

Antigua and Barbuda

Report to the Government

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

International Financial and Actuarial Service
Social Protection Sector
International Labour Organization Geneva
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Foreword

Section 22 of the *Social Security Act*, requires that an actuarial review of the Antigua and Barbuda Social Security Fund (ABSSF) be conducted at least every three years. This is the seventh review of the Fund and it has been performed as at 31 December 2002, four years after the previous review.

The main objectives of this review are to determine the long-term financial condition of the ABSSF and to review contribution and benefit provisions, making recommendations where appropriate. During discussions in Antigua and Barbuda (Antigua-Barbuda) requests for specific issues to be dealt with in the report were made. These include:

- increasing the wage ceiling;
- increasing pensions, especially the minimum pension;
- outstanding contributions and interest payments by Government;
- introducing an unemployment benefit;
- increasing the retirement age;
- changing the qualifying conditions for a widower's pension;
- including allowances (housing, travel, etc.) in insurable wages;
- providing for a pensioners' representative on the Board;
- payment of survivors' benefit to more than three children when a spouse also gets a pension;

These and other matters are discussed in the report.

This report is divided into the main report and the appendices. The main report contains an analysis of financial experience since 1973 and results of population, economic and ABSSF projections up to 2062. It also includes specific issues pertaining to investments and the introduction of an unemployment benefit and an analysis of benefit experience between 1999 and 2002. A brief discussion of several policy and operational issues complete this section. The appendices that follow contain a summary of key ABSS financing and benefit provisions, a description of the methodology used for the valuation and detailed tables of the key data, assumptions and projection results.

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Abbreviations and acronyms

ABSS	Antigua-Barbuda Social Security (also referred to as “Social Security”)
ABSSB	Antigua-Barbuda Social Security Board (also referred to as “the Board”)
ABSSF	Antigua-Barbuda Social Security Fund (also referred to as “the Fund”)
CARICOM	Caribbean Community Secretariat
CSME	CARICOM Single Market & Economy
CSSA	CARICOM Social Security Agreement
EC\$	Eastern Caribbean Dollar
EIB	Employment Injury Benefits
GAP	General average premium
GDP	Gross Domestic Product
ICE	Indexed Career Earnings
ILO	International Labour Office
IPS	Investment Policy Statement
LTB	Long-term Benefits
OECS	Organisation of Eastern Caribbean States
PAYG	Pay-as-you-go
STB	Short-term Benefits
UI	Unemployment Insurance
US\$	United States dollar

Exchange rate

The currency in Antigua-Barbuda is the Eastern Caribbean dollar.

As of 31 December 2002, 1 US\$ = 2.67 EC\$

Acknowledgements

Mr. Derek Osborne was appointed by the ILO to undertake this assignment. Mr. Osborne visited Antigua-Barbuda in October 2003 to gather the necessary data. He also had discussions with the Minister of Finance who has responsibility for the Antigua-Barbuda Social Security (ABSS), members of the Antigua-Barbuda Social Security Board (ABSSB), ABSS management and staff, and representatives of workers, employers' and pensioners' organisations.

The International Financial and Actuarial Service (ILO FACTS) of the ILO assumed responsibility for the supervision, review and editing of this actuarial review.

This actuarial review is the product of contributions by Luther Mills, Eugene Hurst and Telly George of the ABSS. Their tasks included gathering the extensive data required and assisting the actuary during his visit to Antigua-Barbuda.

The ILO Director-General wishes to express his sincere thanks to the Director of the ABSSB, Mr. Lennox Gardner, and the former Chairman and Ambassador, Mr. Leroy King, for their collaboration throughout this project. Special thanks are extended to all ABSS staff for their assistance to the project.

Executive summary

Some of the benefits that current Antigua-Barbuda Social Security (ABSS) contributors anticipate receiving will be paid more than fifty years from today. Therefore, to determine whether or not Antigua-Barbuda'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 thirty years, ABSS' experience has, for the most part, been consistent with initial expectations – growing number of pensioners relative to the number of contributors, the benefit expenditure increasing at a faster rate than contribution income and the accumulation of large reserves. During 2002, approximately 31,000 workers and self-employed persons made contributions and monthly pensions were being paid to almost 5,300 each month. At the end of 2002, Antigua-Barbuda Social Security Fund (ABSSF) reserves stood at EC\$524 million, representing 12.1 times total expenditure in 2002 or 27 per cent of nominal GDP. While this is a relatively high level of funding for a 30-year old social security system, the partial-funding method of financing adopted at inception implies that the total assets are currently less than the present value of total benefits already earned by past and present contributors. This means that contribution rate increases will be required to meet future expenditure.

While 2002 year-end reserves were EC\$524 million, 52 per cent of the assets supporting these reserves were accounts receivable – mainly amounts due from the Antigua-Barbuda Government which has failed to meet most of its contribution and interest obligations in cash for many years. The total amount owed by Government as of December 2002 was EC\$244.8 million. Several statutory bodies owed another EC\$11.6 million and 28 per cent of the Fund's investments are non-performing. As a result of weak cash flows from normal operations, the ABSS has been forced over the past few years to liquidate fixed deposits to meet its commitments. The ABSSF is therefore now at a point where unless corrective measures are taken soon to improve its cash flow position and convert accounts receivables into cash or income-producing investments, it runs the risk of being unable to meet its obligations within the next 15 years.

With birth rates declining and increased longevity among the elderly, future ABSSF finances will show a different pattern from those of its first thirty years. That is, even if Government and other debtors repay their obligations, the consequences of a declining contributor-pensioner ratio and a contribution rate that is below the true cost of all benefits will result in a gradual weakening of ABSSF if contribution and benefits reforms are not made.

Along with a review of the ABSSF's financial position as of 31 December 2002, this report includes projections of income, expenditure and reserves through 2062. The projected trend for ABSSF reserves, assuming that the contribution rate and benefit provisions remain unchanged, is complete depletion by year 2028 (see Chart 3.1 in Section 3.1).

The key results of the general population and ABSS projections based on the contribution and benefit provisions in place on January 1, 2003 are:

- The population will increase from 76,000 in 2001 to just over 100,000 in the early 2040's, remaining relatively constant thereafter.

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- The ageing of the general population will have a major impact on the ratio of workers to retirees. For ABSS, it is projected that the number of contributors for each pensioner will fall from 5.9 in 2002 to only 1.5 in 2062.
 - Total contribution income, including amounts that may not be received in cash, is expected to be sufficient to meet total expenditure through 2010.
 - Reserves are expected to begin decreasing in 2018 when total expenditure will exceed total income for the first time. If growing deficits are allowed to continue thereafter, projections are that reserves will be depleted in 2029.
 - The pay-as-you-go-rate (PAYG), or the contribution rate that would be required to produce just enough income to meet expenditure if there is no reserve, will increase gradually from 5.7 per cent in 2002 to 24.3 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 15.4 per cent.

Other projection results presented in this report suggest the following:

- Higher yields on reserves will extend the life of reserves as well as reduce contribution rates required in the future.
- Benefit improvements such as annually indexing pensions in line with inflation¹ do not have a significant impact on future finances if the objective is to ensure that pensioners' standard of living is not eroded over time.
- To secure a reserve level of at least twice expenditure in 2062 without changing benefit provisions, one reasonable contribution rate increase schedule would require increases of 1 per cent every year for eight years beginning in 2007. This would bring the private-sector contribution rate to 15 per cent. Many other prudent funding objectives and rate increase schedules could be devised.
- Benefit reforms such as increasing the age at which full Age pension is payable and using earnings over one's career to calculate the pension will have a positive long-term impact on the Fund.

Recommendations

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

- (1) Increase the wage ceiling to between EC\$5,400 and EC\$6,000 per month and thereafter adjust the ceiling annually in line with changes in average wages in Antigua-Barbuda. The rules governing such increases should be placed in Regulations. To estimate changes in average national wages, a wage index should be created by the government's Department of Statistics. Until such an index is available, social security data may be used as a proxy. (Section 4.2.1)
- (2) Increase pensions-in-payment at the earliest opportunity by between 12 per cent and 2 per cent depending on the year the pension was awarded. At the same

¹ Annual indexing of pensions is assumed for all projections.

time, the minimum pension to adults should be increased to at least EC\$300 per month. The minimum orphan pension should also be increased. These increases will return pensions to more reasonable levels. Thereafter, all pensions should be increased annually 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. (Section 4.1.1 or 4.1.4)

- (3) The Maternity and Funeral grants should be increased by at least 12 per cent to reflect the replacement objective of the grant. Thereafter, these grants should be adjusted automatically each year in line with pension increases. (Section 4.1.3)
- (4) Amend the eligibility conditions for Survivors' pensions for widowers so that they qualify under the same rules that currently apply to widows. In addition, Survivors' pensions should be payable to spouses who are below age 50 but who have dependant children for a period longer than one year. (Sections 4.1.4)
- (5) Review the effectiveness and actual coverage provided by the Workman's Compensation Law, and consider replacing it with ABSS Employment Injury benefit coverage according to social insurance principles. (Section 4.1.5)
- (6) 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, seek to significantly improve the level of participation among the self-employed. (Section 4.3.1)
- (7) Change the contribution rate for public servants so that the differential between their rate and that for private-sector workers better reflects the cost of benefits not provided to civil servants. Also, since established civil servants are entitled to full salary when on maternity leave, coverage for Maternity Allowance may not be required in their case. (Section 4.1.6 and 4.2.2)
- (8) Government should amend the pension arrangement for public officers so that combined ABSS 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)
- (9) Consider the request made by the Antigua-Barbuda Pensioners' Association to have someone representing pensioners sit on the Board. (Section 4.4.1)
- (10) Create an Investment Policy Statement, which among other things sets out the Fund's goals, objectives and investment guidelines as well as its monitoring and evaluation mechanism. Some rebalancing of the portfolio is also recommended (Section 5)
- (11) Consider the introduction of a modest unemployment insurance benefit given that other conditions to provide job-search assistance and retraining are met. (Section 6)
- (12) While no contribution rate increase is being recommended at this time, changes to the allocation of contribution income between the two Benefit Branches should be made as outlined in Section 1.5.3. and 3.1. A transfer of reserves from the Short-term Benefits Branch to the Long-term Benefits Branch should also take place. While these changes do not affect the overall funding of ABSS benefits, the changes would bring consistency to the financing method chosen for each Benefit Branch.

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- (13) Recommendations have been made throughout this report; they include reducing administrative costs, improving data collection and reviewing the entire ABSS legislation so that all of its provisions are consistent with best practices and government policy.
 - (14) Regularize all amounts owed by the Government to the scheme.
 - (15) Improve public transparency of financial reports, and encourage adherence to the requirements of Sections 17 and 18 of the *Social Security Act*, which require the submission to Parliament all regular actuarial reviews for discussion.

While most of the above recommendations deal with policy matters the most significant challenge now facing the ABSSF is financial, specifically the extensive amount being carried as accounts receivables, the non-payment in cash of around EC\$25 million each year and the 28 per cent of investments that are non-performing. Together, these have resulted in the Fund's weak cash flow position and unless corrective measures for each of these are taken soon, the ABSSF is in jeopardy of not being able to meet its future obligations in the near-term. Therefore, immediate steps should be taken to:

- Collect all current contributions in cash,
- Collect all current interest income in cash,
- Make arrangements that include the payment in cash for outstanding contributions and interest income, and
- Take all necessary steps to bring non-performing loans current, ensuring that accrued interest is included in the amounts due.

Until all amounts owed by the Government are regularised, that is either paid in full or converted to debt that is being serviced, no more ABSS reserves should be lent to the Government or any statutory body that is in arrears. The ABSSB should also not guarantee any loans on behalf of the Government nor finance any government projects. In consideration for amounts owed, the Board should not accept any additional land transfers. Such real-estate is likely to be illiquid and given the already high percentage holdings of real estate, together with financial projections for negative cash flows in the short- to medium-term, it would not be an appropriate investment for the Fund. (Section 5)

Also considered both urgent and important is the need for public disclosure. For years, the ABSSB has not made public its financial statements and actuarial reports. (Section 4.4.2) The Board is encouraged to impress upon the Government the need for transparency and openness regarding ABSS affairs and immediately share the findings, projections and recommendations of this actuarial review as well as annual financial statements with the general public.

With the projected depletion of the ABSS reserves within the next 30 years, the Board should also begin to focus on ways of strengthening the Fund for the long term. But given that such measures are not as urgent as others mentioned above, it is recommended that these be deferred until the next actuarial review and that the financial issues and policy aspects – especially those pertaining to the low level of pensions and insurance coverage – should be addressed immediately. Issues pertaining to the future strengthening of the system include increasing the contribution rate, changing the way in which pensions are calculated and increasing the normal pension age from 60 to possibly 65.

Although the ABSS cannot be accurately categorised at this time as being in crisis, its current financial position and the projected depletion of reserves would demand that the

Board and Government take immediate corrective measures. The longer changes are deferred, which aim to improve current finances and bring long-term sustainability to the Fund, the more drastic future reforms will have to be. Therefore to return the ABSS to a well respected organisation both within Antigua-Barbuda and the CARICOM region, the ABSS should establish short- and medium-term strategic objectives, the main ones being:

- (a) Improving current finances by collecting all amounts due in cash,
- (b) strengthening the balance sheet by converting receivables to cash and income-producing investments, and
- (c) improving long-term finances and sustainability by making reforms aimed at ensuring that future generations of contributors will not be forced to pay excessive contribution rates.

1. Antigua-Barbuda Social Security Review of financial experience and other activities

1.1 Amendments to Antigua-Barbuda *Social Security Act* and regulations

In December 2000, one amendment was made to the *Social Security Act* and several others were made to the Regulations. The amendment to the section 14(1) of the *Act* provided for additional ways in which Antigua-Barbuda Social Security Fund (ABSSF) moneys may be expended, particularly for the development of housing estates and the sale of such estates. The amendment also enabled the Fund to finance or guarantee the financing of public projects approved by the Antigua-Barbuda Social Security Board (ABSSB).

The amendments made to the various Regulations that became effective on 1 January 2001 were:

- All Age, Invalidity and Survivors' pensions-in-payment were increased by 10 per cent.
- The minimum monthly Age, Invalidity and Survivors' pension was increased from EC\$136.50 to EC\$150.15.
- The minimum Age and Invalidity grant was increased from EC\$450 to EC\$1,200.
- The Maternity grant was increased from EC\$400 to EC\$560.
- The Funeral grant was increased from EC\$2,000 to EC\$2,500.
- The maximum period for which Sickness benefit could be payable was extended by a further 13 weeks, subject to a second medical certificate being secured.
- The definition of "invalid" was changed to include persons whose disability was due to an employment injury.
- For Survivors' pensions to children, the benefit rate was changed from 40 per cent for orphans and invalid children and 20 per cent for other children to 25 per cent for all children and the limit for payment of only two children if a spouse was also entitled was changed so that more than two children may receive benefits.
- Introduced a time limit of one year from the date of death of the insured for application for Survivors' benefit.

In March 2001, the following changes were made to the Self-Employed Persons Regulations:

- Coverage was made compulsory after being voluntary since 1981.
- All references to Deduction cards were removed.
- Persons making less than EC\$450 per month will be exempt from making contributions.

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- Qualifying conditions for Sickness and Maternity benefits were made more stringent than for employed persons.
 - Surcharges on unpaid contributions will be levied at a rate of 10 per cent of the amount owing.
 - Failure to comply with the Self-employed Regulations was made an offence and liable to a fine upon summary conviction.
 - Introduction of two earnings bands into which various occupations of self-employed persons have been placed for the purpose of making contributions.

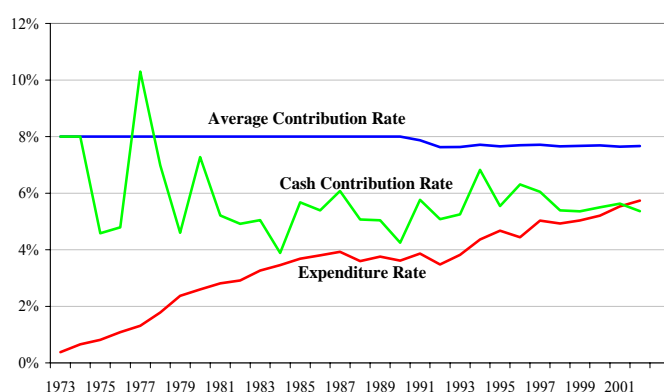
In 2002, several amendments were made to correct errors in previous amendments and to clarify what earnings would be used to calculate short-term benefits for self-employed persons. Also, the method of calculating surcharges on outstanding contributions was changed so that now surcharges are compounded at the rate of 10 per cent each month on the outstanding amount, instead of only a single 10 per cent charge for any month's contributions due.

