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Barbados: Financial System Stability Assessment—Update, including Reports on the Observance of Standards and Codes on the following topics: Banking Supervision and Securities Regulation

This update to the Financial System Stability Assessment on Barbados was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with the member country. It is based on the information available at the time it was completed on July 11, 2008. The views expressed in this document are those of the staff team and do not necessarily reflect the views of the government of Barbados or the Executive Board of the IMF.

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BARBADOS

Financial System Stability Assessment—Update

Prepared by the Monetary and Capital Markets and Western Hemisphere Departments

Approved by Jaime Caruana and Anoop Singh

July 11, 2008

This Financial System Stability Assessment (FSSA) Update is based primarily on work undertaken during a visit to Barbados from March 26 to April 10, 2008, as part of the Financial Sector Assessment Program (FSAP) Update. The FSAP findings and recommendations were discussed with the authorities during the Article IV Consultation mission in June 2008.

The FSAP team comprised Marco Espinosa-Vega (IMF, Mission Chief); Craig Thorburn (World Bank, Deputy Mission Chief); Joon Soon Lee, Bikki Randhawa (from headquarters), and Florencia Moizeszowicz (all World Bank); Giancarlo Gasha and Eugenio Cerutti (IMF), Diane Mendoza (external expert, formerly with the Resolution Trust Corporation and the OCC, United States), Tanis MacLaren (external expert, formerly with the Ontario Securities Commission, Canada), and Linda Hytry (external expert, currently with the Texas Department of Insurance, United States). Gamal El-Masry (IMF, WHD) participated in the meetings, collected background information for the Article IV consultation, and supported the FSAP team on macro issues.

The main findings are:

- The Barbadian financial system has proved to be resilient and, so far, has not been affected by the turmoil in mature financial markets. Several of the shortcomings identified during the 2002 FSAP have been addressed. However, regulatory reforms are still needed to increase flexibility and stability of the financial system.
- The key reform challenges for the authorities are: (i) establishing a clear legal framework for the consolidated supervision of banking groups and enhancing home/host cooperation, (ii) updating the regulations on capital adequacy, asset classification, and loan-loss provisioning, (iii) ensuring that the mandate and structure of the upcoming Financial Services Commission are adequate for the effective supervision of the non banking financial sector.

FSAP assessments are designed to assess the stability of the financial system as a whole and not that of individual institutions. They have been developed to help countries identify and remedy weaknesses in their financial sector structure, thereby enhancing their resilience to macroeconomic shocks and cross-border contagion. FSAP assessments do not cover risks that are specific to individual institutions such as asset quality, operational or legal risks, or fraud.

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GLOSSARY

AML	Anti-Money Laundering
BBA	Barbados Bankers Association
BBL	Butterfield Bank (Barbados) Limited
BCP	Basel Core Principles For Effective Supervision
BDS	Barbados dollar
BNB	Barbados National Bank
BNS	Bank of Nova Scotia
BSD	Bank Supervision Department
BSE	Barbados Stock Exchange
CAR	Capital Adequacy Ratio
CARICOM	Caribbean Community
CBB	Central Bank of Barbados
CFT	Combating the Financing of Terrorism
CIBC	Canadian Imperial Bank of Commerce
CSD	Barbados Central Securities Depository Inc.
CSD	Barbados Central Securities Depository Inc.
CSME	Caribbean Single Market and Economy
CXN	Caribbean Exchange Network
DIC	Deposit Insurance Corporation
FCIB	First Caribbean International Bank Ltd
FIA	Financial Institutions Act
FSAP	Financial Sector Assessment Program
FSI	Financial Soundness indicators
GDP	Gross Domestic Product
IAIS	International Association of Insurance Supervisors
IFSA	International Financial Services Act
IOSCO	International Organization of Securities Commissions
MCM	Monetary and Capital Markets Department
MFA	Mutual Funds Act
MOU	Memorandum of Understanding
NIR	Net international reserves
NIS	National Insurance Scheme
NPL	Nonperforming Loan
OECS	Organization of Eastern Caribbean States
OSC	Ontario Securities Commission
PDR	Policy Development and Review Department
RBC	Royal Bank of Canada
RBTT	Royal Bank of Trinidad and Tobago Bank (Barbados) Limited
SA	Securities Act
SOIP	Supervisor of Insurance & Pensions
SRO	Self-Regulatory Organization
WEO	World Economic Outlook

EXECUTIVE SUMMARY

The 2008 FSAP Update for Barbados took place in the context of considerable turmoil in global financial markets. Encouragingly, the financial system in Barbados has been little affected by this turmoil, and the macroeconomic situation remains robust, with economic growth remaining strong in response to increased tourism and the unemployment rate has fallen to a historical low. Nonetheless, as has been shown in past cyclical episodes, the economy is vulnerable to a slowdown in Europe (especially in the United Kingdom) and the United States.

The domestic banking sector appears sound and profitable and continues to dominate the financial system. The financial system has benefited from the strong economic expansion, which has boosted credit demand while contributing to a steady improvement in banks' asset quality. Capital adequacy for locally incorporated banks remains above the minimum required, and profits remain at healthy levels.

Stress tests reveal an onshore banking sector that would be resilient to most market shocks, but capital levels may be at risk in the case of more extreme events. In particular, the system is vulnerable to credit quality shocks, and an extreme but plausible decline in tourism receipts, or in construction activity, would reduce banks' capital to below the regulatory minimum. Moreover, even under a credit risk baseline scenario, one bank's capitalization would fall below the regulatory minimum.

Progress has been made in addressing the recommendations of the 2002 FSAP assessment. The Bank Supervision Department (BSD) of the Central Bank of Barbados (CBB) has been moving toward a risk-based supervisory framework, increased the number and training of its staff, and issued many guidelines on risk management. The Financial Institutions Act (FIA) was amended, inter alia, to facilitate the introduction of Deposit Insurance, to require auditors to be approved by the CBB, and to improve the procedures for winding up, restructuring and license revocation.

The crisis management framework was enhanced in mid-2007 with the introduction of a compulsory deposit insurance scheme in mid-2007, but further steps would be helpful. In order to improve market discipline and minimize moral hazard, the authorities should publicize more effectively the features of the deposit insurance and which institutions are covered and consider, at least temporarily, raising premiums to boost the size of the fund, which is low compared with many international benchmarks. Going forward, to complement the financial safety net, the authorities will need to formalize a prompt corrective action system and bank resolution process. There is also a need for closer consultation and coordination with overseas authorities, especially with Canadian supervisors with respect to the banking sector, including by engaging crisis simulation exercises.

Assuring continued financial stability and competitiveness important regulatory and remaining supervisory weaknesses in the financial system also should be addressed. The prudential oversight of the banking sector could be strengthened by enhancing supervisory capabilities, accelerating the transition to risk-based banking supervision, tightening supervision of large exposures and exposures to related parties, improving the criteria for asset classification and provisioning, improving consolidated supervision for banking groups and regional financial conglomerates, and establishing more active home-host supervisory cooperation arrangements.

The lack of adequate supervision of the insurance sector exposes the sector to material risks. Profitability and capital adequacy in this sector are difficult to assess due to incomplete and inadequate data. Single negative events may significantly damage the reputation of a jurisdiction in an increasingly regional and global market. Although the mission noted the introduction of on-site inspections, the sector remains largely self-regulated owing to continuing shortages of qualified staff, inadequate regulation, and out-of-date financial reporting. Greater cooperation and exchange of information, particularly with the authorities in Trinidad and Tobago, are necessary to facilitate effective assessment of financial soundness and the protection of Barbadian policyholders by the supervisor.

Despite some progress toward integration, capital markets remain underdeveloped. Efforts to integrate the Barbados Stock Exchange with the Trinidad and Tobago and Jamaica exchanges through the Caribbean Exchange Network (CXN), pending regulatory approval, are in line with the 2002 FSAP recommendations to adopt common listing, trading, and settlement rules across the exchanges in the region to promote development of capital markets.

The Registrar of the Cooperatives Department is slowly building capacity to adequately supervise credit unions. This agency has continued to carry out joint inspections with the CBB of larger institutions as recommended by the 2002 FSAP team. However, the number of inspections conducted has decreased sharply and the joint inspections are not yet being conducted with the recommended frequency. Smaller banks expressed frustration at the tax breaks and lower compliance costs afforded to the credit unions, since this puts them at a competitive disadvantage.

The authorities are assessing the best way to carry out the supervision of the nonbank financial system under one regulatory umbrella. The Financial Services Commission (FSC) was an initiative devised under the previous government to integrate the regulation and supervision of the non bank financial sector. The recently elected government is currently studying how to best supervise the non bank financial intermediary sector. An early decision regarding FSC’s structure and mandate would help ensure that the much-needed improvements in the supervision of the Credit Union and Insurance sectors can be advanced.

The offshore financial sector appears insulated from the onshore banking system, thus limiting the risk of contagion. In particular, “Chinese walls” exist between affiliated on-and off-shore banks, and there are strict legal prohibitions against transactions between the on-shore sector and off-shore banks. Given that many of the off-shore banks operate out of Barbados to take advantage of tax treaties, they have a strong incentive to comply with the prohibitions (lest they lose their license).

Barbados will continue to face competition from offshore financial centers in the region. To differentiate itself, the country is seeking to continue strengthening its reputation for stability and a selective licensing process, and to develop a workforce with strong skills in financial services. However, the authorities still face the challenge of overseeing a large number of very heterogeneous financial institutions with constrained resources, and the need to adapt regulations and supervision to properly monitor and control risk without increasing the burden of compliance.

The new government is re-assessing the extent and timing of the capital account opening in light of an increasingly uncertain global environment. However, the authorities expressed a willingness to pursue a gradual liberalization of the exchange controls vis-à-vis the Organization of Eastern Caribbean States (OECS).[1]

The authorities should revisit the investment strategy of the government-sponsored national insurance scheme. A shortage of permissible local investment opportunities has led to sizable holdings of money market instruments and government liabilities, highlighting the need for a better portfolio diversification strategy.

[1] The anti-money laundering and combating the financing of terrorism (AML/CFT) regime of Barbados has been assessed by the Caribbean Financial Action Task Force (CFATF) and its findings was presented for approval by its Plenary in May 2008.

Box 1. Key FSAP Update Recommendations

Banking

- Strengthen cross-border consolidated supervision, including establishing a clear legal framework for the consolidated supervision of banking groups and enhancing home/host cooperation (H).
- Update regulations on capital adequacy, asset classification and loss provisioning to ensure their effectiveness after the last ten years of structural changes in the banking industry (H).
- Strengthen regulation and supervision for large exposures and related-party exposures, including setting up the regulatory aggregate limits on total large exposures and related-party exposures on a consolidated basis, and defining the related party in a comprehensive way.
- Based on a quantitative impact study, make adjustments to the timetable of adoption of Basel II, including by delaying the implementation schedule, and strengthening the Pillar 2 framework.

Financial Services Commission

- Resolve promptly the mandate and structure of the FSC so as to help advance the planned improvements in the supervision of both the Credit Union and Insurance sectors (H).

Insurance

- Develop standards on corporate governance, market conduct, internal controls (including asset and derivative controls, particularly in the case of the offshore market), asset and liability valuation, and a solvency standard for life insurers with a view to enhancing the observance of the IAIS principles (H).
- Improve the timeliness of supervisory returns, and redesign processes for onsite inspection, and offsite analytical support. (H)
- Collaborate with the Trinidadian authorities in the supervision of larger cross-border groups.

Credit Unions

- Increase the frequency of joint (Cooperatives Department and Central Bank) on-sight examinations (H).
- Consider issuing a specialized Credit Union Law (H).

Securities Markets

- Provide the Securities Commission with statutory power under the MFA and SA to make legally binding rules, inspect and access all information at regulated firms at any time, share information and otherwise cooperate with domestic and foreign supervisors (H).
- Develop and implement a regular inspection program for regulated firms under both Acts and require firms to have adequate internal control and risk management policies and procedures (H).
- Update and harmonize takeover bid rules across the region at the exchange and statutory levels; consider an update of bankruptcy and other commercial legislation.
- Require timely disclosure by mutual funds, public companies and insiders of public companies; consider raising penalties for statutory offences.

Deposit Insurance Scheme

- Formalize early warning and prompt corrective action systems (H).
- Expand and improve the level of public awareness about the characteristics of the new deposit insurance scheme.

