assets are allocated to each country. Although assets are not allocated to individuals given the defined-benefit structure of the SSB, it would be possible to separate the Fund based on the contributions made and benefits paid by island. However, for persons already receiving pensions it may be wise to set aside sufficient funds to cover payments for the rest of their lives so that there is no conflict as to who constitutes a Nevis liability or a St. Kitts liability, given that someone may have worked in one island but retired in another.

If one fund is maintained, greater influence over investment decisions could be given to the Nevis government. Alternatively, certain portions of the Fund may be allocated to each island so that each government has full authority to invest its portion as it chooses. In each case, a Board or Investment Committee should be established to determine whether or not certain investments should be made.

The decision to separate or not should also consider the high level of worker mobility between St. Kitts and Nevis as well as the practical implications for employers that have operations in both St. Kitts and Nevis. In summary therefore, while separating the St. Kitts & Nevis social security system into two entities may provide greater comfort to both countries should the Federation be dissolved, the ILO strongly recommends that one scheme be retained with appropriate accommodations made to both countries re issues of governance, the setting of policy, human resources, operations and investment of funds.

6. Considerations concerning unemployment insurance

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.

A detailed assessment of whether or not to introduce an unemployment benefit scheme 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. An historical review and summary of recent experience of the Barbados Unemployment scheme and a comparative summary of the key provisions of schemes in Barbados, Canada, Cyprus, and Venezuela may be found in Appendix V.

Although St. Kitts & Nevis is not yet a party to any social security instrument of the ILO, when reforms are considered the ILO encourages policy makers to refer to the ILO C.102 on Minimum Standards of Social Security and C.168 on Employment Promotion and Protection Against Unemployment.

Unemployment insurance programmes have both primary and secondary objectives.[7] The primary ones involve assisting individual workers during periods of involuntary unemployment while the secondary ones stress the promotion of economic efficiency and stability.

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

Who would be covered?

What would be the eligibility requirements for benefit?

What level of benefit would be paid?

How long would benefits be payable for?

How would benefits be financed?

Who would administer the scheme?

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 between 5 per cent and 7 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 well serve workers, employers and the overall economy of St. Kitts & Nevis. It is estimated that a modest unemployment benefit could be introduced with a contribution rate of 1.5 per cent.

The decision on whether or not an UI benefit would be introduced should therefore be made following a close look at the entire spectrum of social benefits and the areas that

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

require most urgent attention at this time. It should also take account of the present economic environment, and the effect that additional deductions from wages and contributions by employers would 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 SSB. To complement the work of the SSB, 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 would highlight some of the practical aspects of operating such a scheme and enable those who would be responsible for administering the St. Kitts & Nevis scheme to see first hand the areas requiring special attention.

Appendix I Summary of contribution and benefit provisions

I.1 Benefits, insured persons and contribution rates

The St. Kitts & Nevis Social Security Board provides for the following benefits:

- *Long-term benefits*: Age, invalidity and survivors' benefits.
- *Short-term benefits*: Sickness benefit, Maternity allowance and grant, Funeral grant.
- *Employment Injury benefits*: Injury benefit, Disablement benefit, Medical Expenses, Death benefit and Funeral grant.

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

- *Employed persons:* All contingencies.
- *Self-employed persons:* All contingencies except employment injury benefits.
- *Voluntary insured persons:* Covered for age and survivors' benefits only.
- *Employed persons under age 16 or over age 61:* Covered for employment injury benefits only.

As per the following table, earnings used for determining contributions and benefits are limited to EC$6,500 per month. Earnings include basic salary and all other earnings paid in cash.

Table AI.1 Increase in ceiling on insurable wages since 1978

Period	EC$ p.a.
1978-1983	24,000
1984-1992	48,000
1993-1995	62,400
1996-1997	70,200
1998-present	78,000

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

I.2 Summary of benefit provisions

I.2.1. Long-term benefits

(a) Old-age contributory pension

Contribution requirement:

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

- For those whose 62nd birthday falls between February 1991 and February 2002, aged 36 and over on 1978, claimants will receive 25 special age credits for each year of age over 37 on February 1, 1978.

Age requirement:

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

Amount of benefit:

16 per cent of average insurable earnings over the best three years in the last 15, plus 2 per cent for every 50 weeks credited between 150 and 750, plus 1 per cent for every 50 weeks credited over 750.

Maximum pension:

60 per cent of average insurable earnings over the best three years.