1.2 Financial Experience, 1973 – 2002

The Antigua-Barbuda Social Security (ABSS) began operations in April 1973 introducing a defined-benefit system of social security. Since then two main types of social security benefits have been offered – long-term benefits or pensions and short-term benefits.

The following charts illustrate various aspects of ABSSF's financial experience between 1973 and 2002. Together, these charts highlight the gradual maturing of Antigua-Barbuda's social security system by comparing annual contribution and expenditure rates, the change in the relative funded level over time, changes in the relative size of the two main benefit types as a proportion of total benefit expenditure, the yield on reserves and level of operating costs. The trends noted in each chart are consistent with the type of social security scheme and the financing method adopted at inception.

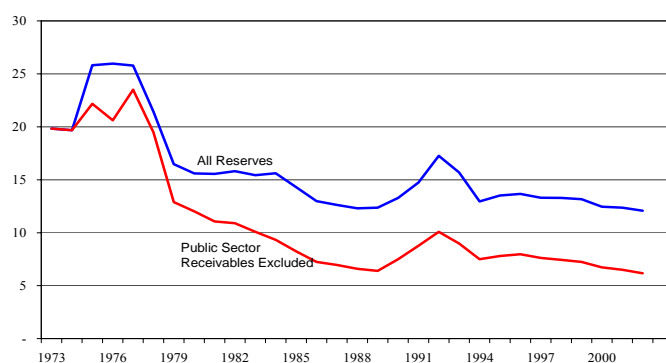
Chart 1.1: ABSS Contributions and expenditure, 1973 – 2002 (as a % of insurable wages)



When expenditure is expressed as a percentage of insurable earnings, it can be readily compared with the contribution rate. Two contribution rates are shown – the actual average rate applied to insurable wages (now 7.7%) and the effective “cash” contribution rate which is lower given the shortfall in contribution collections, due mainly from Government.

If expenditure exceeds contributions, investment income is required to meet expenditure. From a cash perspective, this occurred for the first time in 2002.

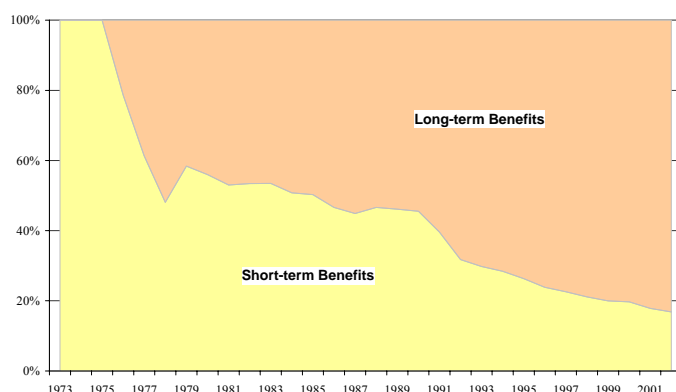
Chart 1.2: ABSS Reserve-to-expenditure ratio, 1973 - 2002



The reserve-to-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.

Given the significant portion of reserves supported by amounts due from the public sector, a ratio using reserves less amounts due from this sector is also shown. At the end of 2002, the full RER stood at 12.1, but 6.2 when only invested assets are used. Continued decline in the RER will occur as the scheme matures unless the contribution rate is increased.

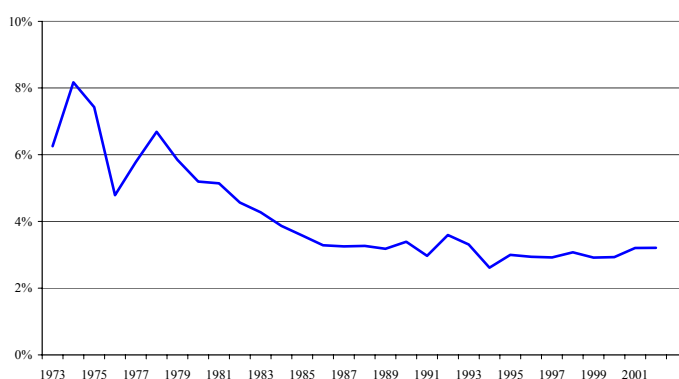
Chart 1.3: ABSSF distribution of benefit expenditure, 1973 - 2002



As ABSS has matured, the proportion of benefit expenditure relating to long-term benefits or pensions has increased gradually. In 2002, long-term benefits accounted for 83% of benefit expenditure with short-term benefits making up the remaining 17%.

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

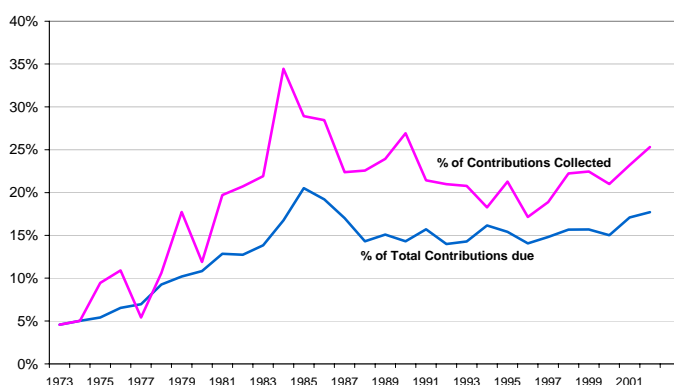
Chart 1.4: ABSSF yield on reserves, 1973 – 2002 (% per annum)



With total contributions (cash plus non-cash) exceeding expenditure in each year to date, the ABSSF has grown to over EC\$500 million at the end of 2002 and the investment earnings on these assets have become a significant portion of income.

Since a large portion of ABSSF assets are accounted for as accounts receivables and are not accruing interest, the yield on reserves has been well below market rates of return, averaging 3.0% over the past 10 years. When inflation is factored in, the real rate of return over the same period has been only 0.7%.

Chart 1.5: ABSS administrative expenditure, 1973 – 2002 (as % of contribution income)



Over the past few years, there has been a gradual increase in the portion of total contribution income consumed by administrative costs – 17.1% in 2002. If only cash contributions are considered, more than 25% goes towards operating costs.

By most measures, these rates are high and thus steps aimed at reducing operating costs should be considered so that a larger portion of income can be invested for the payment of future benefits.

A substantial portion of ABSSF income is not being received in cash as government and several statutory bodies are not current with their contributions and are also in arrears with loans, rent and repayments of interest on bonds and Treasury Bills. ABSSB financial statements are prepared on an accrual basis with surcharges charged to outstanding contributions and interest. However, no surcharges are being charged on outstanding government contributions and no interest is being charged on the outstanding interest for loans, Treasury bills and bonds. This is further discussed in Sections 4.2.5 and 4.2.6.

To properly illustrate ABSSF finances between 1999 and 2002, two sets of summary income and expenditure tables are presented – one taken directly from the audited financial statements and another prepared on a cash basis by the actuary. For the cash basis financials, it is assumed that all “Other income” and surcharges are collected in cash. Additional financial details may be found in Appendix III.

Table 1.1: Summary of ABSSF finances - Accrual basis, 1999 – 2002 (millions of EC\$)

	1999	2000	2001	2002
Income				
Contributions	49.5	54.6	54.8	57.9
Investment	11.9	12.8	15.0	16.0
Other	1.4	1.6	1.7	1.8
Total	62.8	69.0	71.5	75.7
Expenditure				
Benefits	24.4	28.7	30.3	33.1
Administrative	7.8	8.2	9.4	10.3
Other	0.3	-	-	-
Total	32.5	36.9	39.7	43.4
Excess of income over expenditure	30.3	32.1	31.8	32.3
End-of-year reserves	427.6	459.7	491.5	523.8

Table 1.2: Summary of ABSSF finances – Cash basis, 1999 – 2002 (millions of EC\$)

	1999	2000	2001	2002
Income				
Contributions	34.6	39.0	40.4	40.6
Investment	7.1	7.8	8.5	8.7
Other	1.4	1.6	1.7	1.8
Total	43.1	48.4	50.6	51.1
Expenditure				
Benefits	24.4	28.7	30.3	33.1
Administrative	7.8	8.2	9.4	10.3
Other	0.3	-	-	-
Total	32.5	36.9	39.7	43.4
Excess of Income over Expenditure	10.6	11.5	10.9	7.7

As noted from Table 1.2, the annual cash surplus from normal operations fell in 2001 and 2002. Actual cash flows have also been negatively affected by the monthly payments that the ABSSB has been making as guarantor of a government loan.

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. The following table provides a summary of several key performance indicators and coverage and benefit design parameters as at 2002.

Table 1.3: Current ABSS design parameters and performance indicators, 2002

	Rate	Comments
Ratio of ceiling to average insurable wage	1.9	Ceiling low & should be increased.
Minimum pension as % of average insurable wage	6.5	Minimum pension very low. Needs to be increased.
Average old-age pension as % of average insurable wage	22.0	Low given 31 years of existence.
Number of contributors per pensioner	5.9	Will decrease as system matures.
Social security benefits & pensions as % of GDP	27.0	Consistent with age of system, contribution rate and benefit rates.
Social security reserves as % of GDP	1.7	
Average contribution rate as % of insurable wages	7.7	Not all contributions received in cash.
Expenditure rate as % of ins. Wages	5.7	Higher than "cash" contribution rate in 2002
Investment income expressed as % of insurable wages	2.1	Very low.
3-year average nominal yield on reserves as %	3.1	Very low as large portion of reserves not invested & interest not charged on unpaid interest. Inflation low in recent years.
3-year average real yield on reserves (net of inflation) as %	1.5	
Administrative expenses as a % of insurable wages	1.4	Slightly high.
% of assets held in government securities	39.0	Acceptable in normal circumstances but high given government's past failure to meet its commitments.
% of assets accounted for as receivables	52.0	Extremely high.
Reserve-to-expenditure ratio	12.1	Acceptable for 31 year-old system

The first six indicators provide an indication of the level of social protection coverage presently being offered by the ABSS and its significance relative to the population and economic factors. Most noteworthy among these parameters are the low minimum pension and overall average Age pension relative to average insurable earnings. Items 7 through 15 provide an indication of ABSS' financial and administrative performance. While most indicators suggest performance consistent with the nature of the system, the large amount due to the ABSSF from various sources impacts significantly the overall contribution of returns on investments to the Fund.

1.4 Investment performance

At the end of 2002, ABSSF investments stood at EC\$234.8 million compared with reserves of EC\$524 million. This means that only 45 per cent of the assets supporting reserves are invested and producing returns. Most of the remaining assets are accounted for as accounts receivables, mainly contributions and interest due from Government and statutory bodies. These account for 52 per cent of total assets.

Although the rates of return on invested assets is good, over 7 per cent, the return on reserves which is the more important measure is very low – average of only 3.1 per cent between 1998 and 2002. This rate is only slightly above inflation and thus real rates of return are barely positive.

The following table provides a summary of the investment mix at year-end 2002 and 1998.

Table 1.4: Summary of ABSSF investments, year-end 1998 and 2002 (millions of EC\$'s)

Investment category	1998		2002	
	\$'s	%	\$'s	%
Cash and fixed deposits	94.3	48.7	68.0	29.0
Government securities	58.3	30.1	92.2	39.3
Statutory bodies	6.7	3.5	31.5	13.5
Loans	2.0	1.0	1.3	0.6
Housing and mortgages	9.5	4.9	16.1	6.9
Equities	3.1	1.6	3.1	1.3
Properties	19.8	10.2	21.9	9.4
Total	193.7	100.0	234.1	100.0

A detailed analysis of investments as listed in the 2002 audited financial statements reveals the following:

- 39 per cent is held directly in government securities – Treasury bills, bonds and loans. Of these investments, the repayments on EC\$57.6 million in government Development Bonds were in arrears and no payments were received on the Hurricane Luis loan since 1998.
- 13 per cent is held in loans to several Statutory bodies and shares in another – National Mortgage & Trust Company. By value, 19 per cent of the loans are in arrears. Some of these loans are backed by Government of Antigua-Barbuda guarantees.
- In total, 28 per cent of investments are non-performing.
- 29 per cent of the investments are held in short-term fixed deposits at various commercial banks.
- The entire portfolio is invested locally.

During the period 1999 to 2002 there was a reduction in the amount held in cash and fixed deposits and an increase in the amount held in government and Statutory Body securities. This indicates increased borrowing by the Government and Statutory bodies and a sign that current income from contributions and investments is insufficient to meet the benefit and

administrative expenditure plus public-sector lending. Recommendations on investments are provided in Section 5.

1.5 Benefit experience and Branch analysis

The ABSS administers two major types of social security benefits – long-term or pensions and short-term benefits. While the projections presented in Section 3 combined all benefit expenditure, internal accounting procedures separate them into two 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, 75 per cent, equivalent to approximately 5.75 per cent of insurable wages. Benefits payable from this Branch are Age, Invalidity and Survivors' pensions and grants and Assistance pension.

Over 80 per cent of ABSSF benefit expenditure relates to this Branch, since most pensions are payable for life. As a result, LTB Branch expenditure will continue to increase as more pensioners with larger pensions are added.

At 31 December 2002, LTB Branch reserves stood at EC\$399 million or 11.4 times expenditure in 2002. (The amount of reserves relative to annual expenditure is a useful measure of how well benefits are funded. While a ratio of just over 11 for pensions indicates that reserves are insufficient to cover total accrued liabilities, it is consistent with the partial-funding method adopted by ABSSB.)

Expenditure by category of pension for 1999 to 2002, expressed as a percentage of insurable wages, is shown in Table 1.5, along with total Branch expenditure. (Actual amounts paid by benefit type are provided in Appendix III.)

Table 1.5: ABSSF Long-term Benefits Branch expenditure, 1999 - 2002

	1999	2000	2001	2002
Age pensions (% of insurable wages)	2.60	2.81	3.03	3.21
Invalidity pensions (% of insurable wages)	0.08	0.10	0.10	0.11
Survivors' pensions (% of insurable wages)	0.18	0.20	0.21	0.21
Assistance pensions (% of insurable wages)	0.17	0.15	0.13	0.12
Administrative expenses (% of insurable wages)	0.86	0.82	0.93	0.97
Total LTB (% of insurable wages)	3.89	4.08	4.40	4.62
Total LTB (millions of EC\$'s)	19.5	23.1	24.9	27.5

As shown, Branch expenditure increased each year but remains below the 5.75 per cent of insurable wages allocated in contributions.

The following table highlights pension activity between year-ends 1998 and 2002. While the number of Old-age, Invalidity and Survivors' pensioners increased, the number of Assistance pensions-in-payment decreased. However, the average weekly pension amounts for all contributory benefits have increased with the Assistance pension rate unchanged.

Table 1.6: ABSS pensions-in-payment, awarded and terminated, 1998 – 2002

	Paid in Dec. 1998	Awarded 1999 - 2002	Terminated 1999 - 2002	Paid in Dec. 2002	Average weekly pension (EC\$)	
					Dec. 1998	Dec. 2002
Age	3,365	1,104	602	3,867	391.22	544.48
Invalidity	127	118	103	142	391.38	539.77
Survivors'	615	416	284	747	144.04	171.03
Assistance	699	172	348	523	136.50	136.50

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 Short-term Benefit Branch (STB) will hold only small reserves, if the LTB Branch becomes exhausted, depletion of the entire ABSSF would follow shortly thereafter. Therefore, future contribution rate increases will be required, with most of the increased revenue allocated to the LTB Branch.

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 years, the allocation rate is considered adequate.

The benefits covered under the STB Branch are Sickness benefit, Maternity Allowance (benefit and grant), Funeral grant as well as Age, Invalidity and Survivors' grants. Each year, 25 per cent of contribution income (approximately 1.92 per cent of insurable wages) 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\$104 million, or 12.2 times Branch expenditure in 2002.

A summary of STB Branch experience for 1999 to 2002 is provided in Tables 1.7 to 1.10.

Table 1.7: ABSS sickness benefit experience – STB Branch, 1999 - 2002

Year ended	# Claims awarded per 1,000 Insured persons	Average benefit duration (days)	Average weekly benefit (EC\$)	Cost (% of insurable wages)
1999		7.9	323.60	0.32
2000	139	8.8	323.39	0.31
2001	147	8.6	325.48	0.30
2002	136	9.1	323.36	0.31

Table 1.8: ABSS maternity benefit experience – STB Branch, 1999 - 2002

Year ended	# Claims awarded per 1,000 Insured persons	Average benefit duration (days)	Average weekly benefit (EC\$)	Cost (% of insurable wages)
1999		77.1	\$232.41	0.30
2000	23	77.1	\$239.35	0.32
2001	21	77.0	\$241.65	0.31
2002	18	77.0	\$263.14	0.28

Table 1.9: ABSS maternity grant and funeral grant experience – STB Branch, 1999 - 2002

Year	# births	# grants awarded	Cost (% of insurable wages)	# deaths	# grants awarded	Cost (% of insurable wages)
1999	1,329	705	0.04	508	171	0.06
2000	1,528	872	0.06	447	216	0.08
2001	1,366	785	0.06	457	186	0.06
2002	1,202	704	0.05	409	189	0.06

Table 1.10: ABSS grants, administrative and total expenditure – STB Branch, 1999 - 2002 (% of insurable wages)

	Age/invalidity & survivors' grants	Administration and other expenditure	Total Branch expenditure
1999	0.03	0.34	1.10
2000	0.02	0.33	1.13
2001	0.02	0.37	1.13
2002	0.04	0.39	1.13

With an allocation of 1.92 per cent of insurable earnings plus investment returns, the STB Branch incurred surpluses each year. Estimates of STB Branch annual expenditure for the next three years are shown in Table 1.11.