Financial Stability Report

- Consider enhancing the financial stability report by supplementing the CBB's macro model with a banking credit-risk model.

Other

- Revisit the NIS's investment strategy.

H = Highest priority

I. Macro Financial and Institutional Setting

A. Macroeconomic Background

1. **Barbados is a small country with a developing infrastructure, boasting one of the highest levels of GDP per capita in the region, at about US$12,400.** Economic growth has been strong (4.1 percent for 2004–2007) in tandem with increased tourism. Robust output growth has helped bring the unemployment rate to a historical low of 8.5 percent in 2007. The country enjoys an investment grade rating and has one of the highest S&P foreign currency sovereign credit ratings in the region. Tourism, real estate and financial services are the most dynamic sectors and represent almost half of GDP and almost 80 percent of foreign currency receipts.

2. **The Barbados dollar is pegged to the U.S. dollar at BDS$2=US$1.** The country maintains a number of exchange controls, and interest rates have typically followed U.S. rates closely. Barbados is a member of the Caribbean Community (CARICOM), which is planning to institute a monetary union in the period 2010-15, and in the run-up to monetary union barriers between the financial sectors of member countries are expected to be gradually removed. Inflation has declined from about 6.75 percent during 2005–06 to 4 percent in 2007. However, in recent months, y-o-y inflation has picked up again, fueled mainly by large increases in food and energy prices and is expected to reach 9 percent by the end of the year.

3. **There has been a deterioration in public finances.** The central government fiscal deficit widened from about 1.5 percent of GDP in 2006/07, to about 3.5 percent of GDP in 2007/08 (April to March), reflecting a rise in current expenditure relative to a moderate increase in tax revenue. Nonetheless, as a result of robust growth in tourism receipts, the deficit in the current account of the balance of payments fell from 8.2 percent of GDP in 2006, to an estimated 6.6 percent of GDP in 2007. The stock of gross central government debt is relatively high at 73 percent of GDP, although roll-over risk is reduced by the high share of domestic liabilities. The official foreign exchange reserves held by the CBB at end-2007 are estimated at about US$776 million or four months of imports.

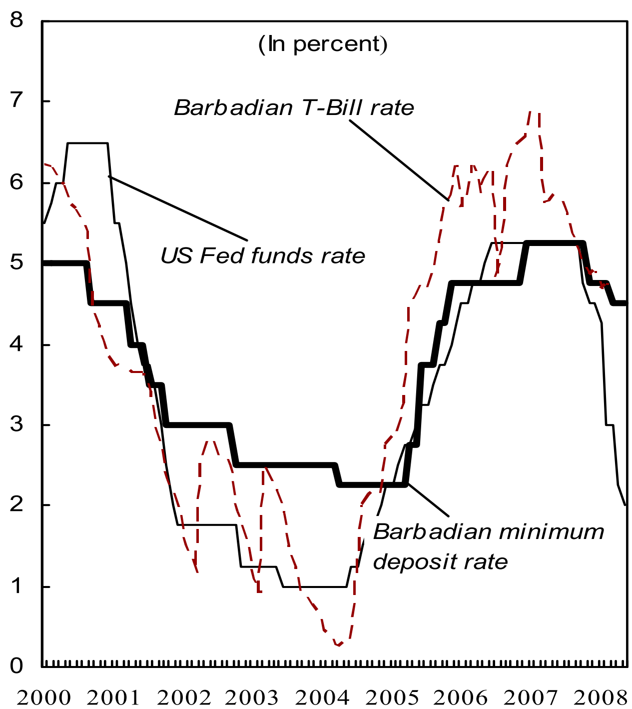
4. **Against the background of an uncertain global environment, efforts to open the capital account are being reexamined by the new government.** Capital controls shield the domestic financial market from shocks to global markets and investor sentiment. The new government that was elected in January 2008 has favored a more gradual approach to capital account liberalization. It has indicated that it would take more time to study the potential costs and benefits arising from the removal of capital controls before proceeding with lifting these controls vis-à-vis its CARICOM neighbors.

5. **The exchange controls and multiple reserve requirements afford the CBB control over its monetary policy in spite of the foreign exchange rate peg.** As a result, the policy rate differs from the U.S. fed funds rate for short periods of time (Figure 1). Monetary policy continues to be conducted through adjustments in the minimum deposit rate. In April 2008 the minimum deposit interest rate was lowered from 4.75 percent to 4.5 percent, broadly in line

with the recent trend in U.S. rates. The average nominal deposit and lending rates were 4.75 percent and 10.5 percent, respectively, at end-January 2008.

6. **In addition, onshore banks are subject to multiple reserve requirements**. These are computed on the basis of a three-week average of their respective deposits. Onshore banks are required to hold a 5 percent cash reserve requirement (CRR) on Barbados dollar deposits (unchanged since 2001), and a 6 percent CRR (held in BDS) on foreign currency deposits that was introduced in April 2006. The CBB also requires banks to hold "stipulated" government securities (SGS) as a percentage of their total local currency deposits.[2] The SGS requirement currently stands at 10 percent, having been reduced by 2 percentage points in November 2007.

Figure 1. Barbados: Comparative Policy Interest Rates, 2002–2007
(In percent)



Source: CBB

B. Macroeconomic Risks

7. **In the context of an uncertain global environment, GDP growth is expected to slow to about 2.3 percent in 2008**. Barbados is a popular destination for affluent U.K., U.S., and Canadian tourists, and tourism receipts are less sensitive to global economic trends than other destinations. In addition, the appreciation of the Pound Sterling, Canadian dollar, and Euro

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[2] The SGS was originally introduced in 1973, with only Treasury bills qualifying as recognized government securities. The SGS have since been expanded to include government bonds and other securities issued by state-owned enterprises.

against the U.S. dollar has boosted Barbados' price competitiveness and helped maintain modest growth in tourism arrivals from these destinations. Nevertheless, the U.S. slowdown and its spillovers to other developed economies may affect negatively Barbados' economy in general, and the tourism industry in particular.

8. **Barbados is also exposed to an international oil price shock through its impact on domestic prices and tourism**. Given that Barbados is a net importer of oil, increases in the price of oil would translate into higher domestic prices and represents a substantial negative terms-of-trade shock. Barbados is relatively distant from the main Caribbean cruise market, and higher fuel costs could adversely affect cruise ship arrivals. Thus far, these two channels do not seem to have had a material effect, partially due to government subsidies of domestic gas prices, and the upscale characteristics of Barbados' tourism market.

9. **A protracted global liquidity squeeze could also impact the real estate market and the financial sector.** Real estate and construction are important contributors to GDP. Acquisition of real estate by foreigners has boomed in recent years and is often financed from abroad. A sharp and protracted slowdown in this demand could increase unemployment and credit risk for the domestic banking sector. In addition, if the downturn contributed to a fall in real estate prices, the drop in the value of loan collateral pledged to onshore banks would require an increase in provisions, a possible contraction in credit, and a weakening of bank profits.

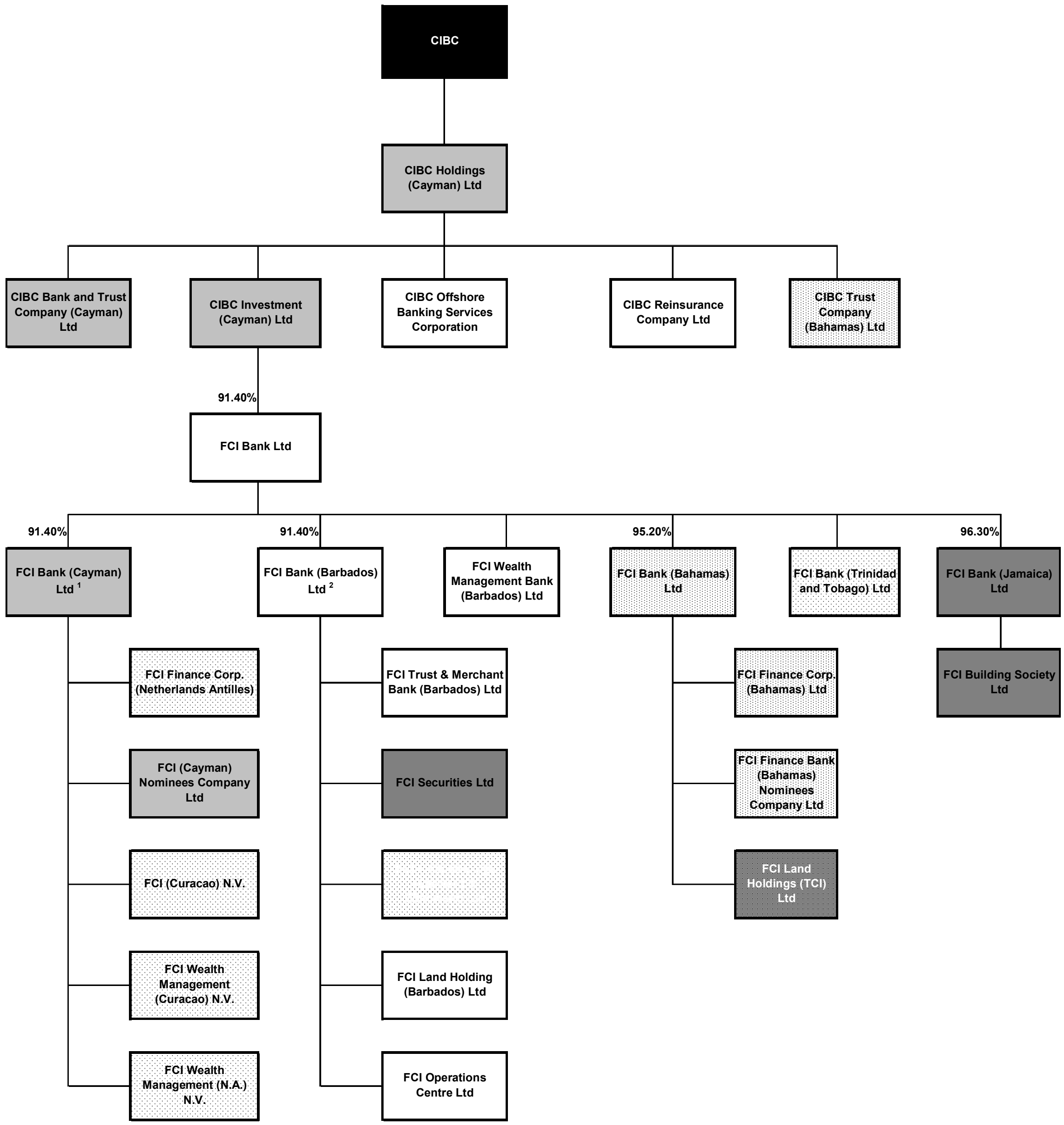
II. Financial System Institutions and Markets

A. Onshore Financial Institutions

10. **The onshore banking sector has grown significantly since the 2002 FSAP and has seen increased consolidation and globalization.** Bank assets have increased from US$3.1 billion in 2002 to US$5 billion in 2007. These assets are equivalent to about 142 percent of GDP, and about 80 percent of all deposit-taking institutions' assets. On-shore banks with increased regional links, as illustrated in Figure 2, focus their operations on consumer and real estate lending; their investment portfolio comprises mostly government bonds (70 percent of investments) held to maturity; and their operations are funded mainly with local deposits (almost 90 percent of liabilities). Off-balance sheet operations are virtually nonexistent. RBC's acquisition of RBTT has recently been approved by their shareholders, and was completed in mid-June 2008.[3]

[3] Currently, the sector comprises six foreign-owned banks (four subsidiaries, two branches) with preeminent Canadian dominance (about 70 percent of system's assets). The Canadian parent banks of the Barbadian institutions remain sound, with a combined CAR of 11.5 percent, and NPLs of only 0.5 percent of loans.