Minimum pension:

EC$250 per month. The minimum pension also applies to Invalidity pension. It was last increased in July 2002 from EC$200.

(b) Age grant

Contribution requirement:

50 paid or credited weekly contributions.

Eligibility:

Other than for the contribution requirement, the applicant must be eligible for age benefit.

Amount of benefit:

Six times average weekly insurable earnings for each 50 weekly contributions paid or credited. This amount is paid as a lump sum.

(c) Invalidity pension

Contribution requirement:

150 paid weekly contributions.

Eligibility:

The applicant is:

- less than age 62,
- medically declared an invalid, other than as a result of an employment injury,
- has exhausted the maximum period for sickness benefit.

Amount of benefit:

Calculated in the same manner as for age benefit, except that the minimum pension is 30 per cent of average insurable earnings or EC$250 per month, whichever is higher.

Duration of pension:

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

(d) Survivors' benefits

Contribution requirement:

The deceased, at time of death, was receiving or had paid enough contributions to qualify for an invalidity or age pension.

Eligibility:

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

Amount of benefit:

The proportion of invalidity pension shown below:

- Widow or widower: 50 per cent;
- Child: 16 2/3 per cent;
- Child (orphan or disabled): 33 1/3 per cent;

Maximum benefit:

100 per cent of pension the deceased person would have been entitled to.

Minimum pensions:

Widow(er) – EC$125 per month

Child/parent – EC$60 per month

Duration of benefit:

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

(e) Survivors' grant

Contribution requirement:

50 contributions paid or credited by the deceased insured person.

Eligibility:

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

Amount of benefit:

The survivors' grant is equivalent to the age grant. Its distribution among qualifying survivors follows the same basis as in the case of survivors' pensions.

(f) Assistance pension

Eligibility:

The applicant must be:

- either aged 62 or over or an invalid,
- not gainfully employed,
- in need,
- ordinarily resident in St. Kitts & Nevis,
- not previously awarded an age or invalidity pension.

Amount of benefit:

EC$100 per half-month.

I.2.2. Short-term benefits

(a) Sickness benefit

Contribution requirements:

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

Waiting period:

Three days. If incapacity lasts for more than three 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 13 weeks prior to illness.

Duration of benefit:

Maximum of 26 weeks.

(b) Maternity allowance

Contribution requirement:

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

Amount of benefit:

65 per cent of average weekly insurable earnings during the last 39 weeks.

Duration of benefit:

13 weeks, starting no earlier than six weeks before the expected date of confinement.

(c) Maternity grant

Contribution requirement:

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

Amount of grant:

EC$450.

Table AI.2 Increase in maternity grant on ad-hoc basis

Period	EC$'00
1978-1983	50
1984-1998	100
1989-1992	200
1993-1995	300
1995-1998	400
1998-present	450

(d) Funeral grant

Eligibility:

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

Amount of grant:

EC$2,500 for the insured or his/her spouse. The amount for a dependant child ranges from EC$400 to EC$1,600.

Table AI.3 Increase in funeral grant for the insured on an ad-hoc basis

Period	EC$'00
1978-1983	200
1984-1998	500
1989-1992	1,000
1993-1994	1,500
1995-1997	2,000
1998-present	2,500

I.2.3. Employment injury benefits

(a) Injury benefit (work-related)

Eligibility:

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

Amount of benefit:

75 per cent of average insurable earnings in the last 13 weeks before the accident or disease occurred (or less if the person was insured for a shorter period.)

Duration of benefit:

26 weeks.

Waiting period:

Three days. If incapacity lasts four or more days, benefit is payable from the first day.

(b) Disablement benefit (work-related)

Eligibility:

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

Waiting period:

Equivalent to the period for which an employment injury benefit is paid.

Amount of benefit:

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

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

(c) Death benefit (work-related)

Eligibility:

Dependants are defined as for survivors' benefit.

Amount of benefit:

Proportion of disablement pension, the same percentage as for survivors' benefit.

(d) Medical expenses (work-related)

Expenses covered:

Reasonable expenses for doctor's fees, medication, hospitalisation, travelling and constant care and other specified costs incurred as a result of an employment injury or prescribed disease.

(e) Funeral grant (work-related)

Eligibility:

The insured person died as a result of an employment injury: No prior contributions are required.

Amount of grant:

EC$4,000.