Table 1.11: ABSS projected STB Branch costs (% of insurable wages)

Benefit/expense	Estimated cost next 3 years
Sickness benefits	0.30
Maternity benefits	0.30
Maternity grants	0.05
Funeral grants	0.07
Age/invalidity and survivors' grants	0.03
Administration expenses	0.40
Total	1.15

1.5.3 *Allocation of contribution income by Benefits Branch and transfer of reserves*

At the end of 2002 the STB had excessive reserves – EC\$104 million or 12.2 times expenditure in 2002. This large surplus has accumulated as the portion of contribution income allocated has historically exceeded expenditure. An adequate funding level for the STB Branch is 1 times annual expenditure – approximately EC\$9 million. With additional surpluses accruing in 2003, a transfer of EC\$100 million to the LTB Branch is recommended. As indicated in section 1.5.2, expenditure in the coming years is expected to be much less than current allocations to the STB Branch. Therefore, a reduction in the allocation of contribution income to the STB Branch is recommended. For the next three years, the recommended allocations of contribution income are:

- STB Branch: 1.15 per cent of insurable wages or 15 per cent of contribution income.
- LTB Branch: 6.52 per cent of insurable wages or 85 per cent of contribution income.

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

2. Population and economic projections

Future Antigua-Barbuda Social Security Fund (ABSSF) 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 ABSSF finances, projections of Antigua-Barbuda's total population and economic activity are required.

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

For this review 60-year projections of the population, economy and ABSSF finances have been performed. The assumptions for these projections have been developed following considerations of historical trends and reasonable future expectations. Since the population and economic projections are only an intermediary step to ABSSB projections, only a summary of the assumptions and projection results are discussed in this section. Further details may be found in Appendices II.

2.1 Demographic and economic 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 Antigua-Barbuda 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.² Between 1991 and 2001 the population increased from 63,880 to 75,741, or close to 12,000 people for an average annual growth rate of 1.7 per cent. With the number of births exceeding the number of deaths over the same period by nearly 9,000, there was net in-migration of approximately 3,000 persons, an average of 300 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 Antigua-Barbuda TFR is estimated at around 2.0 in 2002, having fallen from around 2.3 in 1991.

Life expectancy at birth in 2003 has been estimated at 70.7 for males and 76.4 for females. While further improvements in life expectancy are expected, the increasing prevalence of HIV and AIDS in Antigua-Barbuda may retard the rate of previously expected improvements. For these projections improvements in mortality are assumed to occur in accordance with UN estimates. While deaths due to HIV and AIDS have not been explicitly accounted for, the rate of mortality improvements chosen considers the effects of the HIV/AIDS pandemic. With the above assumptions, life expectancy at birth in 2062 is

² Totals by parish only but no details by age and sex.

estimated to be 77 for males and 83 for females. At age 60, life expectancy is projected to increase from 18 to 22 years and from 21 to 26 years for males and females, respectively.

The economic projections prepared for this report assume stable and positive economic growth and labour productivity in all years. Although simplistic, they approximate usual economic cycles and volatility that encompass periods of expansion and recession. They also account for projected changes in the population and labour force that will provide the capacity for additional output through more workers and increased productivity.

The following table indicates the principal demographic and economic assumptions used for the projections. Further details may be found in Appendix II.

Table 2.1: Principal assumptions for population and economic projections

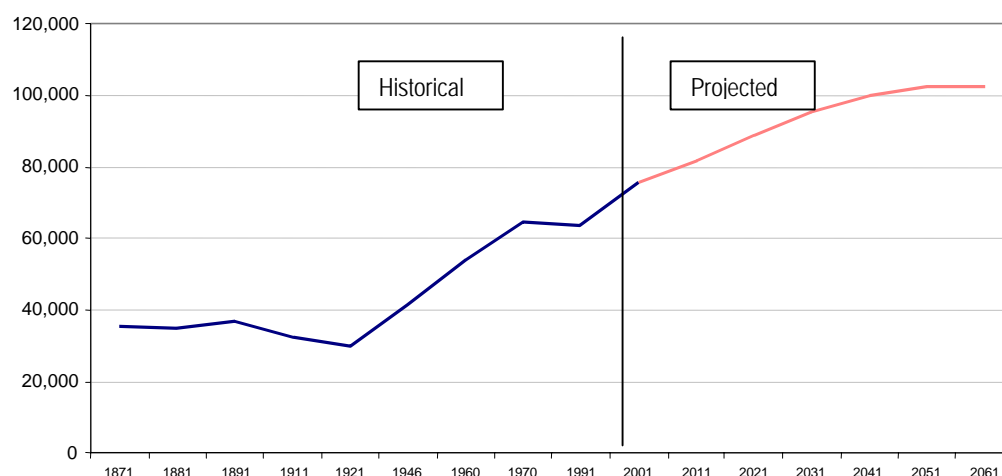
Assumption		
Ultimate fertility (from 2.0)		TFR of 1.85 by 2021
Mortality improvements ¹		Slow rate
Net outward migration		Decrease from 200 persons in 2001 to 100 in 2021, then to 0 in 2041, constant thereafter
Real GDP Growth (% per annum)	Short-term	2.5
	Medium-term	2.0
	Long-term	1.5
Inflation (% per annum)		2.5

¹ UN mortality improvement rates.

2.3 Population projections to 2062

The following chart shows how Antigua-Barbuda's population has changed since 1871 along with the projected population.

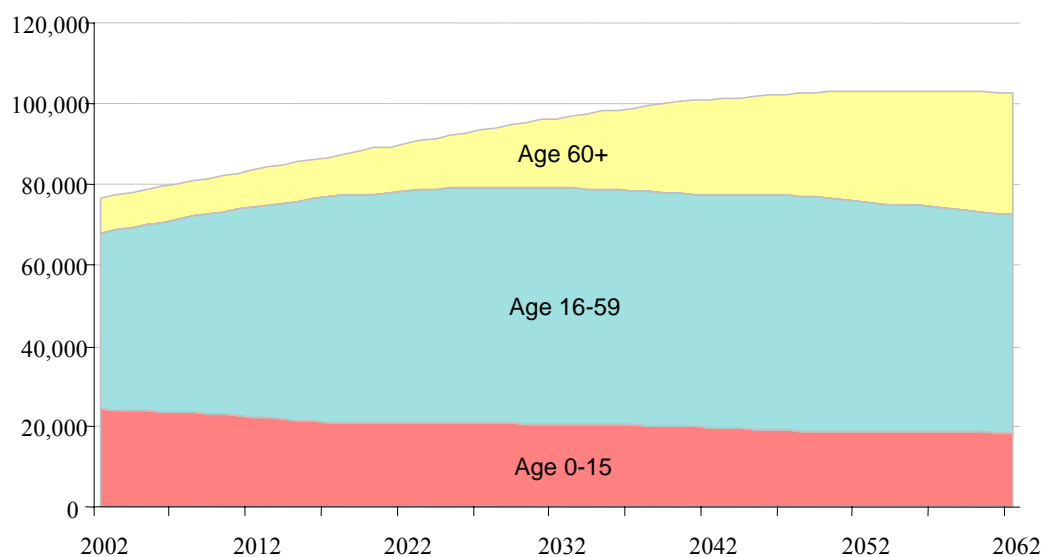
Chart 2.1: Historical Antigua-Barbuda population and projections, 1871 – 2062 (no. of persons)



The age distribution of the total population is shown below. The changes in the relative size of each age group – fewer children and many more pension-age persons - illustrate the

forecasted ageing of Antigua-Barbuda's population. Such ageing is a direct result of reducing birth rates and improvements in longevity.

Chart 2.2: Projected Antigua-Barbuda population distribution by age-group, 2002 - 2062



Highlights of these population projections are:

- The total population will increase to just over 100,000 around 2040, remaining relatively constant thereafter.
- The number of children will fall by almost 25 per cent over the next 60 years while there will be almost five times as many residents aged 60 and over.
- In the late 2030's, Antigua-Barbuda will have more pension-age residents than children.
- The number of working-age persons for each pension-age resident will fall from 7.2 to 1.8.

For ABSS, where pension payments to the elderly already represent more than two-thirds of benefit payments, the projected change in the population's age structure has significant long-term financial consequences. Population ageing will also create major challenges for the Antigua-Barbuda 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 ABSSB are required to ensure that the needs of future generations will be sufficiently met.

Table 2.2: Projected Antigua-Barbuda population, 2001 - 2062

Year	Total	Age 0 - 15	Age 16 - 59	Age 60 & over	Ratio of Persons 16-59 To 60 & Over
2001	75,743	24,443	42,927	8,373	5.1
2002	76,458	24,387	43,610	8,461	5.2
2003	77,173	24,297	44,341	8,535	5.2
2004	77,883	24,167	45,119	8,597	5.2
2005	78,591	24,005	45,937	8,649	5.3
2006	79,296	23,822	46,778	8,696	5.4
2007	80,000	23,628	47,631	8,741	5.4
2012	83,451	22,453	51,898	9,100	5.7
2022	90,060	20,898	57,362	11,800	4.9
2032	96,397	20,607	58,403	17,387	3.4
2042	100,900	19,876	57,711	23,313	2.5
2052	102,872	18,840	56,980	27,052	2.1
2062	102,482	18,437	54,141	29,904	1.8

3. Actuarial projections of the Antigua-Barbuda Social Security Fund under present provisions

This section presents and analyses projections of Antigua-Barbuda Social Security Fund (ABSSF) 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 (ABSSF) 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.

These projections are based on results of the population and economic projections presented in Section 2, several social security specific assumptions and the contribution and benefit provisions in place on valuation date 31 December 2002. 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 from EC\$4,500 to EC\$6,000 per month in mid-2005 with annual adjustments equal to the increase in average national wages beginning in 2006.
- Short-term Benefits Branch expenditure will increase from 0.73 per cent to 1 per cent of insurable wages between 2003 and 2062.
- Pensions-in-payment will increase by an average of 15 per cent in 2005 and annually thereafter by 2.5 per cent. Minimum monthly pensions are assumed to increase in 2005 to EC\$325 for Age/Invalidity pensions and the Assistance pension to ECEC\$225 per month.
- 15 new Assistance pensioners will be added each year.
- The yield on reserves is assumed to increase from 3.15 per cent in 2003 and 2004 to 5 per cent in 2007 on the premise that accounts receivables will be converted to investments.
- Administrative costs are assumed to decline from 1.35 per cent to 1.1 per cent between 2003 and 2022, remaining constant thereafter.
- All amounts owed by the Antigua-Barbuda Government and other agencies will be recoverable at their current carrying value.³

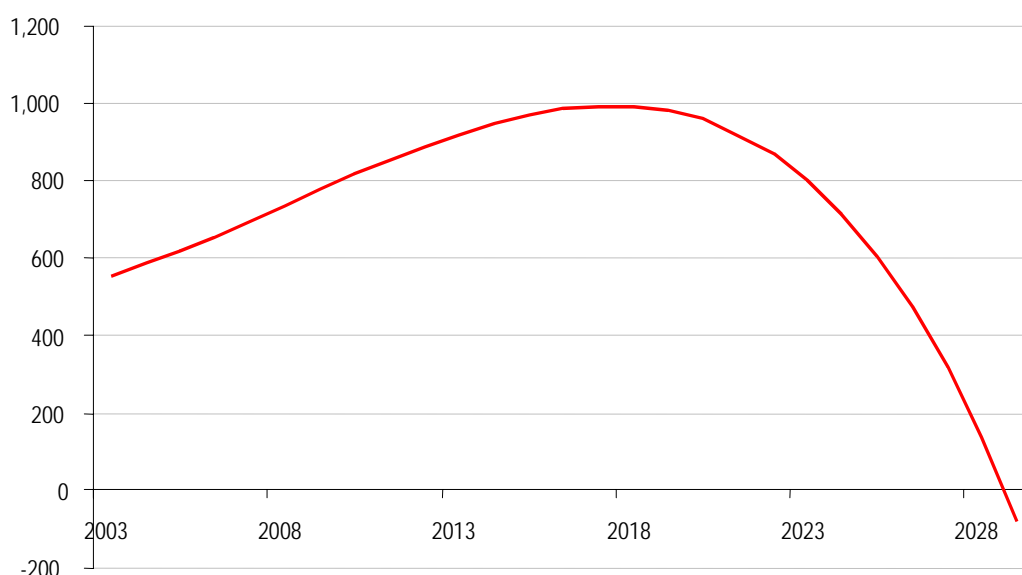
3.1 Baseline projection results

For accounting purposes, ABSSF finances are separated into the Short-term and Long-term Benefit Branches (STB and LTB), representing the two major benefit types that are offered. However, provisions exist for transferring reserves between Branches and changing income allocations. Therefore, shortfalls in one Branch may be met from surplus reserves of the other. For this report, the projections for the two Benefit Branches have

³ Assumes that all accounts receivables are paid.

been consolidated so that the complete financial picture may be shown. Also, these projections are accrual-based in that contributions and interest income include amounts that are due but may not be received in cash. Short-term cash-based projections are presented in Section 3.4. Projected total ABSSF reserves are illustrated in the following chart.

Chart 3.1: Projected ABSSF reserves, 2003 – 2028 (millions of EC\$'s)



As illustrated, reserves are projected to continue growing through 2018, reaching just under twice their 2002 level. 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 3.1 is normal if the contribution rate remains below the true cost of benefits while the number of contributors per pensioner falls.

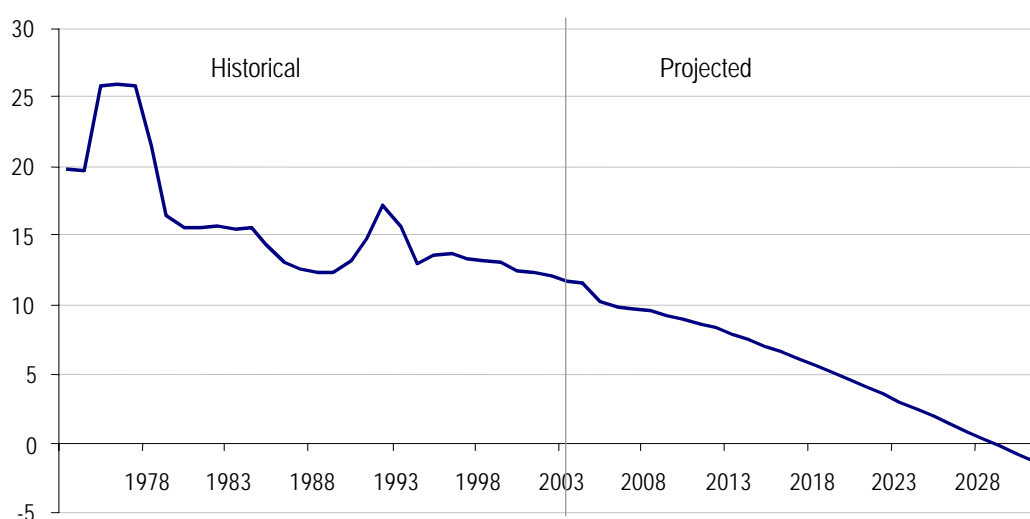
The following table summarises the years in which key financial events are expected to occur.

Table 3.1: Main ABSSF projection results

	Year
Year expenditure first exceeds contribution income	2011
Year expenditure first exceeds total income	2018
Year reserves depleted	2029

While total reserves are projected to continue increasing for several more years, ABSSF's relative level of funding is expected to decrease over time. As the following chart illustrates, the reserve-to-expenditure ratio which has generally declined over ABSS' first thirty years will continue to fall as expenditure will be increasing at a faster rate than reserves, unless the contribution rate is increased or benefit reforms made.