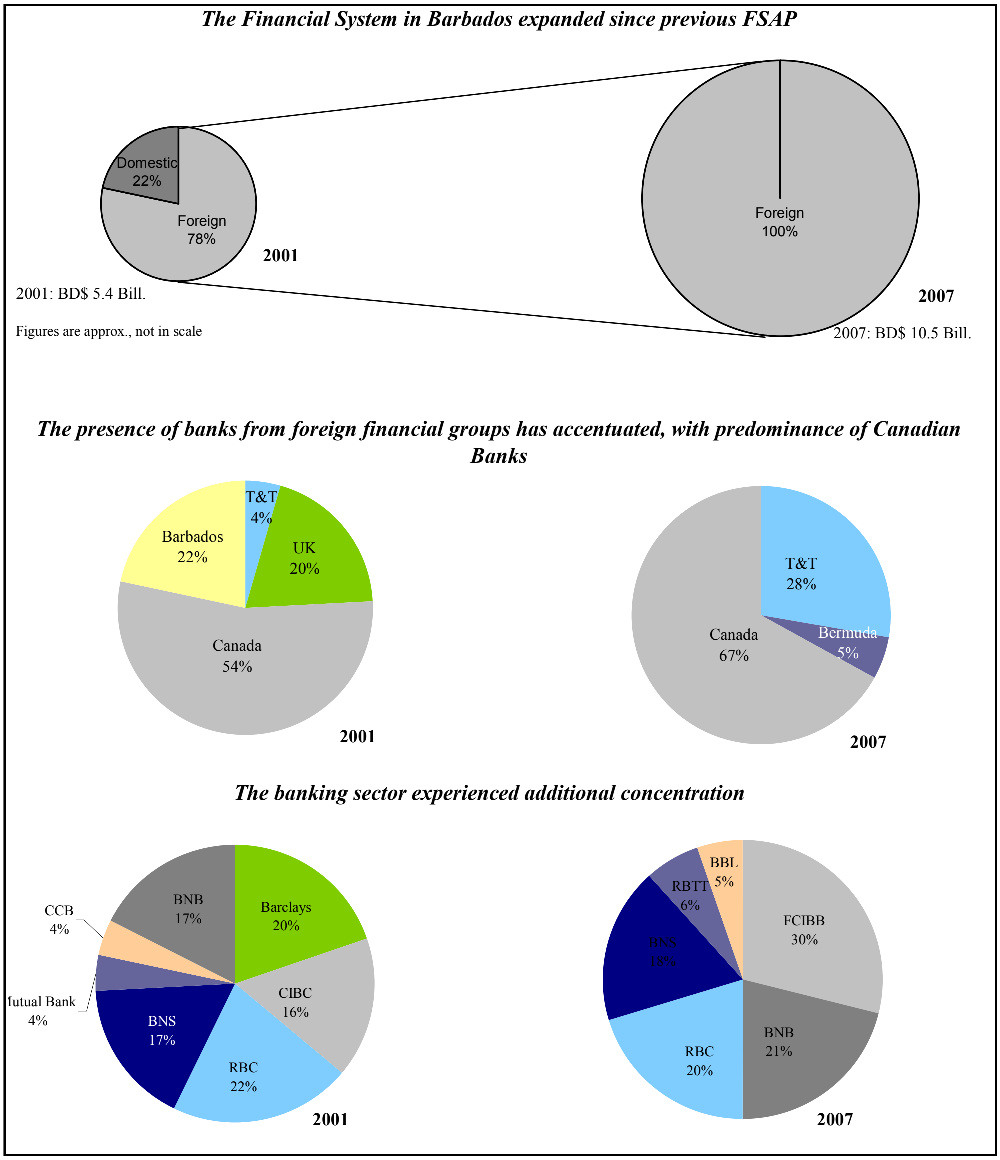
Figure 2: CIBC Structure in the Caribbean



[1] Includes also branches in the British Virgin Islands and St. Marteen.
[2] Includes also branches in Anguilla, Antigua, Belize, Dominica, Grenada, St. Kitts & Nevis, St. Vincent and the Grenadines.

11. **The Barbados Bankers Association (BBA) is working to develop a credit reporting bureau.** A U.S.-based credit bureau is operating in Trinidad and Tobago, and is being considered for development of the Barbadian bureau.

Figure 3: Banking Sector Trends since 2002 FSAP



Source: CBB and FSAP 2002

12. **Onshore banks' CAR exceeds regulatory requirements and nonperforming loans are declining.** At end-September 2007 the sector's CAR stood at 10.8 percent, above the minimum regulatory level of 8 percent. However, the CAR has been declining mainly due to an increase in higher risk-weighted consumer and real estate lending. Supported by the economic expansion, nonperforming loans have sharply declined from 8.2 percent in 2003 to 2.9 percent in 2007.

13. **The system remains profitable and liquid, with moderate positions in foreign currency.** Regulatory requirements on liquidity and foreign exchange exposures have induced banks to remain liquid and only modestly exposed to foreign currency risk. Short-term assets as a ratio to short-term liabilities stand at close to 59 percent. Subsidiaries maintain a long net open position in foreign exchange of 35.3 percent of their capital, and loans and deposits in

foreign currency represent only 3 percent and 17 percent of total loans and total deposits, respectively. For branches, loans and deposits in foreign currency represent 17 percent and 26 percent of total loans and total deposits, respectively.[4]

14. **Consumer credit has expanded faster than other credit activities** (Figure 4). Although private credit has moderated, and is now one of the slowest growing in the region, from 2003–2006, it grew in excess of 15 percent annually.[5] Consumer credit, which includes residential mortgages, has been the most dynamic sector, contributing to the system's hefty profitability. According to published financial sector indicators, rapid credit growth has not, so far, adversely affected banks' asset quality, which is not surprising given the recent sustained period of global expansion. However, the allocation of an increasing share of their resources to consumer and mortgage lending exposes banks to the possibility that the real estate boom might face a correction, especially since consumer and mortgage lending represents as much as 68 percent of total loans.[6]

15. **There are a number of trust companies, finance companies, and merchant banks that are licensed and supervised by the CBB**, with total assets equivalent to 19 percent of GDP. They are not allowed to accept demand deposits, or have access to the central bank's discount facility. A number of these institutions are also licensed by the Securities Commission under the Securities Act to conduct securities market activities.

16. **The securities markets remain illiquid and lack depth owing to the size of the economy, restrictions on capital movements, and investor preference for privately held interests.** The Barbados Stock Exchange (BSE) was established in 1987 and reincorporated under the new Securities Act in August 2001. As of December 2001, capitalization was estimated at around US$1.8 billion or 71 percent of GDP. Even though the number of issues traded on the regular market has not significantly expanded, and, on a net basis, only one additional company has been listed as of December 2007,[7] market capitalization reached US$5.6 billion, or close to 150 percent of GDP.[8]

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[4] Banks can maintain open positions in foreign currency of up to 5 percent of their spot liabilities. If banks have a short position in forwards, they must maintain a long spot position of up to 20 percent of their short position in forwards or 15 percent of their spot liabilities, whichever is higher.

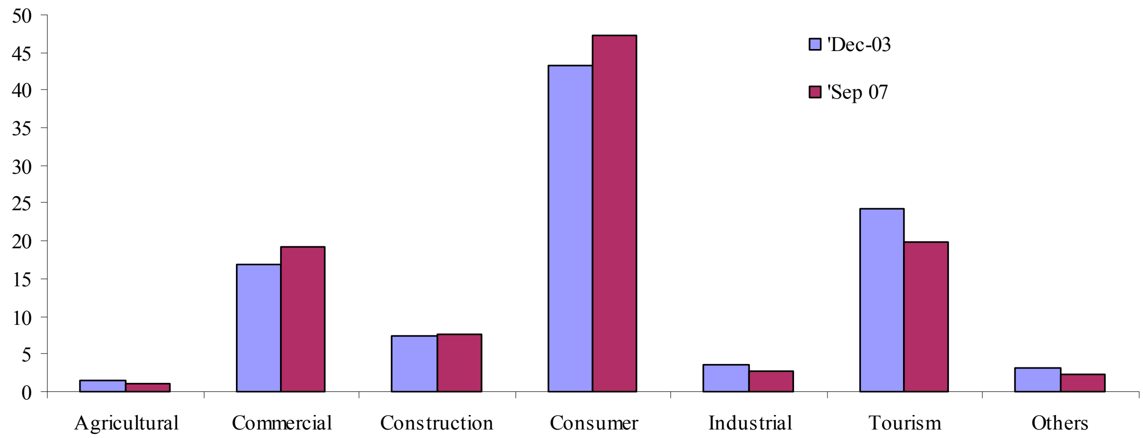
[5] In 2007, Barbados' private non-financial credit growth was close to 8 percent, compared with close to 10 percent for Bahamas, 27 percent for Dominican Republic, 36 percent for Jamaica, and 17 percent for Trinidad and Tobago.

[6] Mortgages grew by about 20 percent in 2007. Most of them carry adjustable interest rates and up to a 95 percent loan-to-value ratio. According to industry participants, the recovery of collateral through a judicial process takes between 6-18 months, relatively rapid compared with the rest of the Caribbean.

[7] There were three new issues over the period and two delistings. Each of the three new offerings was of a substantial size, the most significant one being a demutualization of a local insurance company, producing more than 40,000 individual shareholders.

[8] If cross-listed shares are included, the market capitalization at the end of 2007 reached US$ 9.4 billion or 250 percent of GDP.

Figure 4. Barbados: Credit by Economic Sector, 2003 vs. 2007
(In percent of total loans)

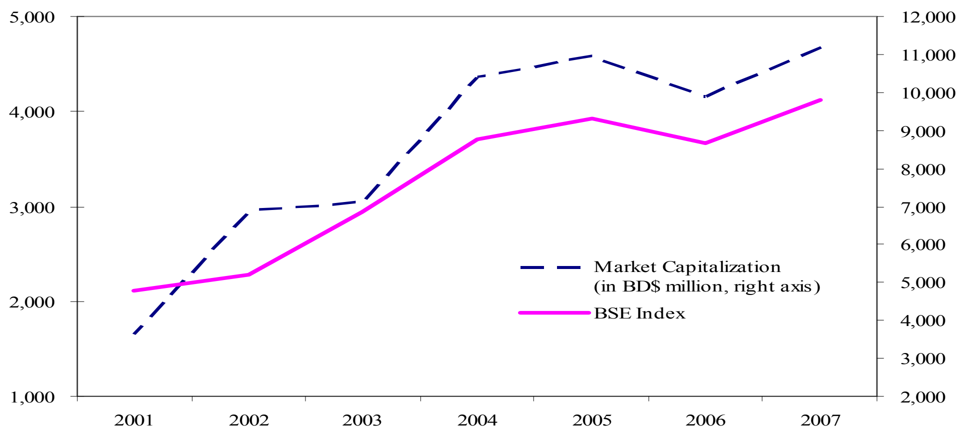


Source: CBB and staff estimates.

17. **The stock market has not yet been affected by the current global turmoil. The BSE index increased by 12 percent in 2007, reversing the 6 percent losses registered in 2006 (**Figure 5**)**. There are currently 26 listed entities and, owing to recent merger activity, two companies are expected to delist in 2008. Of these listings, 18 are domestic Barbadian companies, one is a domestic closed end property fund, seven are regional cross-border listings, and one is a domestic company listed on the Junior Market. Only one company has more than one type of securities listed.

18. **To address the low liquidity and limited number of listed companies available in the region, the Barbados, Jamaica, and Trinidad and Tobago stock exchanges have developed the Caribbean Exchange Network (CXN)**. The initiative uses common electronic trading platforms and connected trading and clearing systems to link the three exchanges into a single network. Phase I (whose regulatory approval is pending) involves a high speed communications network and common trading, clearing and settlement rules to facilitate trading across the three exchanges, although it does not integrate the three trading books. Trades will be cleared and settled between the exchanges' central securities depositories, with payments processed through a major bank operating in all three countries. Phase II would consolidate the three order books, with automated order routing. The linking of the exchanges may create operational interdependences across the jurisdictions that may create challenges for the authorities. As trading volumes on CXN increase, the resulting interconnections will place greater demands on the relevant regulators across jurisdictions, for effective and coordinated oversight of the exchanges, central depositories and clearing facility.

Figure 5. Barbados: BSE Capitalization and Index 2001–2007



Source: BSE.

19. **The mutual fund industry is small, but has more than doubled in size between 2003 and 2007, aided by tax preferences.** In 2003, there were 12 funds with total net assets of BDS$298 million. At the end of 2007, there were total net assets of BDS$759 million in 14 mutual funds, including one closed end property fund listed on the BSE and 13 open-ended funds. Investments in mutual funds and credit unions that are held for at least five years attract a tax credit.