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 St. Kitts & Nevis and the Social Security Board. 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 St. Kitts & Nevis' future demographic and economic environment. Next, projection factors specifically related to Social Security are determined and used in combination with the demographic/economic framework to estimate future cash flows and reserves. Assumption selection takes into account both recent experience and future expectations, with emphasis placed on long-term trends rather than giving undue weight to recent experience.

II.1 Modelling the demographic and economic developments

The general St. Kitts & Nevis' population has been projected beginning with totals obtained from the preliminary results of the 2001 national census and by applying appropriate mortality, fertility and migration assumptions. For the *Intermediate* scenario, the total fertility rate is assumed to decrease from 2.0 to 1.85 in 2021, and remain constant thereafter. Table AII.1 shows ultimate age-specific and total fertility rates. For the *Pessimistic* and *Optimistic* scenarios, the ultimate total fertility rates are assumed reached in 2021.

Table AII.1. Age-specific and total fertility rates

Age group	2002	Ultimate rates		
		Optimistic	*Intermediate*	*Pessimistic*
15-59	0.067	0.027	0.025	0.023
20-24	0.103	0.068	0.063	0.058
25-29	0.093	0.108	0.100	0.092
30-34	0.076	0.099	0.092	0.084
35-39	0.050	0.085	0.079	0.072
40-44	0.014	0.017	0.016	0.015
45-49	-	-	-	-
TFR	**2.00**	**2.00**	**1.85**	**1.70**

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"[8] rate assumed for the *Pessimistic* scenario and "medium" for the *Optimistic* scenario. Sample mortality rates for the *Intermediate* scenario and the life expectancies at birth and at age 62 for sample years are provided in Tables AII.2 and AII.3.

Table AII.2. Mortality rates and life expectancy

Age	Males			Females		
	2002	2032	2062	2002	2032	2062
0	0.0149	0.0092	0.0072	0.0123	0.0071	0.0053
5	0.0003	0.0002	0.0001	0.0002	0.0001	0.0000
15	0.0007	0.0004	0.0003	0.0003	0.0002	0.0001
25	0.0019	0.0010	0.0007	0.0011	0.0009	0.0007
35	0.0029	0.0016	0.0012	0.0017	0.0011	0.0009
45	0.0055	0.0035	0.0027	0.0027	0.0018	0.0014
55	0.0108	0.0075	0.0062	0.0058	0.0039	0.0032
65	0.0215	0.0163	0.0142	0.0114	0.0071	0.0055
75	0.0546	0.0450	0.0408	0.0321	0.0210	0.0168
85	0.1528	0.1370	0.1295	0.1015	0.0799	0.0706
95	0.3419	0.3305	0.3249	0.2690	0.2396	0.2256
Life expectancy at birth	68.3	73.9	76.1	74.7	80.4	82.8

Table AII.3. Current and projected life expectancies at age 62

	2002	2062		
		Optimistic	*Intermediate*	*Pessimistic*
Male	16.1	19.5	18.8	17.9
Female	19.3	25.4	24.5	22.8

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 (2001) and 2021. Age-specific rates for other years may be obtained by using the same proportions as applicable for the years shown below.

[8] Midpoint of rates depicted by "slow" improvements and no improvements.

Table A.II.4. Net immigration

Age	2001			2021		
	Optimistic	*Intermediate*	*Pessimistic*	*Optimistic*	*Intermediate*	*Pessimistic*
0-9	(8)	(16)	(25)	-	(8)	(16)
10-19	(8)	(16)	(23)	-	(8)	(16)
20-29	(47)	(93)	(140)	-	(47)	(93)
30-39	(27)	(54)	(81)	-	(27)	(54)
40-49	(8)	(16)	(24)	-	(8)	(16)
50-59	(2)	(4)	(6)	-	(2)	(4)
60-69	(0)	(1)	(1)	-	(0)	(1)
70+	(0)	(0)	(0)	-	(0)	(0)
All ages	(100)	(200)	(300)	-	(100)	(200)

The projection of the labour force, i.e. the number of people available for work, is obtained by applying assumed labour force participation rates to the projected number of persons in the total population. Between 2001 and 2062, age-specific labour force participation rates are assumed to increase at advanced ages for males and females. The table 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 AIII.5. Age-specific and total labour force participation rates (as percentage)

Age	Males		Females		Year	Males	Females
	2002	2062	2002	2062			
17	42	42	38	40	2002	81	75
22	92	92	85	89			
27	92	92	89	93	2012	83	77
32	94	94	91	96	2022	84	77
37	93	93	93	98	2032	85	79
42	96	96	93	98			
47	93	96	84	93	2042	85	79
52	89	93	74	84	2052	85	78
57	81	89	64	74	2062	85	78

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

Estimates of increases in the total wages as well as the average wage earned are required. Annual average real wage increases are assumed equal to the 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 social security income and expenditure

This actuarial review addresses all St. Kitts & Nevis Social Security revenue and expenditure items. For short-term and employment injury benefits, income and expenditure

are projected as a percentage of insurable earnings. For the Long-term and Employment Injury Benefit branches, projections of pensions are performed following a year-by-year cohort methodology. For each year up to 2062, the number of contributors and pensioners, and the dollar value of contributions, benefits and administrative expenditure, is estimated.