Chart 3.2: ABSSF historical and projected reserve-to-expenditure ratios, 1973 - 2028



Numerical details of the financial and demographic projections are provided in Tables 3.2 to 3.4. For selected years between 2002 and 2062 these tables show:

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

Table 3.2: Projected ABSSF income, expenditure and reserves, 2003 - 2062 (millions of EC\$'s)

Year	Cash Inflows				Cash Outflows			Surplus/ (Deficit)	Reserves	
	Contribution Income	Investment Income	Other Income	Total	Benefits & Pensions	Admin. & Other Expenses	Total		End of Year	# of times current year's expenditure
2002	57.9	16.0	1.8	75.7	33.1	10.3	43.4	32.3	523.9	12.1
2003	60.6	16.7	0.3	77.6	36.6	10.6	47.2	30.4	554.3	11.7
2004	65.4	17.7	0.3	83.4	39.5	11.4	50.9	32.5	586.8	11.5
2005	70.6	20.7	0.4	91.7	48.4	12.1	60.5	31.2	618.0	10.2
2006	75.4	24.9	0.4	100.7	53.0	12.9	65.9	34.8	652.8	9.9
2007	79.1	32.9	0.4	112.4	57.9	13.4	71.3	41.1	693.9	9.7
2008	83.0	34.9	0.4	118.1	63.3	13.9	77.2	40.9	734.8	9.5
2012	99.6	42.4	0.5	142.5	91.6	16.0	107.6	34.9	887.4	8.2
2022	146.6	43.6	0.7	190.9	221.8	21.2	243.0	(52.1)	868.1	3.6
2032	204.7	0.0	1.0	205.7	460.3	29.2	489.5	(283.8)	0.0	0.0
2042	286.1	0.0	1.4	287.5	787.5	40.9	828.4	(540.9)	0.0	0.0
2052	394.5	0.0	2.0	396.5	1,124.8	56.4	1,181.2	(784.7)	0.0	0.0
2062	519.7	0.0	2.6	522.3	1,562.8	74.2	1,637.0	(1,114.7)	0.0	0.0

Table 3.3: Projected ABSSF benefit expenditure, 2003 - 2062 (millions of EC\$'s)

Year	Pensions, Grants & Benefits					Benefits as a % of:	
	Age	Invalidity	Survivors	Assistance	Short-term	Insurable Wages	GDP
2002	24.3	0.8	1.6	0.9	5.6	4.4%	1.7%
2003	27.4	0.9	1.7	0.8	5.7	4.7%	1.8%
2004	29.7	1.0	1.8	0.8	6.2	4.7%	1.8%
2005	37.0	1.3	2.1	1.1	6.8	5.3%	2.1%
2006	40.9	1.5	2.3	1.1	7.3	5.4%	2.2%
2007	45.1	1.6	2.4	1.0	7.7	5.6%	2.3%
2008	49.8	1.8	2.6	0.9	8.1	5.9%	2.4%
2012	74.9	2.8	3.2	0.8	10.0	7.1%	2.9%
2022	192.9	6.5	6.2	0.7	15.6	11.7%	4.7%
2032	411.8	12.6	12.2	0.8	22.9	17.3%	6.7%
2042	711.0	19.7	21.9	1.1	33.8	21.2%	8.0%
2052	1,010.1	29.2	35.1	1.4	48.9	22.0%	8.3%
2062	1,402.5	40.9	50.1	1.8	67.5	23.2%	8.5%

Note: Age pensions includes Transitional & Reduced Age pensions

Table 3.4: Projected ABSS contributors and pensioners at year-end, 2003 - 2062

Year	# of Contributors	# of Pensioners				Total # of Pensioners	Ratio of Contributors to Pensioners
		Age	Invalidity	Survivors	Assistance		
2002	30,817	3,867	142	719	523	5,251	5.9
2003	31,615	4,070	164	797	480	5,511	5.7
2004	32,499	4,288	185	829	439	5,741	5.7
2005	33,069	4,542	207	865	403	6,017	5.5
2006	33,645	4,820	228	900	370	6,318	5.3
2007	34,219	5,111	250	925	340	6,626	5.2
2008	34,788	5,416	272	944	313	6,945	5.0
2012	36,877	6,846	365	972	235	8,418	4.4
2022	39,692	11,737	632	1,087	166	13,622	2.9
2032	40,885	17,829	913	1,371	161	20,274	2.0
2042	42,665	22,113	1,089	1,678	161	25,041	1.7
2052	43,898	23,632	1,222	1,882	161	26,897	1.6
2062	43,041	25,265	1,288	1,946	161	28,660	1.5

Note: Age pensioners includes Transitional & Reduced Age pensioners

The projected ageing of the general population is also noticeable in social security demographic projections. As shown above, the number of contributors is only expected to increase from around 31,000 to 44,000 and then decrease slightly, while the number of pensioners is projected to increase more than five times, to almost 29,000. As shown in

the last column of the Table 3.4, the number of contributors relative to the number of pensioners will fall dramatically from 5.9 in 2002 to 1.5 in 2062.

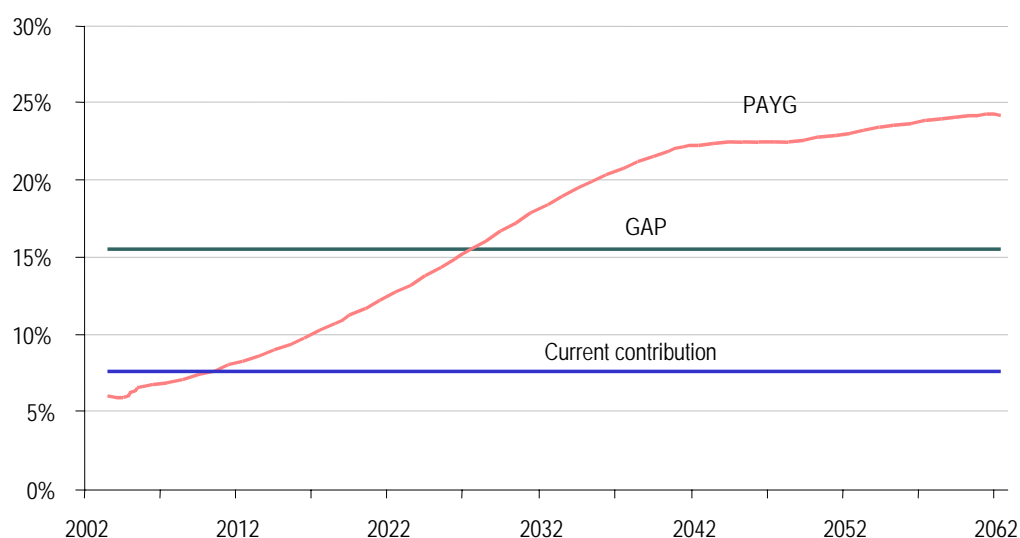
As ABSS benefits are only partially funded, future generations of contributors will help meet the benefit costs of previous generations. With the projected decline in the number of contributors to pensioners, and the expected trends for income and expenditure, future smaller generations of workers will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

3.2 Projected ABSSF financing requirements

The cost of ABSS 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 it is increasing gradually.

The second rate, called the general average premium (GAP), is the average level contribution rate required over the next 60 years to fully cover total expenditure during that period. This rate may be looked at as the long-term cost of the complete ABSS benefits package. In Chart 3.3 the relationships between the PAYG rate and the GAP and the present contribution rate, can be readily noted.

Chart 3.3: ABSSF projected contribution rates, 2003 – 2062 (% of insurable wages)



As shown above, the current average contribution rate of 7.7 per cent is today slightly higher than the PAYG rate but it is well below the GAP of 15.4 per cent. The increasing PAYG curve that eventually exceeds the current contribution rate indicates that contributions are now sufficient to meet expenditure but will be insufficient beginning in 2011. 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 25 per cent will be required to meet current expenditure. The following table shows the GAP and PAYG rate for selected years.

Table 3.5: Projected ABSSF contribution rates for different time intervals (as % of insurable wages)

GAP	PAYG rate			
	in 2003	in 2022	in 2042	in 2062
15.4	6.0	12.8	22.3	24.3

If the contribution rate is not adjusted prior to reserves being depleted, the contribution rate would have to be increased to 16.7 per cent in 2029 when reserves are exhausted and then each year thereafter as indicated by the PAYG rate shown in Chart 3.3.

3.3 Sensitivity tests

This section analyses several additional projections of ABSSF finances, showing the effect of different assumptions on long-term costs. Any change in the GAP may be considered the change in the long-term cost of social security benefits.

3.3.1 *Smaller pension adjustments*

One of the critical assumptions of these projections is the frequency and amount of pension increases. While regular pension adjustments are not legislated it is envisaged that from time to time pensions will be adjusted to offset reduced purchasing power due to inflation. Annual pension increases have been assumed to be equal to inflation of 2.5 per cent. If instead, pension increases average 2 per cent per annum, long-term costs will be lower with the GAP being 14.7 per cent instead of 15.4 per cent, the PAYG rate in 2062 would be 1.4 per cent lower and reserves would be depleted in 2030 instead of 2029.

3.3.2 *Lower or higher rates of returns on reserves*

At the end of 2002, ABSSF reserves stood at EC\$524 million and rates of returns on these reserves have been extremely low, just over 3 per cent, as almost one-half of the reserves are not backed by investments. For the projections previously discussed, it was assumed that returns on reserves would increase to 5 per cent per annum once accounts receivable were converted to investments. If this does not occur and returns remain at 3.15 per cent for the long term, reserves would be exhausted in 2027 instead of 2029 and the GAP would be 17.2 per cent instead of 15.4 per cent. On the other hand, if nominal long-term returns of 6 per cent per annum could be achieved as currently earned by other Organisation of Eastern Caribbean States' (OECS) social security funds, the GAP would be 1 per cent lower and reserves would be depleted in 2031 instead of 2029. This shows that although the return on reserves does not have that much effect on when reserves will be depleted, it does have a major impact on the contribution rate required to finance future benefits.

Table 3.6: Sensitivity tests results

Projection scenarios	GAP (%)	Year reserves exhausted
Baseline projections – current ABSS provisions	15.4	2029
Sensitivity tests:		
- Annual pension increases of 2% p.a., instead of 2½%	14.7	2030
- 3.25% p.a. long-term return on reserves, instead of 5 % p.a.	17.2	2027
- 6.0% p.a. long-term return on reserves, instead of 5 % p.a.	14.4	2031

3.4 Short-term cash flow projections of the ABSSF

The projections thus far discussed have been presented in a manner that suggests that all amounts will be received and paid in cash and that where assets need to be sold, that they can be converted to cash at face or market value. For many years, this has not been the case since Government and a few statutory bodies have not met their contribution, interest and/or loan payments in cash. If in the coming years Government continues to not meet its obligations in cash, the projections presented earlier do not readily reflect the cash flow challenges that are likely to worsen. The following table compares net cash flows from normal operations under two bases – one where all funds are received in cash and a second where Government does not make its contributions and interest payments in cash. These results are rough estimates based on recent experience and exclude any payments being made by ABSSF relating to its guarantee of a government loan.

Table 3.7: ABSSF cash-flow projections, 2003 – 2013

Year	Annual surplus/deficit given:	
	Government pays payments Overdue to ABSSF	Government pays no contributions & interest due to ABSSF
2003	30.4	6.0
2004	32.6	6.9
2005	31.1	2.1
2006	34.9	1.3
2007	41.1	(0.8)
2008	41.1	(3.3)
2009	40.6	(6.3)
2010	39.4	(10.1)
2011	37.5	(14.5)
2012	34.9	(19.6)
2013	31.6	(25.4)

As indicated above, if Government continues to not meet its obligations in cash, ABSSF could incur cash flow deficits from normal operations as early as 2007. However, if all amounts due, both current and outstanding from previous years, are paid, cash flow surpluses will be realised until 2018 as indicated in earlier projections.

3.5 Preserving the long-term sustainability of the ABSS for future generations

The projection results thus far discussed suggest that, unless the contribution rate is increased or benefit reforms made, the ABSSF will not be able to meet its obligations beyond 2029. While the failure to collect in cash significant amounts of contributions and interest will impact future finances, the main reasons why Antigua-Barbuda's social security programme, in its present form, is financially unsustainable for the long term are:

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

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

Increasing income

Contributions:

Increase the contribution rate

Increase the earnings base

- Increase compliance
- Increase the ceiling on wages

Investment earnings:

Enforce payment of interest

Reduce management costs

Review investment policy

- Longer duration
- Investments in equity
- Overseas investments

Containing expenditure

Benefits:

Stricter eligibility conditions

- Contribution requirements

Change pension formula

- Reduce accrual rates
- Re-define reference earnings
- Career-average formula

Increase retirement age

Administrative expenses:

Reducing administrative costs

- Staff levels
- Other operating costs

For contributions, there is much room to increase compliance, especially among the self-employed and in the public sector. However, there will only be minimal financial impact due to increasing the ceiling, as a higher ceiling will result in larger pensions in the future. A contribution rate increase, therefore, is the only meaningful way of increasing income through contributions. By broadening the scope of investment opportunities, including investing funds outside Antigua-Barbuda, ABSSF should be able to realise higher rates of return over the long run.

Regarding benefit expenditure, changing the manner in which pension amounts are calculated will be the most effective way of containing long-term costs. Such changes should target the accrual rates that are heavily skewed to short service and the number of years over which wages are averaged. It is also recommended using a longer reference period to average insurance earnings for pension calculations. Such an approach produces a closer link between contributions made and the pension received. Once pensions are made equitable, reasonable and affordable, ABSSF should then consider raising the contribution rate so that future generations will not be forced to pay much more than the current generation of contributors for the same or smaller pension promise, given the ABSSF reserves are accumulated in an efficient manner.

As indicated earlier, if the Fund is allowed to deplete, the scheme would enter what is called a “PAYG” state where expenditure will have to be met by current income with the likelihood that transfers from the general revenues would be required each year. This would call for rates of 16.7 per cent in 2029. Instead of having to increase the rate significantly at that time and then gradually each year thereafter as current expenditure increases, a schedule of contribution rate increases that begins before then should be considered. This will ensure that an appropriate level of reserves always exists and that drastic measures aimed at preserving the Fund can be avoided in the future.

If no deliberate changes were made to reduce expenditure, one way of securing the Fund for the next 60 years would be to increase the contribution rate immediately to 15.4 per cent so that the present funding level may be preserved. A more prudent approach, however, would be gradual, step-like rate increases intended to meet certain medium to long-term funding objective such as a reserve of at least five times annual expenditure in 2033 when the ABSS completes 60 years of operations, and then two times expenditure 60 years into from now. Two possible schedules of rate increases that could a reserve-to-expenditure ratio of twice annual expenditure in 2062 are:

- 1 per cent increases in the contribution rate each year for eight years beginning in 2007, for an ultimate rate of 15.7 per cent, or
- 2 per cent increases every 5 years from 2007 to 2027, resulting in a contribution rate of 17.2 per cent.

These higher contribution rates are a result of a combination of factors - ABSS’ defined-benefit structure, the manner in which pensions are financed, the assumed relatively low rate of return on reserves and the impact of ageing. Therefore, while ABSS reforms and sustained economic growth may help reduce costs and make ABSS more affordable in the long run, contribution rate increases appear to be inevitable to ensure the long-term financial sustainability.

4. ABSS policy and administrative considerations and recommendations

4.1 Benefit provisions

4.1.1 *Indexation of pensions-in-payment*

Since inception, Antigua-Barbuda Social Security (ABSS) pensions have been increased only three times – in 1986, 1993 and 2000. For the 2000 adjustments, an increase of 10 per cent was given to all pensioners regardless of when the pension was awarded. As a result, persons whose pension was awarded in 1999 received too large an adjustment while those whose pension began in 1993 or before received too small an increase. As a result, older pensioners are poorer. For the pension adjustment in 1993, however, adjustment rates varied depending on the date the pension was awarded or last adjusted thereby providing more equitable increases.

Under the present system of ad hoc pension increases, the Government decides when and by how much pensions should be adjusted. The current method, therefore, is open to political manipulation and it is also not predictable, thus reducing the level of assurance that pensioners have of their pension keeping pace with cost-of-living increases. Therefore, it is recommended that a policy of annual adjustments be introduced. 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. 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 and is preferred. To avoid large increases in pension payments that may overburden future ABSSF finances, a maximum could be placed on any single adjustment to ensure there is a supporting increase in contribution revenue. Government can then decide whether or not to grant a larger increase based on actuarial advice. Such provisions for annual increases to pensions and grants were recently enacted in Barbados.

In mid-2004, the value of an Age pension awarded before 2000 has fallen by approximately 10 per cent due to the effects of inflation. Therefore, an across-the-board pension increase should be considered now. However, actual adjustments should vary depending on when the pension was awarded; that is, those whose pension was awarded prior to 2000 should get the full increase while those awarded since then should receive an adjustment that compensates only for cumulative inflation for the years since the pension was awarded. The following table provides recommended adjustments presuming that such increases take effect in January 2005.