20. **Debt markets are underdeveloped.** From 2003 to 2007, there have been 28 public issues of corporate debt securities for a total of BDS$1,370 million, with slightly over 35 percent of the total being raised in 2006. The BSE facilitates secondary market trading of corporate and government debt securities, but this type of trading is almost nonexistent. The yearly average total value of secondary market trades in government debentures and treasury bills recorded by the CBB as registrar between 2003 and 2007 was BDS$22.4 million. The average number of transfers recorded was 188 per year.

Onshore Banking Stability Analysis

21. **In light of shortcomings in asset classification and provisioning standards identified by the BCP assessors, adjustments were applied to the official data for stress testing purposes.**[9] These adjustments reduced the effective average CAR for the universe of banks analyzed from 10.8 percent to 10.2 percent, with all the banks still complying with the

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[9] The adjustments include: (i) provisions for "Special Mention" loans of 5 percent; (ii) increasing the provisioning rate of "Substandard" loans from 10 percent to 20 percent; and (iii) "migrating" 20 percent of the loans in the "Pass" category to the "Special Mention" category.

regulatory minimum level of 8 percent.[10] All the stress tests were conducted considering a benchmark CAR of 10.2 percent.

22. **The stress test analysis suggests that the main vulnerability faced by the domestic banking system is credit risk stemming from a downturn in economic activity.** Specifically, although a credit risk baseline scenario based on WEO projections shows that the capitalization of the on-shore system would remain above the minimum capital requirement, one bank's CAR would fall below the minimum 8 percent.[11]

23. **An extreme but plausible decline in tourism receipts, or in construction activity, would reduce banks' capital adequacy requirement below the regulatory minimum.** A 15 percent decline in tourist arrivals, or a 15 percent decline in the construction sector, would drive the CAR of the system from the current 10.2 percent to 6.7 percent and 5.9 percent respectively. If the system were hit simultaneously by several significant shocks, including a 15 percent decline in both tourism and construction, a 500 bps increase in interest rates, 50 percent increase in oil prices, and a material recession in the U.S., the capitalization ratio of the system would decline to 3.6 percent, and all the banks would be below the regulatory minimum. Some of these shocks are extreme. The tourism shock would be about 30 percent larger than the large tourism drop experienced in 2001; the construction shock would be a sharp reversal of recent year trends (about 9 percent growth on average per year), and much deeper than the previous cycles, where there was only a slowdown in construction activity (e.g. in 1996, 2000 and 2003). However they are also plausible because GDP fell by 4 percent form the last quarter of 2001 through the first half of 2002, and in the early 1990s, GDP fell by more than 6 percent. Also, a 500 bps increase in interest rates would be similar to the major increase in interest rates in the early 1990s, when, for example, the treasury bill rate jumped by 460 bps from March 1991 to March 1992.

24. **Domestic bank vulnerability to market risks is more limited**. In particular:

- **Interest Rate Risk.** An increase in interest rates of 5 percentage points would reduce the CAR to 8.4 percent, and the CAR of one bank with a sizable maturity gap would fall below the regulatory minimum.[12]
- **Exchange Rate Risk.** Changes to the currency peg would have only moderate effects on banks' capitalization. In the event of a currency depreciation, given the long net position in foreign currency held by banks, the negative effect of the quite limited foreign currency induced credit risk would be offset by the direct positive balance sheet effect derived from the long positions. A depreciation would be positive for banking sector CARs. On the other

[10] The stress test covers the four subsidiaries of the on-shore banking system.

[11] The authorities have approached this bank requesting an increase in its CAR because it is currently only slightly higher than the minimum regulatory level.

[12] Subsidiaries and branches have similar ratios of cumulative gaps over assets: -26.8 percent and -24.2 percent respectively. Also, government securities comprised only 14 percent of assets of the subsidiaries, and 17 percent of the assets of the branches.

hand, a 10 percent appreciation would slightly reduce the CAR from 10.2 percent to 9.9 percent, without bringing any bank below the regulatory threshold.

- **Liquidity Risk.** Liquidity risk was tested by assuming a sudden, large deposit run on the subsidiaries of foreign banks (e.g., simulating a reputational shock to the parent company abroad), equivalent to a run on deposits of 30 percent in a 30-day period. No banks become illiquid under this scenario, although two banks would suffer significant strain—the ratio of liquid assets to short term liabilities would decline from 57.3 percent to 31.6 percent for subsidiaries, and from 60.8 to 36.1 for branches. The same deposit run would potentially leave one foreign branch illiquid. Should the external funding dry up, the ratio of liquid assets to short-term liabilities would decline to 50.4 percent for subsidiaries, and to 53.6 for branches, while no banks would become illiquid (i.e. suffer negative cash flow).[13]

Table 1. Stress Testing: Summary of Results

Case	CAR Official Data	Adjusted CAR 1/	Baseline	CAR After Shock	Number of Banks CAR<8%	Number of Banks CAR<0%
Credit Risk						
Baseline 2/	10.8	10.2	8.4	-	1	0
"Perfect Storm" Scenario 3/	10.8	10.2	-	3.6	4	1
Interest Rate Risk						
+500bp	10.8	10.2	-	8.4	1	0
-500bp	10.8	10.2	-	11.9	0	0
Exchange Rate Risk						
10 percent depreciation	10.8	10.2	-	10.5	0	0
10 percent appreciation	10.8	10.2	-	9.9	0	0

Source: authorities and staff estimates.
Notes:
1. Adjusted CAR correspond to the CAR after introducing a 5% provisioning rate for "Special Mention" loans, increasing the provisioning rate for "Substandard" loans to 20 percent, and migrating 20 percent of "Pass" loans to "Special Mention."
2. The Baseline case is based on WEO projection of macroeconomic variables for 2008.
3. The Macroeconomic Scenario includes a 15 percent decline in tourism, a 15 percent decline in the construction sector, a recession in the US of -3.0 percent of GDP, and an increase in oil prices of 50 percent.

[13] No formal inter-bank contagion analysis was carried out due to the lack of individual interbank lending activity data. However, the fact that interbank lending amounts to 5 percent of total excess reserves suggests that interbank contagion is not a significant concern. Contagion from a foreign parent bank may also be limited because funding from foreign parent banks amounts to only 10 percent of total funding.

Credit Unions

25. **The credit union sector has continued to expand and compete with banks in the consumer lending segment.** Although there have been no new registrations in the last five years, the combined assets of the 34 credit unions[14] are equivalent to about 14 percent of GDP**,** compared to 10 percent during the 2002 FSAP. The sector remains highly concentrated with the two largest credit unions accounting for 71 percent of total assets and 73 percent of the total membership. Smaller banks express frustration at the tax breaks and lower compliance costs afforded to the credit unions, because, from their perspective, this puts them at a competitive disadvantage.

26. **Official figures understate the actual loan delinquency rates in the credit union sector.** The official rate was 6 percent rate, as of September 2007, but does not consider arrears on past due loans over 30 days.[15] Return on equity for the largest credit union was 6 percent for 2007, while the loan-to-deposit ratio for the sector stands at 87 percent. Loan origination polices for the largest two credit unions have improved since the 2002 FSAP due to enhancements made to the credit policy guidelines and member financial education programs.

B. Institutional Investors

National Insurance Scheme

27. **The National Insurance Scheme (NIS) is the social safety net program providing pension and other social welfare benefits, including unemployment insurance and severance schemes. It was set up by national legislation in 1967 and is governed by a tripartite board that comprises representatives from government, labor, and employers.** The actuarial review of December 1999 indicated an actuarial deficit and the expectation that, other things being equal, the fund would be exhausted by 2030. In response, a pension reform in 2002 increased contributions and adopted a range of parametric reforms to benefits, including a gradual increase in the retirement age to 67 years by 2018. The reforms significantly lengthened the time horizon for investment of the assets of the NIS. As of February 2008, NIS' assets were valued at BDS$2.7 billion (about 30 percent of GDP) up from BDS$1.4 billion in 2002. Current actuarial estimates indicate that assets will continue to grow until around 2030, or longer under more optimistic assumptions.

28. **A shortage of suitable local investment opportunities has meant the NIS cannot achieve its preferred investment profile and its target investment mix appears sub-optimal.** The current NIS investments include largely domestic instruments: government

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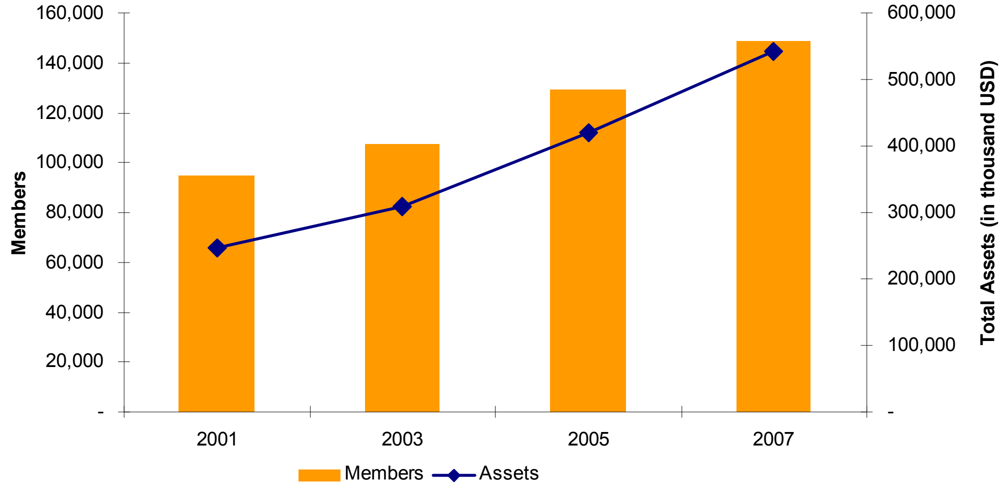
[14] The largest two credit unions have assets of $252 million and $134 million, eight "medium" credit unions have assets which range from $34 million to $7.5 million , and the remaining 24 "small" credit unions have combined total assets of US$28 million.

[15] Late payment is considered past due only after 90 days.

securities, other fixed interest investments and bank deposits (Figure 7). Equity and real estate (including government occupied buildings) represents only 18 percent of the investments. The current portfolio mix is suboptimal compared to the target asset mix developed by the NIS. All NIS's asset classes, other than money market investments, are below the target asset mix—due to a lack of access to investable opportunities. Over 63 percent of assets are directly or indirectly invested in Barbadian government instruments and a sizable 24 percent is held in

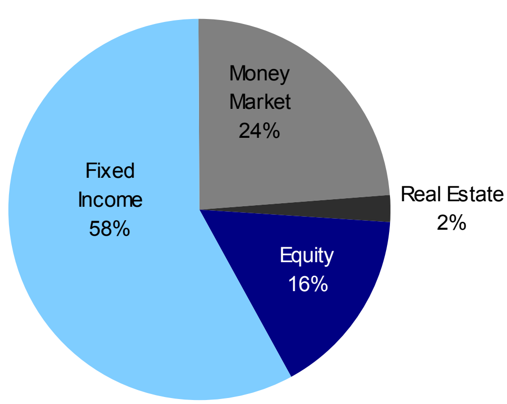
Figure 6. Barbados: Credit Unions Growth (2001–2007)



Source: Registrar, Cooperatives Department for the FSAP questionnaire.

money market instruments (mostly demand deposits). Furthermore, because the liability profile has changed and lengthen as a result of the recent reforms, the optimal investment portfolio strategy should now include a larger share of longer term investments, and in all likelihood, increased investment outside Barbados. Therefore the NIS's investment strategy should be revisited.

Figure 7. Barbados: NIS portfolio structure, 2007



Source: NIS

Insurance Sector

29. **The insurance sector is an important part of the financial system.** Existing market penetration has led the sector to look outside Barbados for growth. The insurance penetration rate—the ratio of premiums to GDP—was equal to 10.3 percent in 2006 (3.3 percent for life insurance and 7 percent for non life insurance).[16] This is the highest figure in the world with respect to non life insurance and 9th highest overall in total as opposed to 2.4 percent for the total Latin American and Caribbean countries. Real and nominal growth has been strong over the last five years. Strong competition in the non life sector, in the context of a moderating market growth outlook, can be expected to continue to drive consolidation in the local market and reliance on regional expansion.