Once the projections of the insured (covered) population, as described in the previous section, are complete, contribution income is then determined from the projected total insurable 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. Social Security's 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 Social security population data and assumptions

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

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

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

Details of Social Security specific input data and the key assumptions used in this report are provided in tables AII.6 through AII.10.

Table AII.6. 2002 active insured population, earnings and past credits

Age	No. active insured persons		Average monthly insurable earnings		Average no. years of past credits	
	Male	Female	Male	Female	Male	Female
15-19	684	515	1,238	1,079	1.0	0.8
20-24	1,683	1,665	1,593	1,355	4.4	3.8
25-29	1,620	1,700	1,972	1,705	8.2	7.6
30-34	1,606	1,575	2,513	1,943	12.2	11.4
35-39	1,615	1,546	2,580	1,954	16.2	15.4
40-44	1,376	1,484	2,602	2,070	19.3	18.5
45-49	1,132	1,132	2,927	2,156	20.1	19.4
50-54	666	589	3,023	2,372	20.7	19.7
55-59	402	351	3,106	1,879	20.8	19.7
60-61	180	129	2,663	1,706	21.1	19.6
All ages	10,964	10,686	2,331	1,832	13.0	12.3

Table AII.7. Pensions-in-payment – December 2002

Age		Old-age benefit		Invalidity benefit		Survivors' benefit		Disablement benefit		Assistance benefit	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
0-4		-	-	-	-	13	9	-	-	-	-
5-9		-	-	-	-	32	25	-	-	-	-
10-14		-	-	-	-	78	76	-	-	-	-
15-19		-	-	-	-	43	44	-	-	2	2
20-24		-	-	-	-	-	-	1	-	5	6
25-29		-	-	1	3	-	-	1	2	5	6
30-34		-	-	7	2	-	-	4	1	5	3
35-39		-	-	2	7	1	1	6	-	8	7
40-44		-	-	5	11	1	2	-	-	5	9
45-49		-	-	7	12	2	12	-	-	5	10
50-54		-	-	6	12	3	14	1	1	4	8
55-59		-	-	10	18	5	19	1	-	1	2
60-64		153	134	12	13	3	22	-	1	3	16
65-69		237	193	-	-	-	28	-	-	18	51
70-74		195	167	-	-	-	28	2	-	36	101
75-79		129	66	-	-	2	25	-	-	60	118
80-84		79	42	-	-	1	14	-	-	40	101
85-89		-	-	-	-	-	-	-	-	34	93
90-94		-	-	-	-	-	-	-	-	6	42
95-99		-	-	-	-	-	-	-	-	2	17
No. pensioners		793	602	50	78	184	319	16	5	239	592
Average monthly pension	EC$	658	493	550	435	100	207	585	1,422	200	200

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

Table AII.8. Density of contributions (by age and as percentage)

Age	Males	Females
17	51	50
22	73	80
27	75	86
32	77	88
37	77	88
42	80	89
47	81	89
52	83	89
57	83	86

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

Table AII.9. Rates of entry into invalidity

Age	Males	Females
17	-	-
22	0.149	-
27	0.463	0.441
32	0.934	0.476
37	0.929	0.647
42	0.727	2,527
47	1.325	1,546
52	1,502	3,820
57	8,706	9,259

Table AII.10, shows the assumed probability of receiving a survivor benefit claim and the average age of new claimants, grouped by the age of the deceased.