Table 4.1: Recommended pension adjustment rates

Year pension was awarded	Adjustment amount (%) ⁴
Before 2000	12
2000	10
2001	8
2002	6
2003	4
2004	2

The method of annually adjusting pensions described above should also be applied to all ABSS fixed-dollar benefit rates such as the Funeral and Maternity grants, minimum contributory pension rates and the Assistance pension.

Reference should be made to ILO Convention 102 whose main points are highlighted in Section 4.1.7.

4.1.2 Minimum pensions

There are presently two minimum pensions - EC\$151.50 for the Transitional pensions and EC\$250.25 for other Age and Invalidity pensions. Given the level of wages and the cost of living in Antigua-Barbuda, both minimum pensions are considered too low as they represent only 7 per cent and 11 per cent of average insurable wages. An appropriate level for the minimum pension is at least 40 per cent of the earnings of an unskilled worker with a 30-year career, as stipulated in Articles 28 and 66 of Convention No. 102.⁵

Given the limited statistics on wages available, when pensions are next increased, it is recommended that the minimum pension be increased to between EC\$300 and EC\$350 per month and that this rate could be used for all pensions to adults – Transitional or otherwise. If the minimum contributory pension is increased as such, an appropriate rate for the Assistance pension would be EC\$225 to EC\$250 per month. While such large adjustments will increase the total pension bill, it would make ABSS pensions more relevant to the actual cost of living in Antigua-Barbuda.

It is estimated that the pension adjustments recommended above would increase total pension costs by approximately 15 per cent or EC\$400,000 per month in 2005. Such a large increase will be due mainly to the minimum pension adjustment.

Reference should be made to ILO Convention 102 whose main points are highlighted in Section 4.1.7.

4.1.3 Funeral and maternity grants

Funeral and maternity grants were last increased in 2000 and now stand at EC\$2,500 and EC\$560, respectively. While an increase of at least 12 per cent is now justified if the adjustment in 2000 placed both grants at levels considered appropriate at the time, the

⁴ The adjustment amount is based on inflation and is consistent with mid-year pension awards.

⁵ Social Security (Minimum Standards) Convention, 1952 (No. 102).

Board may first wish to establish explicit objectives for each grant prior to the next adjustment. For example, the purpose of each grant should be considered and then a decision on a specific cost replacement objective should be made. For the Funeral grant this is quite easy as the cost of a basic funeral can be easily verified – estimated at around EC\$7,000 in 2004. Therefore, if 50 per cent of basic funeral costs is considered appropriate for ABSS to cover, then the grant should be set at 50 per cent of the current cost for a basic funeral – around EC\$3,500. Funeral grants now account less than 0.1 per cent of insurable wages and thus an increase to EC\$3,500 will not have a major impact on overall finances.

While there is no such straightforward factor against which the Maternity grant may be related, some other measure such the cost of a normal delivery or the cost of baby supplies for one month may be used.

As recommended for pensions in Section 4.2, once the amounts of the Funeral and Maternity grants are set at levels that are considered appropriate, they should be increased annually in line with inflation.

4.1.4 Survivors' pensions

When ABSS was established in 1973, few women worked and thus eligibility conditions for certain benefits were different for men and women. Although women now make up a larger share of the workforce and in many cases may be the chief income earner in the household, different qualifying conditions still exist for Survivors' pensions to widows and widowers.

For a widow to qualify for a lifetime Survivors' pension, she must be at least 50 or permanently incapable of work, and married for not less than three years. If she is under 50, the pension would be payable only for one year. However, for a widower to qualify for a pension he must be invalid, married for at least three years and had been wholly or mainly supported by his wife. As a result of these differing conditions, at the end of 2002, there were 446 widows receiving a pension but no widowers. It is therefore strongly recommended that Survivors' benefit regulations be amended so that widowers qualify for a Survivors' pension under the same requirements now in place for widows.

However, to take account of the contingency of survivors' benefit, which is the loss of support by the spouse or child as a result of the death of the breadwinner, a provision could be introduced that would allow the suspension of a pension in case the beneficiary is engaged in any prescribed gainful activity. Such provision would also be in accordance with Article 60, paragraph 2 of Convention No. 102.

Another concern regarding current Survivors' benefit rules relates to widows who are under the age of 50 when their spouse dies and who receive a Survivors' pension for only one year. However, where there are dependant children, a Survivors' pension for the children will continue as long as they are under age 16 or under age 18 and attending school or college.

The loss of regular income following the death of a spouse often creates financial hardship, and thus suspending the widow's portion of the pension after only one year could affect their ability to provide for dependant children. Therefore, consideration may be given to paying the Survivors' widows pension for as long as the spouse cares for dependant (under age 16 or under age 18 if in school) children. As highlighted earlier in this section, wherever the term widow is used, amendments should ensure that the same rules apply to widowers. Such a change is not expected to have a major impact on long-term pension costs.

Reference should be made to ILO Convention 102 whose main points are highlighted in Section 4.1.7.

4.1.5 Employment injury benefits

Unlike most other regional social security systems, the ABSS does not provide explicit coverage for employment injury benefits since a Workman's Compensation Law is still in place. (Enforcement of this law is the responsibility of the Labour Department.) However, Invalidity and Survivors' benefits will be paid even where the injury or death is job-related. (Providing Invalidity benefits for job-related injuries was provided for in a 2000 amendment.⁶)

The usual Employment Injury benefits that are not currently provided for by the ABSS are the Short-term Injury benefit, Medical Care and Disablement pension. The following table shows the usual employment injury benefits offered by other regional social security schemes, the protection offered and an analysis of current coverage offered by the ABSS.

Table 4.2: Description of employment injury benefits and extent of current coverage

Employment injury benefit	Purpose	Is social security coverage available now?	Comments
Injury benefit	Replace lost income	No	Similar to Sickness benefit, but no contribution qualifying conditions and usually paid at a higher rate.
Medical care	Medical costs associated with job-related injuries and/or diseases.	No	Some expenses may be covered by the Medical Benefits Scheme.
Disablement pension and grant	Compensation for loss of faculty, which is likely to be permanent – either lump sum or pension, depending on extent of incapacity.	Some	Some protection offered now by Invalidity benefit but this is only paid if the contribution qualifying conditions are met and claimant deemed to be invalid. Disablement pension would be awarded where there is partial or total loss of faculty, and be paid even if the pensioner returns to work.
Death pension	Replace portion of income following death of bread winner	Yes	Like Survivors' pension but usually at a higher rate and may be payable to additional persons.
Funeral or Death grant	Cover portion of costs of funeral expenses	Yes	Like regular funeral grant but without contribution conditions.

The two key advantages that explicitly offering employment injury (EI) benefits would provide to those who may now qualify under other provisions are that no contribution qualifying conditions are required and that the benefit rate may be slightly higher. The Board and Government should evaluate the relevance and the effectiveness of enforcement of the current Workman's Compensation law, and decide whether more comprehensive coverage can be provided by the ABSS. Since some coverage is already offered by ABSS for employment-related accidents, explicitly providing for other Employment Injury benefits should not cost more than 0.2 per cent of insurable wages, with medical care costs being the most costly single benefit.

⁶ Statutory Instrument 2000, No. 10 signed by Minister for Social Security on 1 January 2000.

In 2002, the ILO Committee of Experts on the Application of Conventions and Recommendations issued a formal Observation to the Government of Antigua-Barbuda related to its obligation as a signatory party (1983) to the ILO Convention No. 17 on Workmen's Compensation (Accidents). Its text is provided in Appendix IV).

As the Government of Antigua-Barbuda is legally bound by the international obligations arising out of the ratified Conventions (see Appendix IV), the Observation of the Committee of Experts on the application of Convention No. 17 should be responded to as a priority issue, which should result in:

- Compensation paid in the form of periodical payments due in the event of accidents causing permanent incapacity, provided that the compensation may be paid wholly or partially in a lump-sum, if the competent authority is satisfied that it will be properly utilized; the compensation has to be paid without the requirement of the fulfilment of a qualifying period;
- Additional compensation for victims of injuries who need the assistance of a third person, in case of temporary as well as permanent incapacity of the victims;
- Payment of medical treatment undergone by a worker as a result of an occupational accident without limit of costs;
- Provision of surgical and pharmaceutical costs for victims of an occupational accident;
- Provision for victims of an occupational accident of surgical appliances and artificial limbs in general and not only with a view to improving the earnings capacity.

4.1.6 Maternity allowances for civil servants

Since August 1991, Sickness benefit coverage for civil servants has been excluded as they receive full salary from the Government during periods when off from work due to sickness. To compensate for the reduced coverage, the total contribution rate was reduced from 8 per cent to 7 per cent. However, coverage for Maternity allowance was not eliminated even though established civil servants who are off from work due to confinement receive their regular salary. For non-established public officers, ABSS covers 60 per cent of insurable wages and the Government pays the remaining 40 per cent.

Therefore, as is the case for Sickness benefit, established civil servants may not require coverage for Maternity allowance. They should still, however, be entitled to the Maternity grant.

With Maternity benefits costing approximately 0.3 per cent of insurable wages, an appropriate reduction in contribution rate would be 0.3 per cent. Given that the 1 per cent differential in contribution rates for private and public sector workers exceeds the cost of Sickness benefits (Section 1.5.2), an appropriate rate for established civil servants where coverage for both Sickness and Maternity benefits are excluded is 7.2 per cent.

4.1.7 Considerations related to ILO Social Security (Minimum Standards) Convention, 1952 (No. 102)

Although Antigua and Barbuda has not yet ratified the Social Security (Minimum Standards) Convention, 1952 (No. 102), all changes should take the requirements of Convention No. 102 into account as this Convention lays down worldwide agreed minimum standards for social security which should be taken into account by all ILO member states when reforming their social security schemes. The main requirements of

Convention No. 102 with regard to old-age, invalidity and survivors' pensions are as follows:

- With regard to old-age pensions, Article 28 in conjunction with Article 29, paragraph 1 and Article 65 of the Convention require, in case of earnings related pensions, a replacement rate of 40 per cent of former earnings after 30 years of contributions, and, in case of flat-rate pensions (Article 66 of the Convention), after 30 years of contributions a replacement rate of 40 per cent of the wage of an unskilled worker. Article 29, paragraph 2 of the Convention further stipulates that in both cases, a pension of reduced amount has to be granted after at least 15 years of contributions. The old-age pensions shall be granted throughout the contingency (Article 30 of the Convention).
- Concerning invalidity pensions, Article 56 in conjunction with Article 57, paragraph 1 and Article 65 of the Convention require that, in case of earnings related pensions, a pension of at least 40 per cent of previous earnings has to be paid after 15 years of contributions. In case of flat rate invalidity pensions (Article 66 of the Convention), a replacement rate of 40 per cent of the wage of an unskilled worker has to be granted after 15 years of contributions. In both cases, a reduced pension has to be paid after five years of contributions (Article 57, paragraph 2 of the Convention). According to Article 58 of the Convention, invalidity pensions shall be granted throughout the contingency or until an old-age pension becomes payable.
- The minimum requirements of Convention No. 102 with regard to survivors' pensions are the same as for invalidity pensions: in case of an earnings related survivors' pension, the required replacement rate amounts to at least 40 per cent of previous earnings after 15 years of contributions (Article 62 in conjunction with Article 63, paragraph 1 and Article 65 of the Convention); and in case of a flat rate survivors' pension (Article 66 of the Convention), the pension has to amount to at least 40 per cent of the wage of an unskilled worker. In both cases, a reduced pension has to be paid after five years of contributions (Article 63, paragraph 2 of the Convention). The pension shall be paid throughout the contingency, however, it may be suspended in case the spouse is engaged in any prescribed gainful activity or in case the spouse gets married again (Articles 64, 60, paragraph 2 and 69 (j) of the Convention).
- Furthermore, according to Articles 65, paragraph. 10 and 66, paragraph 8 of the Convention, the rates of current pensions shall be reviewed following substantial changes in the general level of earnings where these result from substantial changes in the cost of living.

4.2 Financing considerations

4.2.1 Indexation of the ceiling on insurable wages

During 31 years of providing social security coverage, the ceiling on insurable wages has been only increased twice – in 1986 and 1993. Since 1993, the monthly ceiling on insurable wages has been EC\$4,500 and in 2003, was just under twice the average insurable earnings of ABSS contributors. Between 1994 and 2003, cumulative price inflation is estimated at between 25 and 30 per cent and thus the relevance of ABSS coverage to higher paid workers has been eroded considerably. In 2003, it is estimated that around 11 per cent of contributors earn more than EC\$4,500 per month. Therefore, to return the ceiling to a more relevant level, an increase ranging between EC\$5,400 and EC\$6,000 is recommended, depending on the insurance coverage objectives of the Government.

After the next ceiling increase, a new method to the way future adjustments are made is recommended. The suggested approach calls for annual adjustments or indexation (as practiced in most industrialised countries and soon-to-be in Barbados) based on the increase in average wages in Antigua-Barbuda, with both the timing and method of determining the adjustment placed in ABSS Regulations. For example, the ceiling could be adjusted each July based on changes in national average wages over the previous calendar year. Since there is presently no official national wage index, changes in the Consumer Price Index or an ABSS wage index (that measures changes in average insurable earnings) may be used. However, the creation of a national wage index is encouraged.

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

4.2.2 Contribution rate for public-sector employees

Since 1991, the contribution rate for public-sector employees has been 7 per cent of insurable wages, representing one percentage-point less than the rate applicable to private-sector employees. This lower rate was set as Sickness benefits are not offered to civil servants. An analysis of experience among private-sector workers from 1999 to 2002 shows that average Sickness benefit costs were 0.46 per cent of insurable wages. Therefore, if experience among public-sector employees is similar to that in the private sector, the rate reduction for public-sector employees exceeds the value of the benefits for which coverage has been excluded. As a result, public-sector workers are contributing approximately ½ per cent less than workers in the private sector, accounting for other-than Sickness benefits.

It is therefore, recommended that the total contribution rate for public servants be increased from 7.0 to 7.5 per cent with the current employer-employee distribution maintained.

4.2.3 Expanding the insurable wage base

For the purpose of determining insurable wages for ABSS contributions most forms of income that are paid in cash are included. It has become common practice in Antigua-Barbuda to compensate middle and senior management personnel with various allowances – housing and travel for example. These forms of income are presently not included in insurable wages, even if paid in cash. While making all forms of income subject to contributions provides increased income coverage for the individual, there may be administrative difficulties encountered with estimating the value of such allowances. Also, if mainly higher income workers, whose cash earnings are already at or near the ceiling, are receiving such allowances, the overall impact will be negligible. If however, it is felt that the classification of certain portions of income as allowances is done to avoid the payment of ABSS contributions then this issue may be pursued further.

4.2.4 Weekly and monthly wage ceilings

Insurable wages used for ABSS purposes, namely to determine contributions, and benefits are limited to earnings below what is commonly referred to as the wage ceiling. Presently, this ceiling is EC\$1,040 per week or EC\$4,500 per month, depending on the frequency of wage/salary payments. While having limits for both weekly paid and monthly paid employees works well in most cases, there are instances where persons who are paid commissions at intervals that are different from the payment of regular wages are treated differently from those who are paid commissions at the same time as regular wages. For example, for someone who makes EC\$800 per week and a commission of EC\$1,000

payable on a monthly basis, insurable wages in three weeks will be EC\$800 while in the last week of the month insurable wages would be the maximum, EC\$1,040, as the commission would be included. Therefore, total insurable wages for the month would be EC\$3,440. [3 x EC\$800 + EC\$1,040]. However, if the commission was paid weekly at a rate of EC\$250, then insurable wages each week would be at the ceiling of EC\$1,040 (minimum [EC\$1,040, EC\$800 + EC\$250]) and total insurable wages for the month would be EC\$4,160 [4 x EC\$1,040]

If it is believed that many people are impacted by the anomaly presented above, special rules may be created for the payment of commissions and how they are allocated between contribution weeks and months. The simplest way of achieving this would be to eliminate the weekly ceiling so that all wages earned in a month are insurable, regardless of whether they were earned in one week or throughout the month.

4.2.5 Surcharge on late contributions

Through an amendment made to the Contribution regulation in 2002, the surcharge on late contributions was changed from a single penalty of 10 per cent of the amount due to a monthly charge of 1 per cent of the outstanding cumulative amount including the surcharge. Such charges appear excessive and are presently being reviewed by the Board.

Hence, instead of compounding the surcharge for each additional month that a contribution payment is late, the Board may consider charging an interest penalty of say 1 per cent for each month that a contribution remains outstanding after the surcharge has been imposed. That is, on the 15th of the month following that for which contributions are due, the surcharge will be assessed. On the 15th of each successive month that the contribution remains unpaid, an interest penalty of 1 per cent will be added to the total amount due, inclusive of surcharge and interest. The following example highlights this for a EC\$1,000 contribution that was due in January but not paid until 5 June.