30. **Profitability and capital adequacy are difficult to assess due to incomplete and inadequate data**. The introduction of Minimum Continuing Capital and Surplus Requirements for life companies, a Minimum Capital Test for general companies, and a Branch Adequacy Test for branches of foreign companies are important achievements made possible by the Supervisor of Insurance & Pensions' (SOIP) amendments to the Insurance Act. However, the effectiveness of these regulations is severely limited by the lack of adequate data. Although most companies adhere to provisioning techniques based on the Canadian systems voluntarily, providing a measure of consistency, adequacy and comparability, the system is heavily dependent on the management of the insurance companies. Adopting appropriate accounting and reporting standards under the insurance law would allow the regulator to better assess the stability of the insurance sector.

31. **The exposure to natural hazards in the Caribbean is an important challenge for the insurance sector and is, increasingly, managed through the group head offices of regionally linked companies.** Continued regional diversification has meant that reinsurance programs have become more complex and are often arranged at a group level. Although no issues were identified in terms of the quality of reinsurance programs, continued diligence and assessment is recommended as part of regional cooperation between supervisors. The effectiveness of reinsurance programs is a key issue for supervisory oversight in the Caribbean and, with the regionalization of the sector, can only be adequately addressed through cooperation between supervisors in home and host jurisdictions.

32. **Insurers continue to face challenges in sourcing investable assets.** Insurance companies have difficulty in finding appropriate long-term investment vehicles in the Barbados capital markets that meet the statutory investment regulations. Nonlife companies in 2006 had more than 36 percent of their invested assets in cash balances. In contrast, cash represented only 12.53 percent of the life companies' investment portfolios in 2006, as they

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[16] These figures were computed based on unpublished and incomplete Supervisor of Insurance's report for December 2006.

were more active in mortgage and policy loan transactions as a means of balancing their portfolio.

C. Offshore Financial Institutions

33. **As in the rest of the Caribbean, the importance of regional and global financial linkages has continued to increase.** Motivation for financial linkages includes risk diversification, search for yield and tax avoidance (Box 2), and a desire to increase market share. As documented in the Technical Note, financial conglomerate activity in Barbados has accelerated in size and heterogeneity. The authorities also value the offshore sector as a source of employment opportunity for the professional sector and revenue for the government through license fees.

34. **Offshore financial institutions saw a rapid growth in 2007.** Total assets of offshore banks grew 15 percent in the first nine months of 2007 to BDS$94.78 billion and represented about 1,285 percent of GDP. There are currently 54 offshore banks, but there is also considerable asset concentration. The four largest offshore banks, all members of Canadian groups,[17] represent 75 percent of the system's assets, and the ten largest represent 91 percent. At the end of 2006, there were 441 insurance companies registered to carry on exempt or qualifying business in Barbados. However, of these only 181 exempt and 61 qualifying companies were active. The majority of these insurers are of U.S. and Canadian origin and are associated with either financial institutions in those domiciles or industrial firms. In the case of the industrial firms, the insurer is most likely to be a captive. In the case of the firms associated with financial institutions, some will be captives and some will be companies providing cover to the customer base of the institution.

35. **The gains of global and regional linkages have to be balanced with the risk of contagion, requiring greater cross-border supervisory coordination.** To avoid regulatory arbitrage and contagion risk, harmonization among regulators is paramount. Given the regional and international structure and operations of the commercial and off-shore banks, the CBB has entered into a few MOUs that facilitate the sharing of information. A regional MOU was signed May 2004 among most of the Caribbean jurisdictions, with a number of jurisdictions, including the Eastern Caribbean Central Bank not yet signatory. Despite the long time presence of foreign banks in Barbados, the CBB does not yet have an MOU with either Canada or Bermuda. Also, closer communication with the Canadian financial sector supervisor (OSFI) in the case of banks and with the insurance supervisory staff in Trinidad in the case of insurance, will provide the local authorities with a better understanding of the risks associated with the institutions that they supervise.

36. **Offshore banks are a heterogeneous group.** They differ significantly in terms of size, capitalization structure, activity and presence in the region. Operations of the offshore service

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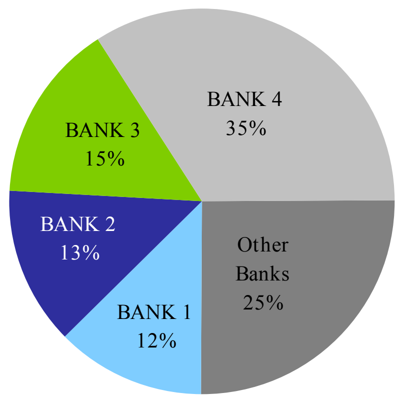
[17] The four largest banks (in order) are CIBC Offshore Banking Services Corporation, Barrick International Bank Corp., National Bank of Canada (Global) Ltd and Bank of Montreal (Barbados) Ltd.

providers include: banks that take non-Barbadian third party deposits; those that offer treasury functions for their related organizations; wealth managers for high-net worth individuals; and a commodities broker.

Figure 8: Offshore Banks distribution in Barbados



Source: CBB

37. **Offshore banks are insulated from the domestic banking system.** Their deposit-taking activities are highly circumscribed, thereby limiting their potential to destabilize the domestic financial system, and effective "Chinese walls" appear to exist between affiliated on- and off-shore banks. Although some financial groups have both types of operations incorporated in Barbados, transactions between their on- and off-shore entities appear to be limited or nonexistent. Domestic banks conduct operations only with residents while offshore banks are prohibited from doing business with local residents and operate only with international clients. Strict prohibitions on activities between on- and off-shore banks and the incentive to comply, given the risk the loss of tax incentives (through the loss of their license), promote a distinct and separate offshore sector.

38. **Reputation risk is a concern among offshore financial institutions.** Foreign banks choose to establish an offshore subsidiary in Barbados not only for its tax advantages, but also for its reputation. Given the importance of reputation to the health of this sector, the CBB is advised to increase the number of staff at the CBB qualified to deal with the complexities of the off-shore sector, and to establish closer working relationship with the home supervisors of foreign banks.

39. **Supervision of the offshore insurance sector is almost nonexistent.** Apart from filing the company's financial statement with the SOIP, little if any contact exists between the SOIP and the sector. Timely information from the sector appears to be problematic, as 2006 financial data had not been compiled at the time of this assessment. Due to resource constraints, there have been no onsite inspections or offsite analytical reviews of these entities.

Box 2. The Tax Benefits for Offshore Financial Institutions

Offshore entities domiciled in Barbados benefit from a lower corporate tax rate of 1-2½ percent (compared to a standard rate of 25 percent for onshore companies), with some insurance structures enjoying even lower tax rates. There are no taxes on capital gains, and holding companies domiciled in Barbados are exempted from paying taxes on foreign dividend income. Also, Barbados has concluded double taxation avoidance treaties (DTATs) with a number of jurisdictions, most notably Canada and fellow CARICOM countries, which offer special advantages to offshore companies domiciled in Barbados. Accordingly, profits made and taxed in Barbados would not be subject to "double taxation" on repatriation to the parent company (e.g., in Canada). Canada in particular provides special advantages to offshore subsidiaries. Canadian law considers overseas income of Canada-based companies as "tax-exempt surplus," if it satisfies three provisions:

- The subsidiary is resident in a jurisdiction, with which Canada has a DTAT;[1]
- The entity is regulated by a competent and recognized authority; and
- The income is derived from so-called "active business," which is generally understood to mean that the subsidiary employs six or more full-time employees. [2]

Additional benefits accrue if "active business" is conducted with other third-country subsidiaries of the parent company, depending on whether or not they have a DTAT with Barbados. Investment treaties that provide assurances against expropriation, also encourage large conglomerates to channel their investments into these third countries via Barbados. From the perspective of parent jurisdictions, DTATs are concluded with countries like Barbados in order to allow their own large multinational corporations to be internationally competitive and efficiently manage their global cash flow.

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[1] The definition of resident organization is left for the host jurisdiction to determine. Offshore companies are considered domiciled in Barbados if "central management and control" is exercised in Barbados; hence the requirement to hold regular Board meetings on Barbadian soil.

[2] If the subsidiary's income does not satisfy these requirements and is deemed as "passive," it may still benefit, when repatriated, from a credit of tax paid in the subsidiary jurisdiction.

III. Financial System Supervision and Regulation

40. **The Ministry of Finance is responsible for regulating most of the financial system. In particular:**

- The Ministry grants and revokes licenses, other than under the Securities Act (SA) and Mutual Funds Act (MFA), and issues financial regulations.[18]
- The Ministry's Office of the Supervisor of Insurance and Pensions in the Ministry is responsible for the supervision of the insurance sector.

Through delegation and relevant financial Acts:

[18] Although the MOF has the general power to revoke licenses under most of the conditions established by the FIA, in the cases when the CBB decides to intervene in a bank, the CBB does not need approval but does have to notify the MOF before proceeding.

- the CBB's Bank Supervision Department is charged with the prudential supervision of: i) commercial banks; ii) trust and mortgage companies, finance companies and merchant banks (so-called *Part III companies* under the Financial Institutions Act); and iii) offshore banks under the International Financial Services Act; and
- the Securities Commission is charged with the licensing and supervision of the securities companies, mutual funds and their administrators, the BSE, CSD and other market actors.

In addition:

- The Registrar of Cooperatives and Friendly Societies in the Ministry of Commerce, Consumer Affairs and Business Development is responsible for supervising the credit unions.
- The Deposit Insurance Corporation administers the deposit insurance fund.
- The Financial Intelligence Unit, under the Attorney-General, is in charged with the prevention and control of money laundering and financing of terrorism.

41. **The authorities are reviewing a blueprint to reform the regulatory architecture by establishing a Financial Services Commission.** The previous Administration recommended the establishment of an FSC, which would bring together three supervisory agencies (the Supervisor of Insurance and Pensions, the Securities Commission, the Cooperatives Department) and the unit is the International Business Division of the Ministry of Economic Affairs and Development (MAED) under one roof. Economies of scale and the strengthening of the supervision of the non-bank financial sector were the main motivation of this initiative. The current Administration is assessing how to best launch the initiative.

42. **The Bank Supervision Department (BSD) is shifting its scope of operations and the structure of its office to more effectively conduct risk-based supervision.** Currently, it is in a transitional phase, shifting from a pure off-site/on-site model to a portfolio approach. Responsibility for many institutions has been recently re-assigned, and guidelines addressing the existing risks are in various stages of development;[19] risk-based supervision is being implemented and the BSD is preparing to implement the Basel II capital accord. Furthermore, based on a CBB quantitative impact study, the mission recommends making adjustments to the timetable for the adoption of Basel II, including by considering changing risk weights, delaying the implementation schedule, and strengthening the Pillar 2 framework.

43. **The BSD plans to implement Basel II from 2009 although it indicated a possible delay.** According to the BSD's plan, all licensees are required to implement the Standardized

[19] Since the 2002 FSAP, 12 guidelines have been issued as of April 2008 and 3 more guidelines are expected to be issued. The current guidelines range from corporate governance, operational risk, outsourcing, AML, foreign exchange and settlement risk, electronic banking, liquidity risk, credit risk, country risk, and market risk.

Approach for credit risk and market risk, and the Basic Indicator Approach or Standardized Approach for operational risk from 2009. The BSD intends to consider a possible transition to the Advanced approaches for credit risk after 2012. It is recommended that the BSD considers the results of a full-scale qualitative impact study and the risk weightings for retail credit and residential mortgage loans, as well as strengthening Pillar 2, in the planed implementation of Basel II; to prevent any undue reduction in the capital level of the Barbados banking system.

44. **In spite of some progress since the 2002 FSAP, there is still room for further improvement in banking regulation and supervision.** Some weaknesses identified in the BCP assessment include (i) outdated regulations (e.g., capital adequacy, asset classification and provisioning), (ii) deficiency of prudential rules on large exposures and exposures to related parties, (iii) the incomplete state of the supervisory framework (e.g., risk assessment model, prompt corrective actions) for risk based supervision, (iv) the lack of a broader scope for onsite inspections that would review banks' risk management activities, (v) a weak legal framework for consolidated supervision of banking groups and financial conglomerates, and (vi) the insufficiency of cross-border home/host cooperation.[20]

45. **The authorities could further tailor the regulations of the financial institutions licensed under the FIA and the IFSA to better control their diverse risk profile.** All financial institutions under the CBB's supervision are subject to the same regulations, including their capital to risk weighted assets ratio. Because most regulations and guidelines are bank-oriented, they may not be well suited to control certain types of nonbank financial institutions' risk profile. Although the authorities make allowances for differences in the activities, size, and complexity of several of the different institutions, further regulation differentiation across FIA and IFSA intermediaries would better help to keep their risk profile in check.