Table AII.10. Probability of a deceased having eligible survivors and their average ages

Age	Males		Females	
	Probability of eligible spouse	Average eligible children	Probability of eligible spouse	Average eligible children
	%	No.	%	No.
17	0	-	0	-
22	2	0.0	0	0.1
27	7	0.1	0	0.2
32	21	0.4	8	0.6
37	48	0.8	27	1.3
42	65	1.2	35	1.2
47	70	1.1	26	1.1
52	67	0.7	22	0.8
57	53	0.5	28	0.2
62	41	0.5	26	0.1
67	32	0.2	13	-
72	27	0.1	6	-
77	27	0.2	9	-
82	25	0.1	10	-
87	19	0.0	8	-

Appendix III Projection results – *Pessimistic and Optimistic* scenarios

Table AIII.1. Projected St. Kitts & Nevis population, *Pessimistic* scenario

Year	Total	Age 0 - 15	Age 16 - 59	Age 62 & over	Ratio of Persons 16-61 To 62 & Over
2001	46,111	14,634	27,511	3,966	6.9
2002	46,111	14,634	27,511	3,966	6.9
2003	46,225	14,405	27,898	3,922	7.1
2004	46,347	14,157	28,309	3,881	7.3
2005	46,476	13,889	28,743	3,844	7.5
2006	46,608	13,614	29,182	3,812	7.7
2007	46,742	13,355	29,600	3,787	7.8
2012	47,468	12,234	31,285	3,948	7.9
2022	48,212	10,518	31,261	6,432	4.9
2032	48,488	9,550	29,795	9,142	3.3
2042	47,832	8,686	28,954	10,192	2.8
2052	46,358	7,975	27,107	11,277	2.4
2062	44,650	7,513	25,136	12,001	2.1

Table AIII.2. Projected cash flows and reserve, *Pessimistic scenario* (millions of EC$)

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	46.9	30.7	1.2	**78.8**	18.6	6.6	25.2	**53.6**	**542.0**	21.5
2003	48.4	34.5	12.0	**94.9**	20.4	7.7	**28.1**	**66.7**	**609.5**	22.3
2004	49.3	37.2	0.5	**87.0**	21.6	7.8	**29.4**	**57.7**	**668.0**	23.4
2005	51.8	39.0	0.5	**91.4**	23.7	8.2	**31.8**	**59.5**	**728.4**	23.5
2006	53.7	40.6	0.5	**94.9**	26.6	8.4	**35.1**	**59.8**	**789.2**	23.2
2007	55.7	42.0	0.6	**98.2**	28.7	8.7	**37.4**	**60.9**	**851.1**	23.4
2008	57.8	43.0	0.6	**101.4**	30.9	9.0	**39.9**	**61.5**	**913.8**	23.6
2012	66.5	50.1	0.7	**117.2**	42.0	10.2	**52.2**	**65.0**	**1,171.3**	23.1
2022	87.8	78.0	0.9	**166.6**	108.3	13.0	**121.2**	**45.4**	**1,795.6**	15.2
2032	116.4	81.1	1.2	**198.7**	227.4	18.1	**245.5**	**(46.8)**	**1,821.4**	7.6
2042	156.5	34.0	1.6	**192.1**	358.0	25.9	**383.9**	**(191.8)**	**679.5**	1.8
2052	200.7	(96.6)	2.0	**106.1**	524.6	34.8	**559.4**	**(453.3)**	**(2,417.6)**	(4.4)
2062	260.5	(380.8)	2.6	**(117.7)**	744.6	46.5	**791.0**	**(908.8)**	**(9,100.3)**	(11.8)

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

Table AIII.3. Projected benefit expenditure– *Pessimistic* scenario (millions of EC$)

Year	Pensions, Grants & Benefits						Benefits as a % of:	
	Age	Invalidity	Survivors	Assistance	Short-term	Emp. Injury	Insurable Wages	GDP
2002	9.5	0.7	1.1	1.9	4.5	0.9	4.4%	2.3%
2003	10.7	0.8	1.2	1.9	5.0	0.8	4.6%	2.5%
2004	11.4	0.8	1.4	1.9	5.1	0.8	4.8%	2.5%
2005	12.8	0.9	1.6	1.9	5.4	0.9	5.0%	2.6%
2006	14.1	1.1	1.8	3.0	5.6	1.0	5.4%	2.9%
2007	15.4	1.2	2.1	3.1	5.9	1.1	5.7%	3.0%
2008	16.9	1.3	2.3	3.2	6.1	1.1	5.9%	3.1%
2012	24.7	1.9	3.2	3.4	7.1	1.5	7.0%	3.7%
2022	81.1	3.4	6.9	4.3	9.8	2.9	13.6%	6.9%
2032	185.8	4.6	12.9	5.9	13.4	4.9	21.5%	10.9%
2042	295.4	6.7	21.1	8.1	18.7	8.1	25.2%	13.1%
2052	438.4	8.9	29.6	11.0	24.7	12.0	28.8%	14.7%
2062	629.9	11.3	38.7	14.7	33.1	16.9	31.4%	16.2%