Table 4.3: Alternative methods for calculating ABSS surcharge on late contributions (in EC\$)

	Pre-2002 method	Current method	Proposed method
January's contribution due	1,000.00	1,000.00	1,000.00
Surcharge imposed on Feb. 15th	100.00	100.00	100.00
Surcharge/interest imposed on Mar. 15th	-	110.00	11.00
Surcharge/interest imposed on Apr. 15th	-	121.00	11.11
Surcharge/interest imposed on May 15th	-	133.10	11.22
Total due if paid June 5th	1,100.00	1,464.10	1,113.33

In addition to the one-time penalty, charging interest at a rate slightly higher than commercial banking rates will firstly compensate the Fund for lost interest as well as serve as an incentive for the employer to make the necessary payments.

4.2.6 Outstanding amounts owed by Government

At the end of 2002, the Government of Antigua-Barbuda and several statutory bodies were significantly indebted to the ABSSF. For Government, the total amount owed was EC\$244.8 million - EC\$189.1 million for contributions and EC\$55.7 million for interest, while for statutory bodies, contributions and interest due totalled EC\$11.6 million. Together, these amounts, which are being carried as accounts receivables, represent 49 per cent of the ABSSF reserves. Not included in these amounts is accrued interest on unpaid

interest as well as surcharges on unpaid government contributions, which were estimated to be EC\$17.7 million at the end of 2002. Several loans to Government and statutory bodies are also in arrears.

For the ABSSF, the failure of Government to meet its financial obligations for the majority of the Scheme's 31-year existence severely jeopardises the ability of the Fund to meet its future obligations. While current cash flows from normal operations and liquid fixed deposits will allow the Fund to pay benefits and operating costs for several more years, failure of Government to fully regularize its arrears position as well as the payment of current contribution and interest could necessitate either a cut in benefits and pensions or an increase in the contribution rate in the near term.

4.3 Coverage and legislation considerations

4.3.1 Self-employed coverage

At the time of writing this report no official estimates of the number of self-employed persons in the economy were available. However, it is safe to conclude that the 696 self-employed persons who made contributions in 2002 represent a small percentage of this group.

In Antigua-Barbuda, social security coverage for the self-employed has been mandatory since 2001. 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, ABSS 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 CARICOM Secretariat report entitled *The State of Social Security in the CSME*, a possible structure for including payment flexibility for the self-employed was suggested. This approach is recommended and encompasses an indexed career earnings pension formula along with the flexibility to contribute as often as and as much as desired is. The relevant section from that report is presented in Appendix V. Regardless of the approach taken, sustained educational campaigns aimed at increasing the awareness of the need for self-employed persons to provide for their retirement years should be conducted.

4.3.2 Public servants and ABSS pensions

Civil servants are currently entitled to two pensions – one from ABSS and the other from their employer-sponsored pension paid out of the Consolidated Fund. When combined,

these two pensions can exceed 100 per cent of pre-retirement income as Social ABSS pensions 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 such as:

- public officers who were confirmed after the ABSS 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 ABSS and Public Service pensions for a career civil servant will be 80 per cent of pre-retirement salary. The Public Service Pension becomes a supplementary amount.

4.3.3 Review of ABSS legislation

While many amendments have been made to the *Social Security Act* and Regulations several aspects of Regulations are anomalous, not consistent with other sections and past amendments have made several sections of the Regulations complicated to follow. It is, therefore, recommended that a review of the entire *Social Security Act* and Regulations be conducted to:

- review all coverage, contribution and benefit provisions with the view of making the social security programme in Antigua-Barbuda consistent with present-day social and economic realities and ensuring that its financial strength and fiduciary soundness is maintained for future generations;
- ensure that the legislation is consistent with the scheme's intent;
- ensure that all current practices are covered by regulations;
- ensure that the legislation is consistent with other laws of Antigua-Barbuda;
- ensure that the legislation is in accordance with ratified ILO Social Security Conventions;
- remove obsolete provisions.

Once the review is completed, the present legislation may be repealed and replaced with a new version of the *Act* and Regulations.

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, unfunded pension scheme for civil servants.

4.4 Administrative considerations

4.4.1 Board composition

During the Actuary's discussions while in Antigua-Barbuda, a request was made by representatives of the Antigua-Barbuda Pensioners' Association for pensioners to be

represented on the Board. Presently, the Board comprises seven members – two persons representing each of employers, employed persons and Government along with the ABSS Director. While it is felt that the current seven-member Board is of appropriate size, consideration could be given to this request. Reasonable options for including a representative of pensioners include:

- Instead of two members representing employed persons, labour unions could nominate one member and the pensioners' association – essentially a group of former workers – could nominate the other.
- Replace the ABSS Director with a pensioners' representative. If such a change is made, the Director could still be an ex-officio member of the Board and there will be better separation of duties and responsibilities as the Director's role is largely one of carrying out the wishes of the Board. (Throughout the region, only five of the other fifteen social security schemes have Directors that are members of the Board.)

When considering possible changes to the composition of the Board, the process by which those nominated to represent employers and employed persons should also be reviewed. It is recommended that persons nominated to represent employers and employed persons should be chosen by named umbrella employers' and workers' associations and not after consultation as presently prescribed. Also, at least one of the persons representing Government should be a senior civil servant such as the Director of Labour or the Financial Secretary.

4.4.2 Public information

As of May 2004, audited financial statements of the ABSSF for at least the last six years and the last two actuarial reviews have not been submitted to Parliament as required by Sections 17 and 18 of the *Social Security Act*. As a result, key stakeholders and the general public are not officially aware of the financial state, both current and projected, of the Fund.

The Government is therefore encouraged to immediately request the tabling in Parliament all financial and actuarial reports from prior years that have not been tabled. The ABSSB meantime should publish in summary form the findings and recommendations of this seventh actuarial review as well as the 2003 audited financial statements once they are completed. The Board should also ensure that financial audits are completed within a reasonable timeframe – such as six months after the end of the financial year – and along with the financial statements produce a summary of operational results during the financial year that are together published in an Annual Report.

It is recommended that the requirements of Sections 17 and 18 of the *Social Security Act* be strictly adhered to in future.

4.4.3 Social security data

One of the challenges encountered for this review was the unavailability of readily prepared social security and country-specific data. Although most of the ABSS-specific data was provided, only a limited amount is regularly collected and provided for management and public information purposes. The Board is encouraged to improve its capacity to regularly collect, prepare and disseminate statistical information on ABSS operations. Such information will undoubtedly help management, the Board and Government to make more informed decisions.

4.4.4 Other considerations

There are several other issues that were brought to the Actuary's attention during his visit to Antigua-Barbuda. Some of these issues are administrative in nature and have little or no financial implications. Therefore, the Board should review these and other matters of concern and make the necessary amendments to Regulations. The issues raised with the Actuary include:

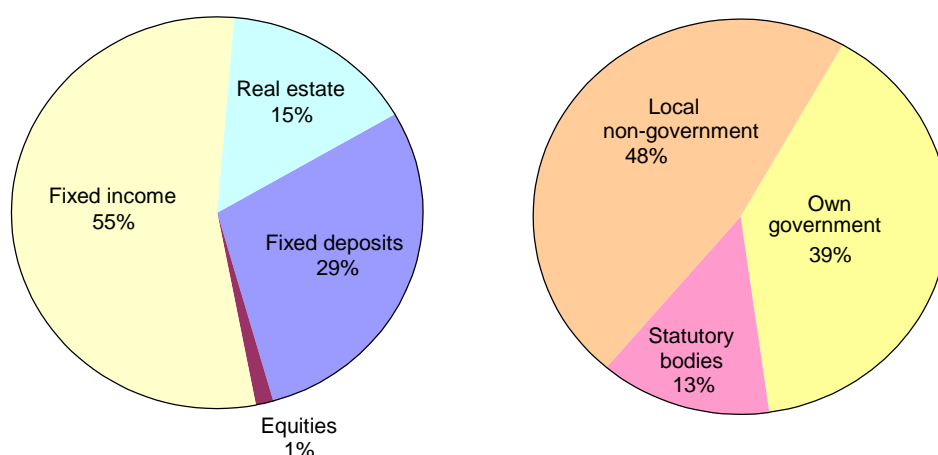
- the formula for Sickness benefit calculation for which there is a provision that is not applicable.
- time limit for application of short-term claims – now 21 days. This is considered by some to be too short.
- having the same rate of payment apply for orphans.
- maximum period for which payment of Age pension will be backdated for persons who claim well after their 60th birthday.

5. ABSSF investment considerations and recommendations

5.1 Asset mix

At the end of 2002, Antigua-Barbuda Social Security Fund (ABSSF) investments stood at EC\$234.8 million. The following charts highlight portfolio diversification by asset type, by who issued the securities and the location of these investments as at December 2002.

Chart 5.1: Distribution of ABSSF investments, December 2002



Under usual circumstances the asset allocation of the ABSSF would be considered acceptable with slight concerns regarding the extent of public-sector investments (52 per cent), real estate investments (15 per cent) and the entire portfolio being invested locally. However, not indicated by the above charts, is the 28 per cent of investments – all public-sector – that are non-performing.

5.2 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*. Following is a summary of these guidelines.

5.2.1 General guidelines relating to investments

- The ABSSB should, in consultation with Government, establish an Investment Policy Statement. The Investment Policy Statement 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.
- Funds should be invested with consideration of the liquidity needs to meet cash flow requirements.

5.2.2 Guidelines concerning specific types of investments

- **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 scheme.
- **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.
- **Social investments**, or those aimed at enhancing economic and social utility, could make up a small portion of the ABSSF asset portfolio. Such investments include participation in private-sector initiatives, state enterprises, student loans, low cost housing, old-age facilities, 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.

5.3 Investment policy statement

To increase the assurance that the ABSSF's investments are kept in line with general investment objectives and the nature of its obligations, there should be formal documentation of the portfolio's goals, objectives and investment guidelines. These and other key issues are usually dealt with in one document commonly referred to as an Investment Policy Statement. Investment Policy Statements for pension plans and trust funds form an essential part of the investment decision-making process and the administration of the portfolio.

It is, therefore, recommended that with the assistance of suitably qualified investment specialists, an Investment Policy Statement be developed for the ABSSF.

The Investment Policy Statement may include some or all of the items listed below:

- **Statement of purpose.** Outline of the reasons for and purpose of the Investment Policy Statement.
- **Investment objectives.** These may include items such as minimizing risk, ensuring growth of principal in excess of inflation, while achieving a real rate of return over a period of five to ten years of at least 3 per cent.
- **Overall investment portfolio.** Types of investments that may be included in the portfolio with each one being adequately described.
- **Asset allocation.** Upper and lower limits should be explicitly stated for each type of investment. There should also be overall limits for the proportions held in long-versus short-term, local versus foreign investments, etc.
- **Benchmarks.** For each type of investment, a specific index or rate should be identified so that the performance of each asset type may be evaluated.
- **Delegation and authority of management of fund assets.** This section should state the roles of and the authority given to various parties to make investment decisions. These parties may include the Minister, Board, Investment Committee, Director, and Financial Controller/Investment Manager.
- **Investment guidelines for the Fund.** Among other items, this section should state that all investments should be made solely in the interest of the Fund and for the exclusive purpose of providing long-term security and growth of the Fund. It should also include the need to act with prudence, to minimize risk and to act within the terms of the Statement.
- **Reporting.** An outline of the frequency and nature of reports to be prepared by all parties involved.

Once drafted, the Investment Policy Statement should receive formal approval from the Investment Committee, the Board and the Minister. Thereafter, it should be a document that is frequently referred to, used as a guide for the selection of new investments and used to monitor and evaluate the performance of the Fund. The Statement should also be reviewed periodically and updated whenever economic conditions or scheme-specific investment related positions warrant change.

5.4 Specific investment guidelines

As the projection results presented in Section 3 illustrate, the ABSSF is projected to grow for many more years. And if the Government regularises its arrears positions there will be additional cash resources that will need to be invested. To achieve a portfolio distribution that is more consistent with historical experience and ABSSF financial projections, the Board is encouraged to:

- reduce the proportion of the portfolio invested either directly or indirectly in Government to no more than 33 per cent.

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- wherever possible, invest in long-term securities that offer reasonable levels of liquidity.
 - avoid any additional investments in non-income producing real-estate.
 - gradually place portions of the Fund outside of Antigua-Barbuda, both regionally and internationally, with an objective of reaching at least 10 per cent of the Fund in ten years.

6. Introducing a monthly universal pension of EC\$1,000

In November 2004, the Government was considering the introduction of a universal pension of EC\$1,000 per month for all elderly persons in Antigua-Barbuda. This was discussed in the context of the 2004 elections proposing a universal pension of EC\$750 per month when introduced, increasing to EC\$900 and then to EC\$1,000 within two years.

With the current ABSS minimum pension being EC\$150 per month, increasing the minimum to EC\$750 will mean corresponding adjustments for almost 75 per cent of current ABSS Age and Invalidity pensioners. Also, it is not yet certain who will finance the cost of pensions to the elderly who do not currently receive either a pension from the ABSS or the civil service scheme.

Assuming that ABSSF would finance the increase to its current pensioners only, the main impact on the years for which key financial events are expected to occur are summarised below.

	Baseline projections	Pension increased to EC\$1,000 per month
Year expenditure first exceeds contribution income (including government contributions)	2011	2005
Year expenditure first exceeds total income (contribution and investments)	2018	2011
Year reserves depleted	2029	2022

These projections also assume that Government will meet its financial commitments to ABSS on a timely basis. Should ABSS be required to fund the new or increased pensions of others – estimated to be more than 3,500 persons – financial deficits and depletion of the Fund will occur even sooner than shown above.

If an additional 3,500 pensioners were added to the ABSS' pension roll, corresponding to those who may not have formerly contributed to ABSS, total costs for these new pensioners would reach approximately EC\$40 million in the third year when the monthly pension reaches EC\$1,000 per month. At its current contribution rate, ABSS would not be able to meet this additional expenditure from current revenues as a deficit of close to EC\$15 million would be experienced in 2005, increasing to almost EC\$28 million in 2007. For the ABSSF to be able to meet these payments on a current cash basis, the contribution rate would have to be increased immediately by at least 5 percentage points of insurable wages, bringing the total contribution rate to 13 per cent of insurable wages. Government would also have to continuously make its monthly contribution payments on time.

For several years ABSS has experienced cash flow constraints given Government's past inability to pay its contributions and interest in cash. Even if Government began making all of its current contribution and interest payments in cash on a timely basis, the additional expenditure associated with the EC\$1,000 per month pension could not be sustained for more than a few years unless the contribution rate was increased. Therefore, Government is encouraged to consider very carefully the short- and long-term implications of introducing universal pensions at such a higher payment rate.

The introduction of universal old-age pensions would call for a major shift in Antigua-Barbuda's pension policy. Usually, the level of universal pensions is set so as to be

sufficient to meet basic needs as normally recognized through the national poverty line. As well, an old-age universal pension should be lower than the ABSS minimum pension in order to avoid discouraging workers from registering and contributing to ABSS.

Since a much more generous system of universal old-age pensions is now being considered, the ILO recommends that a separate feasibility study be undertaken to focus on universal pensions and social pensions (means-tested) for the elderly as well as its implications for the remainder of its social insurance and social assistance policies. The study should review the suitability of the present ABSS provisions for all population groups, the basic needs of the elderly and what level of pension is affordable in fiscal terms. Furthermore, the study should not only assess carefully the different eligibility and qualifying conditions for a universal pension, it should also explore the financial implications and the capacities of the ABSS and the Government to finance a new scheme.

7. Overview discussion on the introduction of unemployment benefits

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 in conjunction with job-search assistance and re-training. 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 the introduction of an unemployment benefit scheme is beyond the scope of this review. However, a brief discussion is presented here of the issues that must be considered prior to implementing such a programme. An historical review and summary of recent experience of the Barbados Unemployment scheme and a comparative summary of the key provisions of schemes in Cyprus, Canada, Venezuela and Barbados may be found in Appendix VI.

Unemployment insurance programmes have both primary and secondary objectives⁷. The main objective is to help them return to work. The primary objectives involve assisting individual workers during periods of involuntary unemployment while the secondary objectives stress the promotion of economic efficiency and stability. Specifically, these objectives may be summarised as follows:

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

The following issues should be considered:

- Are there severance benefit obligations?
- Who will be covered?
- What will be the eligibility requirements for benefit?
- What level of benefit will be paid?
- How long will benefits be payable for?

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

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- How will benefits be financed?
 - Who will administer the scheme?