46. **There is no aggregate limit on banks' large exposures.** Exposures to a single person or group are limited to 25 percent of a bank's stated capital and reserves, and 10 percent of its stated capital and reserves for unsecured exposures. Although the authorities monitor large exposure limits for groups, there is no explicit legal provision dealing with an aggregate large exposure limit. The CBB indicated that it is working on introducing a regulation for an aggregate limit for such exposures. In addition, the CBB is encouraged to expand the guidelines on credit risk management to address concentration risk.

47. **In 2001, a new SA was enacted leading to the creation of the Securities Commission, which is in charge of supervising and regulating the securities markets.** Market intermediaries, public companies, the BSE and the Barbados Central Securities Depository Inc. (CSD) all are required to be authorized under the SA by the Securities

[20] Appendices I and VI provide a detailed list of recommendations.

Commission. In 2002, the new MFA was proclaimed, governing the licensing and operation of mutual funds and mutual fund administrators.

48. **Owing to regional initiatives, such as the formation of CXN and IOSCO developments, the need for improvements in and harmonization of the relevant legislation has been recognized.** A committee has been meeting regularly for several years to identify needed updates. In particular, some gaps in the Commission's authority with respect to on-site supervision and information sharing were noted. The Securities Commission does not have rule-making authority or a general ability to grant exemptions and so cannot react quickly to changing market demands.

49. T**he BSE and CSD are self-regulatory organizations that exercise regulatory authority over securities market activities under the oversight of the Securities Commission.** The BSE has been delegated authority under the SA to approve the listing of securities on the exchange, supervise market activity, regulate daily trading, register and license market actors and monitor market conduct. The CSD is a wholly owned subsidiary of the BSE and it acts both as the central depository for all listed securities and as registrar and transfer agent for listed companies. The CSD has delegated authority to regulate clearance and settlement of transactions, approve new issue prospectuses for registration with the Securities Commission and issue certificates of approval for these prospectuses. Virtually all securities of listed companies are held in dematerialized form at the CSD and all trades on the BSE must be settled at the CSD.

50. **The Securities Commission and BSE are both responsible for licensing and overseeing the activities of broker-dealers.** The Securities Commission does not perform an on-site visit prior to the applicant being licensed. The BSE confirms the appropriate books and records and connections to CDS are in place before granting its approval to an applicant. Neither imposes a specific requirement that firms have adequate internal controls and risk management procedures or a compliance function. The Securities Commission has carried out limited on-site examinations of firms in collaboration with the CBB and is building capacity to perform regular inspections on its own. The BSE is developing an inspection program for its members.

51. **A recent takeover bid highlighted the need for updating and harmonizing the regulatory regime across the region and the application of local rules in a cross-border context.** The takeover bid regulations were made under the 2002 Companies Act and had functioned acceptably for friendly bid transactions. They proved to be less robust during a recent cross-border multiple bidder hostile takeover. The transaction also brought to the surface material differences between the requirements in Barbados and in Trinidad and Tobago, gaps in the overall regime and limits on the Commission's authority to obtain information, such as a valuation of one of the companies involved. Also, the requirements of companies and insiders to disclose material transactions were brought into question. Several industry members commented that the transaction, and how it was handled, had eroded market confidence.

52. **The Registrar of Cooperatives and Friendly Societies is charged with the supervision and regulation of the credit unions and other cooperatives, and is slowly building capacity to conduct adequate supervision.** The Registrar's office has a staff of five supervisors responsible for the oversight of 34 institutions. The authorities have carried out joint Registrar-Cooperatives Department CBB inspections on an annual basis for each of the largest credit unions between 2003–2007. However, there are no planned inspections for 2008 which, given the capacity limitations of the Cooperatives Department, exposes the sector to inadequate oversight.

53. **The Cooperative Societies Act was amended in December 2007 and its regulations updated in January 2008.** In 2002, the authorities were weighing some amendments to the Act, among other things, to strengthen the supervision of credit unions. As an alternative, and recognizing their focus on financial services compared to the rest of the cooperative societies, the mission recommended the issuance of a specialized credit unions law. Specifically, such a law would better tailor the prudential oversight of credit unions, including through credit union-specific inspections, well-targeted regulations and guidelines, clear identification of permissible and prohibited activities, improved definition of the operations a credit union could undertake, and improved loan origination policies. It is unlikely that the amendments will serve as a good substitute for a dedicated Act.

54. **The supervisory and regulatory standards with respect to the insurance sector in Barbados have, hitherto, relied primarily on the good faith of industry participants.** This approach exposes the sector to important risks. A single negative event may significantly damage the reputation of a jurisdiction in an increasingly regional and global market. Steps to formalize and improve regulation would help to protect the reputation and the charter value of the insurance business in Barbados from negative shocks.

55. **The authorities are in the process of improving supervision and regulation of the insurance sector.** The one material regulatory project that has been advanced since the 2002 FSAP is the development of additional capital requirements based on risk assessment. This includes the introduction of the Minimum Continuing Capital and Surplus Requirements for life companies, the Minimum Capital Test for general companies, and the Branch Adequacy of Assets Test for branches of foreign companies operating in Barbados. These provisions are part of the SOIP's proposed amendments to the Insurance Act Cap 310 and are expected to be finalized this year.

56. **Insurance supervision has added resources and commenced a limited on-site inspection program, but continues to need more resources and redesigned processes to enforce the current provisions in the law.** On-site inspections commenced in 2004, although they need to be supported by a more analytical, rather than compliance oriented, off- site analysis. This, in turn, will require better content and more timely information collection. Supervisory independence should be enhanced by greater transparency and public reporting and through the transition to the proposed FSC.

57. **Attention to the development of several standards and circulars would further enhance the observance of the IAIS principles.** In particular, standards on corporate governance, market conduct, internal controls (including asset and derivative controls, particularly in the case of the offshore market), asset and liability valuation, and a solvency standard for life insurers would lead to a considerable improvement in the observance of the principles.

IV. INFRASTRUCTURE

A. Banking Safety Net Arrangements

58. **The CBB is the Lender of Last Resort.** The CBB Act appoints the CBB as the provider of liquidity support. The current framework allows for emergency lending to be channeled through the discount window, which has carried a 12 percent interest rate since 2006 (via collateralized short-term lending), and the purchase of government securities. And there is no explicit individual or aggregate limit on the use of this facility. In order to ensure that the discount window interest rate policy provides proper banks' liquidity management incentives throughout the business cycle, the CBB may want to modify the rate according to market conditions and review its collateral valuation policies.

59. **The authorities introduced a compulsory deposit insurance scheme in mid-2007 for institutions licensed under the Financial Institutions Act (FIA).** The deposit insurance corporation (DIC) was established as a distinct separate entity from the central bank and is in charge of the management of the deposit insurance fund. This Fund covers up to BDS$25,000 (US$12,500) per depositor and per institution registered under the FIA. Membership of these institutions in the DIC is compulsory. The Fund is administered by a seven member Board of Directors appointed by the Minister of Finance. Two members represent the Central Bank, and one represents the Minister of Finance.

60. **The DIC is jointly funded by the CBB and the DIC members.** The premium paid to the DIC by its members is a flat 0.05 percent of the institutions' yearly average deposit liabilities. When the institution first opened, the CBB provided a one-time contribution and also matched the total initial membership fees from members to the DIC. Because the DIC was launched recently, as of January 2008, the DIC's fund represented only about 0.2 percent of total deposits. In the event that these funds prove insufficient, the Deposit Insurance Act authorizes the DIC to issue securities and to borrow from the CBB and the Ministry of Finance. The authorities may also want to assess the possibility of, at least temporarily, raising premiums to boost the size of the fund, which is low compared with many international benchmarks.

61. **Market discipline is an important complement to supervision and regulation.** Information regarding the characteristics of the deposit insurance scheme needs to be transmitted more broadly to the public, including which institutions are not covered by the DIC (e.g., credit unions).

B. Bank Resolution

62. **Even though the deposit insurance Act also gives powers to the DIC to act as a liquidator of failed institutions, the CBB would continue to lead the liquidation process.** The 2006 FIA amendments grant the CBB more bank intervention and resolution powers. In the past, both reorganization and winding-up procedures were subject to lengthy court rulings and predetermined timeframes. The DIC and the CBB are also drafting an MOU, which would include several cooperation areas and would clarify relations and procedures to be followed in the exchange of information and data, including in case of an institution's failure.

63. **Going forward, both the CBB and the DIC will need to work on the design of early warning systems, a prompt corrective action framework, and resolution procedures to complete the safety net framework.** An adequate set of prompt corrective actions would impose (cumulative) restrictions of increasing rigor on the operations of banks in step with deteriorating capital ratios below pre specified thresholds. Since the CBB would have to enforce minimum corrective actions, the DIC' s functions and objectives should be also taken into account in the CBB's design of a more transparent and systematic corrective action framework. Finally, because determining the identity of qualified covered depositors during a resolution can be computationally intensive, it will be important to ensure close cooperation among the government and the CBB and DIC during such events.

C. Crisis Management

64. **An important consideration in planning the response to a crisis would be consultation and co-ordination with overseas authorities, especially from Canada.** In the event of a crisis affecting a Barbadian financial institution with overseas affiliates, it would be important that foreign host authorities be informed. Likewise, in the event of a problem overseas affecting an affiliate of a Barbadian financial institution, it would be important to obtain information from the host and home authorities. In either case, all authorities need to establish a clear understanding regarding their respective roles, information needs, and co-ordination of actions. Exchange of information and consultation with regulatory authorities in Canada does not seem to be as fluid as it should be given the important presence of Canadian banks in Barbados.

65. **Beyond the immediate steps required to diagnose and contain a financial crisis, the authorities need to have clear procedures for the subsequent process of resolving a crisis.** Ideally, such procedures should rely on least-cost criteria. There should be a clear understanding of the circumstances in which emergency lending arrangements for individual institutions should be used; when the provision of such assistance should give way to measures aimed at resolving a solvency problem; how alternative options for resolving such a problem should be selected and implemented; and various institutional arrangements, such as asset management corporations, or bridge banks should be designed and used in the resolution process. In addition, the authorities could establish protocols, based on regular "fire drills" with Caribbean and Canadian financial system supervisors, regarding crisis management procedures and the treatment of a failure of internationally active financial institutions.

Table 2. Barbados: Selected Economic, Financial, and Social Indicators

I. Social and Demographic Indicators (most recent year)

Population (people in millions)	0.274	Adult literacy rate	99.4
Per capita GDP (in US$)	12,426	Population share below poverty line	13.0
Life expectancy at birth in years	75.4	Gini coefficient	42.0
Rank in UNDP Development Index	31	Unemployment rate	7.4

Main products, services and exports: tourism, financial services, rum, sugar, and chemicals.