Table AIII.4. Projected contributors and pensioners, *Pessimistic* scenario

Year	# of Contributors	# of Pensioners					Total # of Pensioners	Ratio of Contributors to Pensioners
		Age	Invalidity	Survivors	Assistance	Death & Disablement		
2002	22,349	1,395	129	508	831	56	**2,919**	**7.7**
2003	22,180	1,458	133	580	817	53	**3,041**	**7.3**
2004	22,530	1,501	139	635	807	64	**3,146**	**7.2**
2005	22,778	1,572	152	685	798	71	**3,278**	**6.9**
2006	23,026	1,645	167	726	789	77	**3,403**	**6.8**
2007	23,272	1,722	185	760	780	85	**3,531**	**6.6**
2008	23,513	1,806	201	789	771	91	**3,657**	**6.4**
2012	24,341	2,226	264	858	740	116	**4,203**	**5.8**
2022	24,702	4,903	352	1,084	699	172	**7,209**	**3.4**
2032	25,007	7,898	371	1,393	712	224	**10,598**	**2.4**
2042	25,443	9,152	413	1,630	731	284	**12,209**	**2.1**
2052	24,538	10,160	414	1,679	734	318	**13,305**	**1.8**
2062	23,208	10,884	391	1,637	730	333	**13,975**	**1.7**

Table AIII.5. Projected St. Kitts & Nevis population, *Optimistic* scenario

Year	Total	Age 0 - 15	Age 16 - 59	Age 62 & over	Ratio of Persons 16-61 To 62 & Over
2001	46,111	14,634	27,511	3,966	6.9
2002	46,111	14,634	27,511	3,966	6.9
2003	46,428	14,428	28,078	3,923	7.2
2004	46,765	14,211	28,670	3,884	7.4
2005	47,121	13,982	29,287	3,852	7.6
2006	47,494	13,756	29,911	3,827	7.8
2007	47,882	13,558	30,514	3,810	8.0
2012	50,455	13,067	33,338	4,050	8.2
2022	55,385	13,183	35,379	6,824	5.2
2032	59,884	13,304	36,346	10,234	3.6
2042	62,946	12,814	37,522	12,610	3.0
2052	64,758	12,785	36,812	15,160	2.4
2062	65,795	12,850	36,219	16,727	2.2

Table AIII.6. Projected cash flows and reserve, *Optimistic* scenario (millions of EC$)

Year	Cash Inflows				Cash Outflows				Reserves	
	Contribution Income	Investment Income	Other Income	Total	Benefits & Pensions	Admin. & Other Expenses	Total	Surplus/ (Deficit)	End of Year	# of times current year's expenditure
2002	46.9	30.7	1.2	**78.8**	18.6	6.6	25.2	**53.6**	**542.0**	21.5
2003	48.4	34.5	12.0	**94.9**	20.4	7.7	**28.1**	**66.7**	**609.5**	22.3
2004	49.9	37.8	0.5	**88.2**	21.6	7.8	**29.4**	**58.8**	**669.2**	23.4
2005	53.1	40.9	0.5	**94.5**	23.1	8.1	**31.2**	**63.4**	**733.4**	24.2
2006	56.2	43.9	0.6	**100.7**	26.5	8.4	**34.9**	**65.8**	**800.2**	23.6
2007	59.4	47.1	0.6	**107.1**	28.5	8.7	**37.2**	**69.9**	**871.2**	24.1
2008	62.8	50.4	0.6	**113.8**	30.7	9.0	**39.7**	**74.1**	**946.4**	24.6
2012	77.0	66.7	0.8	**144.5**	41.8	10.1	**51.9**	**92.6**	**1,293.3**	25.7
2022	118.1	127.9	1.2	**247.2**	111.0	11.7	**122.7**	**124.5**	**2,453.4**	20.5
2032	179.8	193.9	1.8	**375.5**	248.7	18.1	**266.8**	**108.7**	**3,679.6**	14.1
2042	273.1	244.5	2.7	**520.3**	441.3	29.0	**470.3**	**50.0**	**4,595.9**	10.0
2052	393.9	233.1	3.9	**630.9**	746.8	43.7	**790.6**	**(159.6)**	**4,280.1**	5.5
2062	572.8	49.8	5.7	**628.4**	1,189.4	65.5	**1,255.0**	**(626.6)**	**629.7**	0.5