7.1. Coverage considerations

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

The need to cover or desire to exclude permanent government employees, who in many countries have historically been at very low risk of being involuntarily unemployed, is not as clear-cut. Such decisions should be based on considerations of whether there truly is a need for insurance from job loss as well as on issues related to solidarity among workers. Including the largest single group of workers in Antigua-Barbuda will bring two key advantages. Firstly, all workers will contribute and thus all will be entitled to benefit and secondly, the inclusion of an extra 20 to 25 per cent of the workforce will broaden the collection base of the scheme, resulting in a lower contribution rate. In today's economic environment where increasing productivity and improving efficiency is paramount, civil servants as a group may not be as secure in their employment as they care to believe. Therefore, there is a risk of being involuntarily unemployed, albeit smaller than that of the private sector, and thus coverage under an unemployment insurance benefit would meet conditions for insurability. The inclusion of civil servants in an unemployment benefits programme may be advisable.

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

7.2 Eligibility considerations

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

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

Eligibility for benefits also depends on having been in insured employment for a certain qualifying period, such as at least 12 months since the person was registered with the ABSSB, and at least eight months during the 12-month period immediately preceding unemployment. Provisions are also usually made for requiring a minimum time period between two successive periods of unemployment benefits, although two periods of unemployment separated by only a few weeks may be considered as the same claim and thus limit the total duration of payment, as is the case for Sickness benefit.

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

year, or instead, receive partial benefits that are proportional to the number of contributions made in the preceding year.

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

7.3 Benefit design considerations

7.3.1 Unemployment cash benefits

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

For Sickness and Maternity benefits, the benefit rate is now 60 per cent. For an unemployment benefit, the rate could be lower, and it could also decline over time. For example, if the benefit is to be paid for a maximum of 26 weeks, the first half of the period may be paid at one rate and the remaining period at a lower rate.⁸ This structure often serves as an incentive for recipients to actively seek employment.

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

7.3.2 Job-placement and re-training assistance

These should be provided as an integral part of the UI scheme and costed accordingly.

7.4 Financing considerations

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

- start-up costs to set up adequate services to process UI claims and to provide job-placement and re-training assistance;
- benefit rate or the rate applied to average wages;

⁸ Several ILO Conventions deal with minimum benefit rates and payment duration.

- eligibility conditions, waiting period and maximum benefit duration;
- actual average benefit duration;
- actual percentage of contributors that will be awarded a benefit each year;
- relationship between the average wage of contributors and the average wage of beneficiaries.

Factors 1 to 3 are design factors and thus will be set by local authorities. Factors 4 and 5 will be influenced by scheme design but will also be impacted by economic conditions and changes in employment levels. Factor 6, meantime, will be determined by which classes of workers become unemployed and on the cyclical nature of various economic sectors.

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

Table 7.1: Sample contribution rates required for unemployment cash benefits (as % of insurable wages)

Incidence rates	Benefit rate 40%			Benefit rate 60%		
	Average benefit duration (weeks)			Average benefit duration (weeks)		
	7	10	13	7	10	13
7	0.6	0.8	1.1	0.9	1.4	1.6
10	0.7	1.0	1.3	1.1	1.7	2.0
15	1.1	1.5	2.0	1.6	2.5	3.0

Note: An additional contribution rate must be collected to cover job-placement and re-training services to UI beneficiaries.

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

If unemployment benefits are introduced, no portion of the current ABSS contribution rate or monies from the ABSSF should be used to meet expenditure. Instead, unemployment benefits should be financed with a separate contribution rate paid by both the employer and employee, and these payments should be held in a newly created Unemployment Benefits Fund. This fund would earn income on assets invested while charges to the fund would be unemployment benefits expenditure and administrative costs. While the distribution of the contribution rate need not be 50/50, equal shares by worker and employer is recommended and the contribution rate should be explicitly differentiated from other ABSS contributions. That is, if 1.5 per cent is charged for the new benefit, workers and employers should not be told that the new total contribution rate is 9.5 per cent, but instead 8 per cent for ABSS short-term and long-term benefits and 1.5 per cent for unemployment benefits. To maintain

simplicity, the earnings ceiling presently applied for ABSS contributions and benefits should also apply to the unemployment scheme.

Given the need for a reasonable reserve to accumulate prior to the payment of benefits, payments out of the Fund should begin no sooner than six months after the first unemployment insurance contributions are collected. While a longer period may be preferred, especially if the initial contribution rate does not have much margin in it, six months will allow workers to quickly see the real benefits provided by the scheme.

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

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

7.5 Administration considerations

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

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

For the initial verification of unemployment and continued eligibility to a benefit, a combined mechanism involving the ABSS and a separate independent Employment Service should be used. While ABSS inspectors may play a limited role, the Employment Service will be best suited to check the eligibility requirements related to the capacity and availability for work, as well as assist in the search for suitable re-employment. These include checking that unemployment was in fact involuntary, and that unemployment continues with the claimant being available for work and seeking employment. Together

with the typical ABSS functions, these make the administration of an unemployment benefit more complex and difficult than the other regular tasks performed for other social security benefits. Therefore, proper planning leading to the selection and staffing of the employment agency, and a clear description of its mandate, is required.

7.6 Miscellaneous issues

7.6.1 Role of employers

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

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

7.6.2 Fraud

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

7.6.3 Appeals

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

7.6.4 Legal framework

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

7.6.5 Effect on future social security contribution rate increases

The financial projections of the ABSSF discussed earlier in this report highlight the need for the ABSS contribution rate (now 8 per cent for private-sector employees) to be increased in the future. Such an increase will be required to ensure that the Fund remains solvent as the population ages and the scheme matures.

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

7.7 The way forward

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. However, with a properly structured benefits package that is well promoted and sold as another means of providing additional security for workers, such a benefit could serve workers, employers and the overall economy of Antigua-Barbuda well.

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

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

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

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

Appendix I. Summary of contribution and benefit provisions

The following is a general description of the coverage, contributions and benefit provisions of the Antigua-Barbuda Social Security (ABSS) as at 31 December 2002.

AI.1 Contingencies covered and benefits provided

The ABSSB provides for the following benefits:

- *Short-term:* Sickness, Maternity allowance and grant and Funeral grant.
- *Long-term:* Age, Invalidity and Survivors' pensions and grants.

AI.2 Insured persons

Employed, self-employed and voluntary insured persons from age 16 to 60 as follows:

- Employed persons in the private sector are covered for all benefits;
- Employed persons in the public sector are covered for all benefits except Sickness benefit;
- Self-employed persons are covered for all benefits;
- Voluntary insured persons are covered for long-term benefits only.

Coverage and the payment of contributions by all employed and self-employed persons are mandatory.

AI.3 Insurable earnings and contributions

In addition to salary, insurable earnings include overtime pay, cost-of-living allowance, commissions, gratuities and service charge payments, additional payments in respect of dependants, payment for night or shift work, production bonus, danger or thrift money, etc. and employees liability paid by employer.

Earnings that are covered for the purpose of determining contributions and benefits, are limited to EC\$1,040 per week or EC\$4,500 per month. The monthly EC dollar ceiling on insurable earnings has been adjusted as follows:

April 1973 – May 1986	1,500.00
June 1986 – June 1993	2,500.00
July 1993 – present	4,500.00

Where earnings are less than EC\$7.50 per week, having worked for less than 8 weeks, no contributions are payable. Contributions are computed as a percentage of insurable earnings. The following table shows the contribution rates payable by employers and employees for the various categories of insured persons.

Table AI.1: Contribution rates (% of insurable wages)

Insured category	Employee	Employer	Total
Private-sector	3	5	8
Public-sector	2	5	7
Self-employed	-	-	8
Voluntary	-	-	8

Note: Prior to August 1991, the combined rate for all employed persons was 8%.

AI.4 Benefit provisions

AI.4.1 Long-term benefits

(a) AGE PENSIONS

Contribution requirement:

- Transitional pension: 156 weekly paid or credited contributions if his/her first contribution was made before 1975.
- Reduced pension: paid or credited 350 to 499 contributions
- Full pension: At least 500 contributions

Age requirement:

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

Amount of benefit:

- 25 per cent of average insurable earnings over the best 5 years out of the last 10 years, plus 1 per cent for every set of 50 contributions over 500.
- If between 350 and 500 credits have been paid, the insured qualifies for a Reduced Age Pension of 25 per cent of average insurable earnings times the number of paid weeks divided by 500.
- Maximum: 50 per cent of average insurable earnings.
- Minimum: EC\$150.15 per week. The minimum pension also applies to Invalidity and Survivors' spouse pensions.

(b) AGE GRANTS

Contribution requirement:

- At least 26 paid contributions starting before 1975 or at least 50 contributions starting any time after 1974.

Eligibility:

- The person must be ineligible for Age Pension.

Age requirement:

- 60.

Amount of benefit:

- 75 per cent of the total contributions (employer and employee) paid or EC\$1,200, whichever is greater. This amount is paid as a lump sum.

(c) INVALIDITY PENSIONS

Contribution requirement:

- 156 weekly contributions paid.

Eligibility:

- The insured is:
 - (i) less than 60,
 - (ii) unable to take part in any further employment because of illness that is likely to remain permanent.

Amount of benefit:

- 25 per cent of average insurable earnings over the best 5 years out of the last 10 years, plus 1 per cent for every set of 50 contributions over 500. If less than 5 years contributions have been made, the average will be taken over those years only.

Duration of pension:

- Payable for as long as invalidity continues.

(d) INVALIDITY GRANTS

Contribution requirement:

- At least paid for 52 weeks or 12 months.

Eligibility:

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

Amount of benefit:

- 75 per cent of the total contributions (employer and employee) paid or EC\$1,200, whichever is greater. This amount is paid as a lump sum.

(e) SURVIVORS' PENSIONS

Contribution requirement:

- The deceased, had paid at least 156 contributions.

Eligibility:

- Survivors of the deceased who may be entitled to payments are widows, invalid widowers, unmarried children (including adopted and step-children). For widows and widowers, marriage (legal or common law) must have taken place before the insured person started receiving a pension.
- Widows must have been married to or living with the deceased for at least 3 years.
- Widowers must have been married to or living with the deceased for at least 3 years, invalid, and were wholly or mainly maintained by the deceased.
- Children up to age 16, or 18 if attending school, or invalid of any age.

Amount of benefit:

- The proportion shown below of the pension either being received by the deceased or the Invalidity Pension the deceased would have been entitled to:
 - Widow or widower: 50 per cent.
 - Children: 25 per cent per child.

Where there is an eligible spouse and 3 or more children, the remaining 50 per cent is divided equally among the children but no child shall receive less than the minimum child pension. However, where the pension available for all children is insufficient, the maximum number of children possible will receive the minimum pension rate.

 - Minimum widow/widower benefit: EC\$150.15 per month.
 - Minimum child benefit: EC\$32.50 per week.
 - Maximum family benefit: 100 per cent of age pension.

Duration of benefit:

- Widows' pension:
 - (i) For life, if at the date of death she was either at least 50 or less than 50 but invalid, and married for at least 3 years
 - (ii) For 1 year only, if at the date of the spouse's death she was less than 50 and not an invalid, or she was at least 50 but married for less than 3 years.
- For a widower, pension is payable as long as conditions for invalidity eligibility continue or until remarriage/cohabitation with a woman.
- For dependant children/orphans, pension will be paid up to age 16, or 18 if attending school, or until recovery from invalidity.

(f) SURVIVORS' GRANTS

Contribution requirement:

- Qualify for Age or Invalidity grant.

Amount of benefit:

- The same proportion of the Age Grant as Survivors' Pension applies to the Age Pension.

AI.4.2 *Short-term benefits*

(a) SICKNESS BENEFITS

Eligibility requirements:

- Must have been engaged in insurable the day before the onset of the illness, paid at least 26 weekly contributions and have worked at least 8 weeks in the 3 calendar months before the illness began. The insured must also be under age 60.

Waiting period:

- 3 days. If a subsequent period of illness is separated by less than eight weeks from the first period, benefits will be paid from the first day.

Amount of benefit:

- 60 per cent of the total insurable earnings during the three calendar months immediately prior to the illness, divided by the number of weeks worked.

Duration of benefit:

- Maximum of 39 weeks of continuous illness provided that there is a second medical opinion after 26 weeks.

(b) MATERNITY ALLOWANCES

Contribution requirement:

- At least 26 paid contribution weeks in the 52-week period immediately preceding:
 - i. 6 weeks before the expected week of confinement, or
 - ii. the week from which the allowance is claimed.

Amount of benefit:

- 60 per cent of the total insurable earnings during the 52 weeks immediately preceding the 6-week period before the expected date of delivery, divided by the number of weeks worked, which cannot be less than 26.

Duration of benefit:

- Maximum of 13 weeks, starting no earlier than 6 weeks before the expected date of confinement.

(c) MATERNITY GRANTS

Contribution requirement:

- At least 26 weekly contributions paid since entering the scheme and at least 26 weekly contributions in the year immediately before confinements either by the woman or her husband.

Amount of grant:

- EC\$560.
- The Maternity Grant has increased on an ad-hoc basis as follows:

1973 – 1978	25.00
1978 – 1986	40.00
1986 – 1993	60.00
1994 – 2000	400.00
2001 - present	560.00

(d) FUNERAL GRANTS

Eligibility:

- A person or persons who have paid or will pay the cost of the funeral of a deceased insured person who:
 - had been receiving Sickness or Maternity benefit, or would have been entitled to such benefit at the time of death, or
 - had been receiving, had received or had satisfied the conditions for receiving Invalidity or Age benefits, or
 - had paid at least 26 contributions in the 12 months immediately before death.

Amount of grant: (EC\$)

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

1973 – 1978	150.00
1978 – 1986	250.00
1986 – 1993	500.00
1994 – 2000	2,000.00
2001 - present	2,500.00

Appendix II. Methodology, data and assumptions

This actuarial review makes use of the comprehensive methodology developed at the Financial and Actuarial Service of the ILO (ILO FACTS) for reviewing the long-term actuarial and financial status of a national pension scheme. The review has been undertaken by modifying the generic version of the ILO modelling tools to fit the specific case of Antigua-Barbuda and the Antibua-Barbuda Social Security Board (ABSSB). 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 Antigua-Barbuda's future demographic and economic environment. Next, projection factors specifically related to social security are determined and used in combination with the demographic/economic framework to estimate future cash flows and reserves. Assumption selection takes into account both recent experience and future expectations, with emphasis placed on long-term trends rather than giving undue weight to recent experience.

AII.1 Modelling the demographic and economic developments

The general Antigua-Barbuda 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. 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. The ultimate total fertility rates are assumed reached in 2021.

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

A g e G r o u p	2 0 0 2	2 0 1 1	2 0 2 1
1 5 - 1 9	0 . 0 6 7	0 . 0 4 5	0 . 0 2 5
2 0 - 2 4	0 . 1 0 3	0 . 0 8 3	0 . 0 6 3
2 5 - 2 9	0 . 0 9 3	0 . 0 9 7	0 . 1 0 0
3 0 - 3 4	0 . 0 7 6	0 . 0 8 4	0 . 0 9 2
3 5 - 3 9	0 . 0 5 0	0 . 0 6 5	0 . 0 7 9
4 0 - 4 4	0 . 0 1 4	0 . 0 1 5	0 . 0 1 6
4 5 - 4 9	-	-	-
T F R	2 . 0 0	1 . 9 3	1 . 8 5

Mortality rates have been determined using the mortality patterns obtained from the 1999-2001 *Barbados Life Table* with initial life expectancy at birth in 2002 of 69.9 and 76.1 for males and females, respectively, assumed given their consistency with the table of mortality rates chosen.

Improvements in life expectancy have been assumed to follow the "slow" rate as established by the United Nations. Sample mortality rates and the life expectancies at birth and at age 60 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	0.0137	0.0088	0.0070	0.0113	0.0068	0.0052
5	0.0003	0.0002	0.0001	0.0002	0.0001	0.0000
15	0.0006	0.0004	0.0003	0.0003	0.0002	0.0001
25	0.0018	0.0010	0.0007	0.0010	0.0008	0.0007
35	0.0027	0.0016	0.0012	0.0015	0.0011	0.0009
45	0.0050	0.0033	0.0027	0.0025	0.0017	0.0014
55	0.0098	0.0071	0.0060	0.0053	0.0037	0.0031
65	0.0195	0.0152	0.0133	0.0104	0.0067	0.0054
75	0.0492	0.0414	0.0377	0.0292	0.0197	0.0162
85	0.1372	0.1244	0.1180	0.0917	0.0735	0.0656
95	0.3058	0.2966	0.2919	0.2415	0.2170	0.2055
Life Exp at:						
Birth	69.9	74.8	76.8	76.1	81.2	83.4
Age 60	18.3	20.2	21.0	21.6	25.1	26.6

Net migration (in minus out) 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.