II. Economic Indicators

	2004	2005	2006	Prel. 2007	Proj. 2008	2009
	(Annual percentage change)					
National accounts and prices						
Real GDP	4.8	4.3	3.3	3.3	2.3	2.0
Deflator	-0.2	2.3	2.8	3.5	8.7	5.7
Nominal GDP	4.5	6.7	6.2	6.8	11.2	7.8
CPI inflation (average)	1.4	6.1	7.3	4.0	9.0	5.9
CPI inflation (end of period)	4.3	7.3	5.7	4.8	8.6	3.2
Domestic demand (contribution to growth)	7.8	-2.8	-2.7	0.8	1.9	3.5
Foreign demand (contribution to growth)	-3.1	7.1	6.0	2.5	0.4	-1.5
External sector						
Exports of goods and services	5.5	21.8	8.6	7.8	8.3	5.4
Imports of goods and services	14.8	17.9	2.0	5.6	11.5	6.0
Real effective exchange rate (average)	-5.2	1.3	3.8	3.7	...	...
Terms of trade	-3.4	-5.9	-3.8	-0.3	-3.5	0.8
Money and credit (end of period)						
Net domestic assets	43.5	14.1	14.2	9.3	0.2	15.8
Of which: private sector credit	16.7	21.7	13.2	6.4	2.5	7.8
Broad money	17.4	6.9	11.3	13.2	2.8	13.7
Velocity (GDP relative to broad money)	1.2	1.2	1.1	1.1	1.2	1.1
Interest rate on deposits (average in percent per annum)	2.5	4.1	4.7	5.1	4.8	4.6
Interest rate on loans (average in percent per annum)	9.8	10.6	10.7	10.7	10.7	10.7
	(In percent of GDP, unless otherwise indicated)					
Public finances (fiscal year)						
Nonfinancial public sector overall balance	1.4	-3.6	-3.7	-5.0	-4.0	-3.0
Central Government						
Revenue and grants	33.1	35.1	34.2	34.9	35.3	35.1
Expenditure	35.7	36.4	36.3	38.9	37.5	37.3
Interests	4.6	4.8	5.0	4.9	5.2	5.1
Balance	-2.5	-1.3	-2.0	-4.0	-2.2	-2.2
NIS	3.6	3.7	4.2	4.2	3.8	4.3
Public enterprises	-1.0	-4.2	-2.0	-3.3	-3.6	-3.3
Off-budget activities	1.3	-1.9	-3.9	-2.0	-2.0	-1.8
Primary balance	4.5	-0.1	0.0	-1.4	-0.1	0.7
Debt						
Total external debt 1/	39.5	41.3	43.4	39.6	41.2	42.6
Public sector (fiscal year)	87.1	91.6	92.8	94.6	95.7	96.7
External	27.3	28.9	27.6	24.2	26.0	25.6
Domestic	59.8	62.8	65.2	70.4	69.7	71.1
Savings and investment						
Gross domestic investment	23.7	24.8	26.6	26.8	22.1	22.1
Public	7.5	6.9	7.6	7.5	5.6	5.6
Private	16.2	18.0	19.0	19.4	16.5	16.5
National savings	11.2	12.0	17.9	19.6	13.6	13.8
Public	8.9	3.2	3.9	1.0	1.6	2.5
Private	2.4	8.8	14.0	18.7	12.0	11.2
External savings	12.4	12.8	8.7	7.2	8.5	8.3
Balance of payments						
Current account	-12.4	-12.8	-8.7	-7.2	-8.5	-8.3
Capital and financial account	6.9	13.6	8.1	12.4	9.2	7.8
Official capital	-1.8	3.4	1.5	-1.2	1.7	1.5
Private capital 2/	8.6	10.2	6.6	13.6	7.5	6.3
Of which: long-term flows	1.2	1.0	13.7	9.7	4.9	4.0
Overall balance	-5.6	0.8	-0.7	5.2	0.7	-0.5
Memorandum items:						
Exchange rate (domestic currency/U.S. dollar)	2.0	2.0	2.0	2.0	2.0	2.0
Nominal GDP (in millions of Barbados dollars)	5,634	6,010	6,382	6,818	7,582	8,173

Table 3. Barbados: Financial Soundness Indicators of the Onshore Banking System 1/

	2003	2004	2005	2006	2007 2/
Solvency indicators					
Capital adequacy ratio 3/	-	14.5	13.0	12.0	10.8
Core capital adequacy ratio 3/ 4/	-	13.7	11.5	10.7	10.1
Nonperforming loans net of provisions to capital	16.3	21.2	21.1	17.4	10.1
Off-balance sheet obligations, percent of liabilities	2.5	1.8	2.5	3.4	2.1
Liquidity indicators					
Loan to deposit ratio	53.0	54.7	58.3	64.2	57.5
Demand deposits, percent of total deposits	37.9	39.1	38.5	36.6	35.3
Liquid assets, percent of total assets 5/	15.3	13.3	9.0	4.6	7.2
Credit risk indicators					
Total assets, annual growth rate	8.7	6.3	13.6	9.3	21.9
Loans and advances, annual growth rate	-2.3	15.8	22.0	15.5	11.4
Total mortgage loans, percent of loans and advances 6/	18.9	21.1	21.0	23.1	27.1
Nonperforming loans, percent of total loans	8.2	7.2	5.5	4.4	2.9
Provisions to nonperforming loans, percent of NPL	30.1	26.1	25.7	31.4	37.0
Sectoral distribution of loans to total loans					
Agricultural	1.5	1.0	1.1	1.1	1.0
Commercial	17.0	18.7	19.2	18.7	19.2
Construction	7.3	8.0	7.8	7.8	7.6
Consumer	43.3	43.5	44.3	45.9	47.3
Industrial	3.5	2.9	2.7	2.9	2.8
Tourism	24.2	21.5	22.7	20.8	19.9
Others	3.2	4.3	2.3	2.9	2.3
Foreign exchange risk indicators					
Global position in foreign currency to regulatory capital	17.1	7.7	-28.1	-5.0	-11.4
Share of foreign currency deposits in total deposits	17.8	18.8	21.8	22.5	22.4
Share of foreign currency loans in total credit	8.6	7.6	10.7	8.8	8.3
Deposits in Foreign Exchange, percent of total deposits 7/	13.2	14.4	16.7	14.2	17.3
Net foreign assets, percent of total assets	13.5	12.7	11.6	9.6	12.3
Profitability indicators					
ROA	2.1	2.4	2.1	2.6	2.3
ROE	21.3	23.2	25.2	27.6	21.4
Gross financial spread to financial revenues	24.0	28.0	28.4	32.8	24.4
Financial revenues to total revenues	71.5	73.3	65.6	55.7	50.8
Annualized financial revenues to revenue-generating assets	69.9	67.0	72.5	75.1	76.4
Profit before tax, percent of total assets	2.0	2.3	2.0	2.5	1.6
Total noninterest expense, percent of total assets	3.5	3.4	3.4	3.0	2.1
Spread between lending rate and deposit rate 8/	7.6	7.3	6.5	5.8	5.6
Operational efficiency					
Nonfinancial expenditure to total revenues	50.4	49.2	46.9	36.7	35.6
Nonfinancial expenditure to total revenue-generating assets	4.3	4.2	4.1	3.8	2.8
Memorandum Items:					
Banks' credit card loans to total loans	3.8	4.0	4.8	4.9	5.0
Banks' consumer loans to total loans 9/	27.2	27.7	28.1	28.6	24.1
Banks' mortgage loans to total loans	18.9	19.9	21.0	23.1	27.1
Banks' mortgage loans (BDS$ millions)	541.7	666.3	858.1	1089.1	1314.8
Trust & mortgage companies ' mortgage loans (BDS$ millions)	598.6	607.5	624.3	692.4	741.9
Banks' mortgage loans, growth rate	17.2	23.0	28.8	26.9	20.7
Banks' credit cards loans, growth rate	-	21.6	47.6	17.6	7.0
Banks' consumer instalment credit, growth rate 10/	-2.4	35.3	27.3	20.0	-2.3

1/ As of Sep. 2007, the two foreign branches are Bank of Nova Scotia and Royal Bank of Canada; and the four foreign subsidiaries are Barbados National Bank, Butterfield Bank, RBTT Bank, and First
2/ Preliminary data as of September 2007.
3/ Does not include branches of foreign banks.
4/ Tier-I capital.
5/ Sum of excess cash reserve requirements and excess of the statutory requirement to invest in government securities in percent of total assets.
6/ Other loans, including personal loans, may be used to finance real estate activities.
7/ It includes both resident and non-resident deposits in foreign currency.
8/ This spread does not fully reflect the intermediation margin due to fees, commissions, etc.
9/ Consumer loans excluding mortgages.
10/ It includes car loans, durable goods loans, home improvement loans and debt consolidation loans.

Table 4. Barbados: Financial Sector Structure

	2003	2004	2005	2006	2007 1/
Number of Institutions					
Banks 2/	6	6	6	6	6
Domestic private banks	0	0	0	0	0
Public banks	0	0	0	0	0
Foreign banks	6	6	6	6	6
Branches	2	2	2	2	2
Subsidiaries	4	4	4	4	4
Non-bank Financial Institutions	14	13	13	13	13
Credit unions	39	38	37	37	34
Offshore banks	52	55	54	52	57
Insurance companies 3/	-	-	-	31	31
Assets (as percent of GDP)					
Banks	126.4	129.3	134.2	132.2	141.8
Branches	44.9	45.7	53.2	51.3	54.2
Subsidiaries	81.5	83.6	80.9	80.9	87.6
Nonbank financial institutions	20.0	20.9	24.5	22.6	22.5
Credit unions	11.5	12.9	13.6	13.9	14.7
Offshore banks	1164.5	1102.4	1029.4	1202.6	1285.1
Insurance companies 4/	15.7	20.5	28.5	27.8	-

1/ Preliminary data as of September 2007

2/ As of Sep. 2007, the two foreign branches are Bank of Nova Scotia and Royal Bank of Canada; and the four foreign subsidiaries are Barbados National Bank, Butterfield Bank, RBTT Bank, and First Caribbean International Bank.

3/ As of 2006, seven of the 11 life companies, and 16 general insurance companies were actively writing business.

4/ Investment Assets of domestic general insurance and life insurance companies.

Table 5. Barbados: On-shore Banks and their Parent Institutions

Commercial Banks incorporated in Barbados	Affiliated Financial Conglomerate	Headquarter
First Caribbean International Bank (Barbados) Ltd (FCIBB) [1]	CIBC	Canada
Barbados National Bank Inc. (BNB)	Republic Bank of Trinidad and Tobago	Trinidad and Tobago
RBC Royal Bank of Canada (RBC)	RBC Royal Bank of Canada	Canada
Bank of Nova Scotia (BNS)	Scotiabank	Canada
Royal Bank of Trinidad and Tobago Bank (Barbados) Ltd (RBTT)	RBTT Financial Holdings Ltd	Trinidad and Tobago
Butterfield Bank (Barbados) Ltd (BBL)	The Bank of N.T. Butterfield & Son Ltd	Bermuda

[1] FCIBB is owned by First Caribbean International Bank, a holding company that consolidates regional operations in Barbados.

Table 6. Barbados: Credit Union Indicators

	Sep-03	Sep-04	Sep-05	Sep-06	Sep-07
I. Structure of the Credit Union Sector					
Number of Institutions	39	38	37	37	34
Number of Members	107,417	118,472	129,129	139,639	148,864
Share of the 3 largest credit unions, percent	73	83	84	84	85
Assets (as percentage of GDP)	11.5	12.9	13.6	13.9	14.7
Assets (as percentage of GDP, 3 largest credit unions)	8.4	9.6	10.2	10.7	11.4
Loans (as percentage of GDP)	8.0	9.5	10.6	10.9	11.5
Loans (as percentage of GDP, 3 largest credit unions)	5.9	7.3	8.3	8.7	9.2
II. Selected Financial Soundness Indicators					
Solvency indicators					
Reserves to total Liabilities 2/	12.4	12.1	11.6	12.3	12
Liquidity indicators					
Loan to deposit ratio	78.0	82.2	87.0	88.1	87.0
On call deposits, percent of total deposits		N/A			36.9
Liquid Assets to short-term liabilities					57.7
Credit risk indicators					
Total assets, annual growth rate	9.2	17.4	15.3	13.6	13.8
Loans, annual growth rate	-	24.1	22.6	14.3	12.8
Total mortgage loans, percent of loans	34.1	34.3	39.9	39.6	N/A
Nonperforming loans, percent of total loans	6.0	5.0	4.0	5.0	6.0
Provisions for Nonperforming loans, percent of total loans		N/A			31

Source: Registrar of Cooperatives

Table 7. Mutual Funds—Total Assets under Management

(as at end of year, unless otherwise indicated)

	2003	2004	2005	2006	2007
Number of mutual funds	12	12	14	14	14
Net Assets (millions BDS$)	$298.3	n/a	$502.9[1/]	$611.9	$758.9
Number of mutual fund administrators	n/a	n/a	n/a	n/a	4

Source: BSE and Securities Commission

[1/] As at October 31, 2005.