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

Table AIII.7. Projected benefit expenditure - *Optimistic* scenario (millions of EC$)

Year	Pensions, Grants & Benefits						Benefits as a % of:	
	Age	Invalidity	Survivors	Assistance	Short-term	Emp. Injury	Insurable Wages	GDP
2002	9.5	0.7	1.1	1.9	4.5	0.9	4.4%	2.3%
2003	10.7	0.8	1.2	1.9	5.0	0.8	4.6%	2.5%
2004	11.5	0.8	1.4	1.9	5.2	0.8	4.8%	2.5%
2005	12.2	0.9	1.6	1.9	5.5	0.9	4.8%	2.5%
2006	13.8	1.0	1.8	3.0	5.9	1.0	5.2%	2.7%
2007	15.0	1.2	2.0	3.1	6.2	1.1	5.3%	2.8%
2008	16.3	1.3	2.2	3.1	6.6	1.2	5.4%	2.8%
2012	23.8	1.9	3.0	3.2	8.3	1.6	6.0%	3.1%
2022	81.1	3.7	6.2	3.7	13.1	3.2	10.3%	5.3%
2032	200.3	5.6	11.7	4.6	20.7	5.8	15.2%	7.7%
2042	363.2	9.2	20.3	5.7	32.6	10.4	17.8%	9.1%
2052	629.7	13.3	31.4	7.0	48.5	16.9	20.9%	10.6%
2062	1,016.9	18.6	46.1	8.5	72.9	26.5	22.8%	11.8%

Table AIII.8. Projected contributors and pensioners, *Optimistic* scenario

Year	# of Contributors	# of Pensioners					Total # of Pensioners	Ratio of Contributors to Pensioners
		Age	Invalidity	Survivors	Assistance	Death & Disablement		
2002	22,349	1,395	129	508	831	56	**2,919**	**7.7**
2003	22,417	1,458	133	580	817	53	**3,041**	**7.4**
2004	23,112	1,504	140	632	807	64	**3,145**	**7.3**
2005	23,716	1,576	153	679	798	71	**3,277**	**7.2**
2006	24,331	1,651	168	717	789	77	**3,403**	**7.2**
2007	24,956	1,731	187	749	780	84	**3,532**	**7.1**
2008	25,588	1,818	204	775	771	91	**3,660**	**7.0**
2012	27,696	2,256	276	841	740	117	**4,230**	**6.5**
2022	30,686	5,050	404	1,062	699	184	**7,399**	**4.1**
2032	32,205	8,415	475	1,353	712	252	**11,207**	**2.9**
2042	33,538	10,523	550	1,604	731	328	**13,735**	**2.4**
2052	33,463	12,937	554	1,705	734	372	**16,303**	**2.1**
2062	33,468	14,571	544	1,741	730	406	**17,991**	**1.9**

Appendix IV SSB income, expenditure and reserves, 2000–2002

	2000	2001	2002
Income	**68,582,197**	**74,678,360**	**78,831,309**
Contribution	43,519,154	45,493,693	46,943,183
Investment	24,327,766	28,765,320	30,723.454
Other	735,277	419,347	1,164,672
Expenditure	**24,234,884**	**24,740,746**	**25,197,691**
Benefits	**15,939,745**	**16,696,496**	**18,595,304**
Sickness	2,017,403	2,037,587	2,394,810
Maternity allowances	1,446,022	1,542,043	1,508,438
Maternity grants	454,396	263,700	241,650
Funeral	459,593	372,400	393,265
Age pensions	7,177,018	7,996,211	9,166,167
Invalidity pensions	529,805	567,364	700,269
Survivors' pensions	895,839	1,001,491	1,080,216
Age grants	273,959	467,503	359,766
Age assistance	1,655,960	1,583,653	1,686,780
Invalidity assistance	161,000	172,200	197,420
Medical expenses	146,431	96,715	129,027
Injury	355,296	309,450	386,082
Disablement grants	46,742	19,062	55,476
Disablement	87,477	69,401	109,687
Death	161,770	156,912	157,622
Travel expenses	71,034	40,804	28,629
Burial grants	-	-	-
Administrative expenditure	8,295,139	8,044,250	6,602,387
Other expenses	-	-	-
Excess of income over expenditure	**44,347,313**	**49,937,614**	**53,633,618**
Reserve at year-end:	**438,464,739**	**488,402,353**	**542,035,971**
Short-term benefits branch	39,255,589	44,392,500	50,228,856
Long-term benefits branch	345,928,196	384,502,739	425,488,217
Employment Injury benefits branch	50,882,352	57,108,512	63,920,296
Capital reserve	2,398,602	2,398,602	2,398,602
Provident Fund reserves	**11,693,773**	**12,409,813**	**13,185,243**