Table AII.3: Net immigration

Age	Net Migration (In minus Out)					
	2002		2032		2062	
	Male	Female	Male	Female	Male	Female
0 - 9	(6)	(6)	(1)	(1)	-	-
10 - 19	(5)	(7)	(1)	(1)	-	-
20 - 29	(31)	(39)	(5)	(6)	-	-
30 - 39	(21)	(20)	(3)	(3)	-	-
40 - 49	(7)	(5)	(1)	(1)	-	-
50 - 59	(2)	(1)	(0)	(0)	-	-
60 - 69	(0)	(0)	(0)	(0)	-	-
70+	(0)	(0)	(0)	(0)	-	-
All Ages	(72)	(78)	(11)	(12)	-	-

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. Table A.II.4 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 AII.4: Age-specific and total labour force participation rates

Age	Males		Females		Year	Males	Females
	2002	2062	2002	2062			
17	42%	42%	38%	38%	2002	81%	74%
22	92%	92%	85%	85%			
27	92%	92%	89%	89%	2012	82%	76%
32	94%	94%	91%	91%	2022	84%	77%
37	93%	93%	93%	93%	2032	85%	77%
42	96%	96%	93%	93%			
47	93%	96%	84%	93%	2042	85%	77%
52	89%	93%	74%	84%	2052	85%	77%
57	81%	89%	64%	74%	2062	85%	76%

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.

AII.2 Projection of ABSS income and expenditure

This actuarial review addresses all ABSS revenue and expenditure items. For Short-term Benefits Branch, income and expenditure are projected as a percentage of insurable earnings while for the projections of pensions in the Long-term Benefits Branch a year-by-year cohort methodology is followed. 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. ABSS' administrative expenses are modelled as a decreasing percentage of insurable earnings. Finally, the end-of-year reserve is the beginning-of-year reserve plus the net result of cash inflow and outflow.

AII.3 ABSS insured population data and assumptions

The data required for the valuation of the ABSSF 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.5 through AII.9.

Table AII.5: Active insured population, earnings and past credits, 2002

Age	# of Active Insureds		Average Monthly Insurable Earnings		Average # of Years of Past Credits	
	Male	Female	Male	Female	Male	Female
15 - 19	1,066	1,130	1,608	1,635	0.9	0.9
20 - 24	2,196	2,440	2,104	1,922	4.0	3.8
25 - 29	2,244	2,720	2,507	2,026	7.5	7.2
30 - 34	2,234	2,782	2,756	2,120	11.1	10.9
35 - 39	2,031	2,546	2,867	2,091	14.9	14.7
40 - 44	1,678	2,146	2,936	2,130	18.7	18.5
45 - 49	1,222	1,565	2,906	2,120	22.1	22.3
50 - 54	987	1,073	3,042	2,234	23.2	23.3
55 - 59	388	369	3,024	2,185	23.6	23.8
All Ages	14,046	16,771	2,605	2,049	12.2	12.3

Table All.6: Pensions-in-payment, December 2002

Age	Old-Age Benefit		Invalidity Benefit		Survivors Benefits		Assistance	
	Male	Female	Male	Female	Male	Female	Male	Female
0 - 4	-	-	-	-	-	9	-	-
5 - 9	-	-	-	-	-	64	-	-
10 - 14	-	-	-	-	-	127	-	-
15 - 19	-	-	-	-	-	100	-	-
20 - 24	-	-	-	-	-	-	-	-
25 - 29	-	-	-	-	-	-	-	-
30 - 34	-	-	-	-	-	-	-	-
35 - 39	-	-	5	2	-	3	-	-
40 - 44	-	-	3	12	-	1	-	-
45 - 49	-	-	13	15	-	3	-	-
50 - 54	-	-	19	18	-	8	-	-
55 - 59	-	-	19	30	-	36	-	-
60 - 64	581	642	1	2	-	58	-	-
65 - 69	532	491	-	2	-	87	1	3
70 - 74	377	354	-	1	-	105	2	25
75 - 79	282	211	-	-	-	83	32	114
80 - 84	175	114	-	-	-	44	21	103
85 - 89	68	40	-	-	-	-	25	98
90 - 94	-	-	-	-	-	-	14	62
95 - 99	-	-	-	-	-	-	8	15
# of Pensioners	2,015	1,852	60	82	-	728	103	420
Avg Weekly Pension	\$ 142	108	\$ 137	\$ 115	\$ -	\$ 77	\$ 137	\$ 137

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

Table All.7: Density of contributions

A g e	M a l e s	F e m a l e s
1 7	5 5 %	5 0 %
2 2	7 5 %	7 4 %
2 7	8 0 %	7 9 %
3 2	8 2 %	8 3 %
3 7	8 4 %	8 4 %
4 2	8 5 %	8 5 %
4 7	8 6 %	8 7 %
5 2	8 7 %	8 8 %
5 7	8 6 %	8 8 %

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

Table AII.8: Rates of entry into invalidity

A g e	M a l e s	F e m a l e s
1 7	-	-
2 2	-	-
2 7	-	-
3 2	0 . 2 9 5	0 . 7 1 2
3 7	0 . 6 5 0	0 . 5 1 8
4 2	0 . 7 8 7	2 . 7 6 8
4 7	3 . 7 8 1	4 . 6 3 9
5 2	6 . 6 8 7	9 . 8 4 2
5 7	1 3 . 6 0 8	2 5 . 0 4 1

Table AII.9, shows the assumed probability of Survivors' benefit claims and the average ages of new claimants, groups by the age of the deceased.

Table AII.9: Probability of a deceased having eligible survivors and their average ages

Age	Males		Females	
	Probability of Eligible Spouse	Avg # of Eligible Children	Probability of Eligible Spouse	Avg # of Eligible Children
17	0%	-	0%	-
22	1%	0.0	0%	0.0
27	5%	0.1	0%	0.1
32	14%	0.2	0%	0.3
37	32%	0.4	0%	0.7
42	44%	0.7	0%	0.7
47	47%	0.6	0%	0.6
52	45%	0.4	0%	0.4
57	35%	0.3	0%	0.1
62	27%	0.3	0%	0.1
67	22%	0.1	0%	-
72	18%	0.1	0%	-
77	18%	0.1	0%	-
82	17%	0.0	0%	-
87	12%	0.0	0%	-

Appendix III. ABSSB income, expenditure and year-end reserves, 1999 – 2002

	1999	2000	2001	2002
Income				
Contribution Income	49,475,689	54,554,939	54,821,305	57,934,070
Investment Income	11,866,688	12,810,887	14,988,269	16,023,617
Other Income	1,382,580	1,576,163	1,683,872	1,794,809
Total Income	62,724,957	68,941,989	71,493,446	75,752,496
Expenditure				
Benefits				
Sickness Benefit	2,046,424	2,212,743	2,143,975	2,319,414
Maternity Benefit	1,949,164	2,291,888	2,256,873	2,110,910
Maternity Grant	282,903	457,745	443,277	394,596
Funeral Benefit	386,361	543,334	449,934	465,744
Age Pension	16,741,741	19,905,702	21,719,883	24,294,195
Invalidity Pension	495,207	682,493	734,620	817,211
Survivors Pension	1,150,201	1,430,342	1,523,456	1,561,043
Assistance Pension	1,126,819	1,048,454	945,905	869,445
Age Grant	205,504	150,110	117,199	281,817
Invalidity Grant	-	-	-	-
Survivors Grant	2,540	7,541	726	7,328
Total Benefit Expenditure	24,386,864	28,730,352	30,335,848	33,121,703
Administrative Expenditure	7,756,876	8,187,205	9,372,423	10,264,680
Total Expenditure	32,489,536	36,917,557	39,708,271	43,386,383
Excess of Income over Expenditure	30,235,421	32,024,432	31,785,175	32,366,113
Reserves at End of Year	427,638,081	459,662,513	491,447,688	523,939,274
Short-term Benefits Branch	85,278,255	85,278,255	94,212,644	103,959,135
Long-term Benefits Branch	353,434,959	353,434,959	376,285,745	399,030,840
Revaluation Reserve	20,949,299	20,949,299	20,949,299	20,949,299
Total Reserves	459,662,513	459,662,513	491,447,688	523,939,274

Appendix IV. International obligations of the Government of Antigua and Barbuda with reference to ratified ILO Social Security Conventions

Antigua-Barbuda is a party to the following Social Security Conventions of the ILO:

- *Workmen’s Compensation (Agriculture) Convention, 1921 (No. 12), as ratified by Antigua-Barbuda in 1983;*
- *Workmen’s Compensation (Accidents) Convention, 1925 (No. 17), as ratified by Antigua-Barbuda in 1983; and*
- *Equality of Treatment (Accident Compensation) Convention, 1925 (No. 19), as ratified by Antigua-Barbuda in 1983.*

There are no pending comments of the Committee of Experts on the Application of Conventions and Recommendations regarding Convention No. 12 and Convention No. 19 and therefore, it may be assumed that the national legislation gives effect to the provisions of both Conventions. However, the Committee of Experts made the following observation concerning Convention No. 17 at its 73rd session in 2002. This observation/ is as follows:

Observation to the Government of Antigua and Barbuda on adherence to requirements of Convention No. 17⁹

The Committee of Experts made the following Observation concerning Convention No. 17 at its 73rd session in 2002. The Observation is as follows:

“For many years the Committee has been drawing the Government’s attention to the fact that the national legislation (Workmen’s Compensation Ordinance, No. 24 of 1956, as amended) on compensation for occupational accidents does not allow full effect to be given to the Convention. In its last report, the Government indicates that there has been no change in the legislation, and that the latter is adequate for Antigua and Barbuda. In these circumstances the Committee must once again express the hope that the Government will be able to re-examine the matter and that it will take the necessary steps to bring national law and practice into full conformity with the Convention, as follows.

“*Article 5 of the Convention.* Section 8 of the Workmen’s Compensation Ordinance, No. 24 of 1956, should be amended so as to ensure that the compensation due in the event of accidents causing permanent incapacity shall be paid in the form of periodical payments, provided that it may be paid wholly or partially in a lump sum, if the competent authority is satisfied that it will be properly utilized.

“*Article 7.* This provision of the Convention provides for additional compensation for victims of injuries who need the assistance of a third person. However, section 9 of the

⁹ Report of the Committee of Experts on the Application of Conventions and Recommendations: Workmen’s Compensation (Accidents) Convention, 1925 (No. 17) Antigua and Barbuda (ratification: 1983) – “Observation”, CEACR 2002/73rd Session, Application of Conventions and Recommendations.

above Ordinance provides for additional compensation only in the event of temporary incapacity.

“Article 9. According to section 6(3) of the above Ordinance, the employer is responsible for paying the "expenses and reasonable cost" of medical treatment undergone by a worker as a result of an occupational accident up to a prescribed amount, whereas the Convention does not prescribe any limits in such cases. Furthermore, the legislation does not appear to make express provision for surgical and pharmaceutical costs, contrary to this Article of the Convention. The Committee therefore asks the Government to take the necessary steps to give full effect to this provision of the Convention.

“Article 10. The Committee notes that the legislation does not ensure the provision of surgical appliances and artificial limbs in general. Section 10 of the abovementioned Ordinance provides for the supply of artificial limbs only when this is likely to improve the earning capacity. The Committee recalls that this provision of the Convention requires surgical appliances and artificial limbs to be supplied in all cases in which they are recognized as necessary, and not only with a view to improving the earning capacity. The Committee therefore asks the Government to take the necessary measures to bring its legislation into full conformity with this Article of the Convention.

[The Government is asked to reply in detail to the present comments in 2004.]”

Appendix V. Alternate approach for self-employed persons

(Taken from the *State of Social Security In the CSME*)

None of the sixteen (16) regional social security schemes have been able to achieve satisfactory levels of self-employed participation – Barbados is best at 25 per cent, two around 15 per cent but most cover less than 5 per cent, even where coverage is mandatory. Therefore, along with additional education and better enforcement (where coverage is compulsory) a new approach that will make participation by self-employed persons simpler and contributing more flexible, should be considered.

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. With this in mind, a new approach that encompasses the indexed career earnings (ICE) pension discussed earlier, along with the flexibility to contribute as often as and as much as desired is recommended. A summary of the proposed system is as follows:

- (1) Provide coverage for all benefits in the *Standard Benefits Package* for the self-employed – Short-term, Long-term and Employment Injury. (See Section 3.1 for a list of these benefits.)
- (2) Identify several income classes that will provide contribution targets and 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.
- (3) Self-employed persons will have full flexibility to pay as often as and how much they wish without having to pay for a particular month and without having to complete any forms. Where contributions made exceed the maximum payable due to the wage ceiling, options for dealing with the excess include:
 - Cash refund,
 - Allow excess contributions to roll over to future years,
 - Invest excess which will be either refunded as a lump sum at retirement or used to enhance the Age/Retirement pension,
 - Annually transfer the excess to the private investment or pension fund of their choice.
- (4) 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 (see Table AV.1). 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.
- (5) Payment for short-term benefits will be at the applicable benefit percentage times the implied wage for the highest possible income class for which actual contributions allow.

- (6) Payment of pensions will be based on an indexed career earnings approach as described in Section 4.1.1, with total “earnings” in each year 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. (See example in Table AV.1 below)

The example 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 implicit contribution rate is estimated to be 10 per cent.

Table AV.1: 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. As shown above, a full year’s contributions (more than 52) have been made for Income Classes I and II,

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 Classes V (last column). 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 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 13.2. Therefore, a minimum of 40 “effective” contributions would only have been made for Class I (50 effective weeks for Class I and 33½ 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 them 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 fairly treated 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.

Appendix VI. Unemployment benefits in other countries

Within CARICOM, Barbados remains the only country that has an unemployment insurance programme. This scheme is administered by the National Insurance Board and has been in existence since July 1981. The initial contribution rate was set at 2 per cent and shared equally by the employer and employee. Since then this rate has been adjusted six times but the 50/50 relationship between employer and employee has remain unchanged. There have also been several changes to the benefit rate and maximum duration. In 1981, benefits were 40 per cent of average insurable wages 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 AV1.1: 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

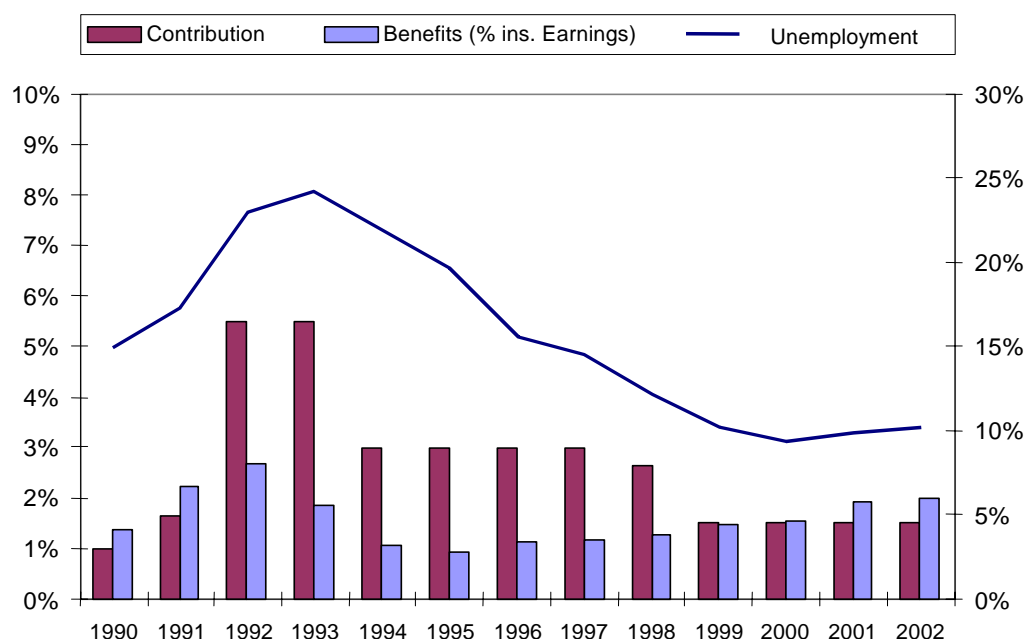
AWIE – Average Weekly Insurable Earnings

Table AV1.2: Changes to Contribution Rate

Month of change	Combined contribution rate (%)
July 1981	2.0
May 1987	1.0
October 1991	2.75
December 1991	5.5
January 1994	3.0
September 1998	1.5

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 of 3.5 times annual expenditure.

Chart: AVI.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:

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

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

Table AVI.3: Highlights of recent unemployment benefit scheme experience

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

Table AVI.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 60% of average weekly insurable earnings	2 weeks 55% of average insured earnings	1 month 60% of average insurable weekly earnings during last 50 weeks	3 days 60% of insurable earnings up to the basic earnings, plus 50% of insurable earnings in excess of the basic earnings up to a maximum of 2 times the basic earnings. (dependents' supplements payable)
Benefit percentage				
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				
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 %