Appendix V 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 initially at 2 per cent of insurable earnings and shared equally by the employer and employee. Since then, the contribution rate has been adjusted six times but the 50/50 relationship between the share of employers and employees has remained unchanged. There have also been several changes to the benefit schedule and to the maximum duration. In 1981, benefits were payable at the rate of 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 AV. 1. Major changes to benefit provisions

Month of change	Benefit rate and maximum duration (%)
July 1981	40 of AWIE for up to 13 weeks
April 1984	50 of AWIE for up to 13 weeks
June 1985	60 of AWIE for up to 26 weeks
October 1991	60 of AWIE for first 10 weeks + 40% of AWIE for next 16 weeks
June 1996	60 of AWIE for up to 26 weeks

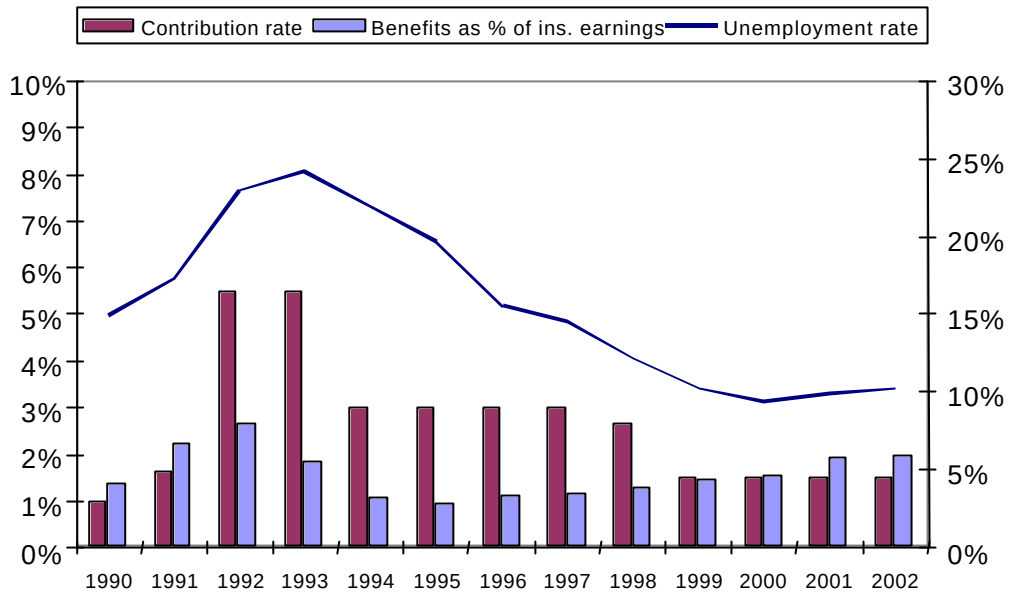
AWIE – Average weekly insurable earnings

Table AV.2. Changes to contribution rate (as % of insurable earnings)

Month of change	Combined contribution
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 wages. 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 reserves now 3.5 times annual expenditure.

Chart: AV.1. Barbados unemployment, contribution and benefit expenditure rates, 1990 to 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 that:

- 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 second quarter preceding unemployment
  - seven weekly contributions in the second 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 AV.3. Highlights of recent unemployment benefit scheme experience

	2002	2001	2000	1999
Unemployment rate (%)	10.30	10.40	9.30	9.90
Contribution rate (%)	1.50	1.50	1.50	1.50
Expenditure as % of insurable wages	2.00	1.94	1.55	1.49
Average duration (benefit days)	69	69	67	68
No. of claims approved	15,135	15,946	10,533	10,570
No. of claims per thousand contributors	149	162	109	106

Table AV.4. 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	– 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	– 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	– 52 weeks of contributions in 18 months preceding unemployment	– 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' supplement 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 percentage)				
– Insured person	0.75	2.20% *Covers also sickness*	0.50 %	0.38 %
– Employer	0.75	3.08% *and maternity*	1.70 %	0.38 %
– Government	None	None (*UI alone: approx. 2.6%)*	None	0.24 %

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