Table 8. Insurance Sector: Summary Statistics

Year	2001	2002	2003	2004	2005	2006
Domestic sector						
General Insurance						
Gross written premia BDS$ million	310.0	348.9	343.2	360.8	418.0	467.4
As a percent of GDP	6.0	6.9	6.3	6.4	6.8	7.0
Investment assets BDS$ million	280.0	331.2	354.9	400.2	413.8	481.4
As a percent of GDP	5.4	6.6	6.5	7.1	6.7	7.2
Life Insurance						
Gross written premia BDS$ million	141.6	172.0	179.1	186.9	213.6	224.3
As a percent of GDP	2.8	3.4	3.3	3.3	3.5	3.3
Investment assets BDS$ million	492.9	426.0	499.4	754.9	1332.7	1374.6
As a percent of GDP	9.6	8.4	9.2	13.4	21.8	20.6
Offshore Sector [21]						
Net premiums (BDS$ billion)	7.89	5.92	8.84	8.39	8.54	6.30
Assets	17.903	24.075	26.40	39.97	35.39	25.68

Source: Ministry of Finance; Supervisor of Insurance—unpublished data.[22]

Table 9. Insurance Sector: Asset Composition—Life Insurance

Year	2001	2002	2003	2004	2005*	2006**
Bonds and debentures	22.54	21.19	24.23	27.00	34.00	35.59
Ordinary shares	14.43	26.03	26.19	23.00	21.00	16.54
Preference shares	0.03	0.09	0.07	0.00	0.00	0.06
Mortgages and Loans	22.31	20.98	17.69	13.00	21.00	22.74
Real estate and leaseholds	8.51	6.41	10.33	10.00	10.00	9.48
Cash balances	15.35	21.76	18.40	20.00	11.00	12.53
Other instruments	16.83	3.54	3.09	7.00	3.00	3.06
Total	100.00	100.00	100.00	186.9	213.6	100.00

Source: Ministry of Finance; Supervisor of Insurance—unpublished data

[21] Totals for 2006 only includes companies from U.S. and Canada.
[22] Figures for 2006 are, in some cases, not available and in other cases represent estimates.

Table 10. Insurance Sector: Asset Composition—Non-Life Insurance

Year	2001	2002	2003	2004	2005*	2006**
Bonds and debentures	24.05	24.17	29.31	32.70	35.63	34.17
Ordinary shares	13.68	10.94	11.50	13.62	12.00	7.03
Preference shares	0.58	0.65	0.60	0.54	0.43	0.00
Mortgages and Loans	5.20	7.89	6.86	5.75	4.11	5.80
Real estate and leaseholds	13.83	14.18	15.10	14.54	11.69	7.65
Cash balances	33.75	31.15	26.71	23.58	25.89	36.66
Other instruments	8.93	11.02	9.92	9.27	10.25	8.69
Total	100.00	100.00	100.00	186.9	213.6	100.00

Source: Ministry of Finance; Supervisor of Insurance—unpublished data

[1] Figures for 2006 are, in some cases, not available and in other cases represent estimates.

Table 11. BSE Main Indicators 2003–2007

	2003	2004	2005	2006	2007
Number of listed companies—Total	24	24	26	27	26
Number of listed companies—Regular market	22	22	25	26	25
Number of listed companies—Junior market	2	2	1	1	1
Number of cross listed companies	5	5	6	7	6
Number of instruments listed[1/]	25	25	27	28	27
Number of new issues	1	0	1[2/]	1	0
Value of new issues (millions BDS$)	455.0	0	556.1	409.0	0
Number of brokers	n/a	n/a	n/a	9	7
Market Capitalization[3/] (millions BDS$)	9,920.9	12,145.9	22,784.9	20,516.1	18,857.7
Market Capitalization (% of GDP)	184.1	215.0	368.5	299.0	255.7
Total annual trading volume (millions of shares)	130.3	122.3	44.7	643.4	162.4
Total annual trading value (millions BDS$)	394.8	190.1	100.6	2,072.9	597.3
Annual turnover[4/] (%)	3.25	2.21	0.85	10.10	3.17
Nominal GDP (millions BDS$)	5,389.0	5,648.0	6,183.0	6,860.9	7,375.1

Source: BSE and Securities Commission

1/ One is a closed end fund, the rest are equities
2/ Cross listing of Jamaican company.
3/ Includes cross-listed securities
4/ Total Trading Value/ Composite Market Capitalization

Appendix I. Observance of Financial Sector Standards and Codes—Summary Assessments

This appendix contains summary reassessments of two international standards and codes relevant for the financial sector. The assessments have helped to identify the extent to which the supervisory and regulatory framework is adequate to address the potential risks in the financial system. The following detailed assessments of financial sector standards were undertaken.

- The Basel Core Principles for Effective Banking Supervision (BCP), by Diane Mendoza (external expert, formerly with the Resolution Trust Corporation and the OCC, United States) and Joon Soo Lee (World Bank); and
- The IOSCO Objectives by Tanis MacLaren (external expert, formerly with the Ontario Securities Commission, Canada).

The assessments relied on several sources including:

- Self-assessments by the supervisory authorities;
- Reviews of the relevant legislation, regulations, policy statements, and other documentation;
- Detailed interviews with the supervisory authorities;
- Meetings with the BCB, MoF, and other authorities; and
- Meetings with financial sector market participants.

BASEL CORE PRINCIPLES FOR EFFECTIVE BANKING SUPERVISION

General

1. **This assessment of the Basel Core Principles (BCP) was assessed against the BCP methodology issued in October 2006.** At the request of the FSAP team, the authorities conducted a self assessment; however they did not assign ratings.

2. **The Financial Institutions Act (FIA) governs the regulation and supervision of all entities conducting banking business in Barbados, and the International Financial Services Act (IFSA) governs the regulation and supervision of the off-shore financial institutions.** Under both acts, the Minister of Finance (MoF) is charged with licensing. Under the FIA, the MOF has the authority to issue regulations and the IFSA grants the Central Bank of Barbados (CBB) has the authority to issue regulations; while the Bank Supervision Department (BSD) of the CBB is responsible for the supervision of the institutions.

3. **Operations of domestic financial institutions include the commercial banks and Part III licensees such as finance companies, trust companies, merchant banks and mortgage lending associations.** Operations of the off-shore service providers include: banking (taking third party deposits), treasury functions for related organizations, wealth management companies (for high-net worth individuals) and a commodities brokerage.

4. **The CBB has a single regulatory framework, which requires all financial institutions to maintain the same percentage of capital to risk weighted assets**; and with some distinctions, all institutions technically have the same permissible activities. Although the authorities make allowances for differences in the activities, size and complexity of several of the different institutions, further regulation differentiation across FIA and IFSA intermediaries would aid in keeping their risk profile in check.

5. **This assessment corroborated that the domestic banking sector is insulated from the off-shore sector, and the primary risk that either sector poses to the other is reputational risk.** It was established through interviews of representatives of domestic and off-shore banks that "Chinese walls" existed between affiliated on- and off-shore banks. Strict prohibitions exist on transactions between the on-shore sector and population and off-shore banks. Given that many of the off-shore banks operate out of Barbados to take advantage of tax treaties, they have a strong incentive to comply with the prohibitions (lest they risk losing their license).

6. **The much-touted liberalization of exchange and capital controls has slowed—indefinitely, due to the change in government administration and the global financial turmoil.** However, it is important for the BSD to continue to preemptively review guidelines and regulations regarding foreign exchange exposures to ensure that the supervisory processes, adequately controls the risks associated with the removal of these controls.

Main findings

7. **The supervision of the banking system and structure of the supervisory department at the CBB have undergone significant changes since the 2002 FSAP.**

Upgrades have been made to the legislative framework and the BSD recently reorganized its structure to facilitate the risk-based monitoring of the institutions. Since the 2002 FSAP, a considerable number of guidelines have been issued, and during the FSAP update, additional guidelines were finalized and one issued. Frequent risk-focused inspections are being conducted, and it was estimated that nearly half of the institutions have been inspected; however, no institution has received a comprehensive risk-based inspection. Since the 2002 FSAP, each institution was inspected for AML/CFT compliance. Additionally, training has been provided to supervisors; outreach and consultations have been held with the on-shore and off-shore sectors, other domestic supervisory agencies, as well as other stakeholders. Supervisory operating procedures and guidance to the licensees refer to international standards, and practical application is based on the home supervisors' methodology. As the BSD is still in the transitional stage, it is too soon to evaluate the effectiveness of some of these practices.

Objectives, independence, powers, transparency, and cooperation (BCP 1)

8. **The central bank is the primary authority for the supervision of the financial institutions operating in and from Barbados, which is implied in the purpose in the Central Bank of Barbados Act "to promote a sound financial structure."** The regulation and supervision of the financial sector is shared between the MoF and the CBB. The Governor and all the members of the CBB's Board of Directors are appointed by the Minister of Finance, operationally, the CBB is independent. The CBB issues guidelines covering a range of topics; conducts on-site inspections and performs monitoring of the licensed financial institutions.

9. **The Banking Supervision Department's (BSD) resources are being strained, as the supervisors are responsible for 6 large internationally active commercial banks, 14 Part III financial institutions and 54 off shore banks.** Given the range and level of heterogeneous operations undertaken by the various licensees it is anticipated that the human resources will be further strained. In an effort to streamline the supervisory function, the off-site monitoring and analysis group was recently disbanded and merged with the on-site supervisors to create three "streams" to oversee the institutions on a "portfolio" basis. Each supervisor is charged with the oversight of a number of institutions, which includes a continuous monitoring program, participates in the on-site inspections (although not necessarily as the in-charge inspector), follows up on supervisory issues and maintains a dialogue with the management of the institutions.

10. **Since the 2002 FSAP, amendments have been made to the Central Bank of Barbados Act and the Financial Institutions Act.** Both the FIA and the International Financial Services Act (FSA) should be updated to address the issues highlighted in the detailed assessment. In particular, clarity regarding the applicability of regulations drafted under the FIA, to the off shore sector is required. No regulations have been issued or upgraded since 1998, and the CBB and MoF are encouraged to identify where additional regulations should be developed and to upgrade the existing regulations to provide for continuing relevancy. In particular, the FIA Institutions (Asset Classification and Provisioning) Regulation and the FIA Institutions (Capital Adequacy) Regulation should be upgraded. Guidelines are jointly issued under the FIA and IFSA, however they do not have the power of law, and while

compliance is reported to be generally appropriate, the CBB does not have the authority to enforce compliance.

11. **Given the regional and international structure and operations of the commercial and off-shore banks, the CBB has entered into a few MOUs that facilitate the sharing of information.** A regional MOU was signed March 2006 among most of the Caribbean jurisdictions, with a number of jurisdictions, including the Eastern Caribbean Central Bank not yet signatory. Despite the long time presence of foreign banks in Barbados, the CBB does not yet have an MOU with either Canada or Bermuda.

Licensing and structure (BCPs 2–5)

12. **The MoF retains the authority to grant and revoke licenses but in practice, relies on the advice of the CBB, after it has conducted a review of the license application.** A standard application format and licensing criteria have been developed by the CBB, however, it is not publicly available. The home country supervisor's consent is required when the proposed owner or parent organization is a foreign bank. Permissible activities for the institutions are determined by the type of license it holds: commercial bank, Part III institution and off-shore "licensee." Approval granted by the CBB to expand the range of permissible activities is handled on a case-by-case basis and no notice is provided to the industry of "new permissible activities." To improve the CBB's transparency, it is recommended that the application process be formalized by issuance of either a regulation or guideline and that all licensees be notified when a permissible activity has been approved. The use of the term "bank" is restricted, and the FIA provides for fines and imprisonment for unauthorized use of the term or any variation of the term "bank."

13. **Legal provisions exist for the transfer of significant ownership, which requires the approval of the MoF, upon the recommendation of the CBB and any excess unauthorized acquisition must be disposed of at the direction of the CBB.** The Barbados Fair Trading Commission (FTC—a statutory body under the Minister of Commerce) is responsible for promoting and maintaining competition and consumer protection. As part of carrying out that mandate, the FTC polices mergers and pre-approval is required when a merger would result in one company holding 40 percent or more of the market. In the case of financial institutions, the definition of "market" has not been defined (whether it is based on loans or deposits). The FTC considers the views of the CBB regarding financial institutions' mergers.

14. **The FIA limits a licensee's investment in real estate—at market value, to the stated capital of the bank.** Approval of the MoF or the CBB is required for certain specified acquisitions by licensees. However, outside these narrow transactions, the types and amounts of acquisitions or investments are not clearly defined, nor are criteria provided by which to evaluate proposals.

Prudential regulations and requirements (BCPs 6–18)

15. **Under the Capital Adequacy Regulation 1998, the capital requirement is established at 8 percent of risk weighted assets in line with the Basel I recommendations.** The CBB has the authority to impose a higher minimum capital ratio based on the potential risk

exposure. Thus, the capital requirements may vary depending on the type of license (commercial bank, Part III licensee or off-shore licensee taking third party deposits or nondeposit taking). Currently, there are no capital requirements for market risk in the trading book. The BDS is considering revisions to the capital regulation in the context of the Basel II implementation.

16. **According to the BSD's Basel II implementation plan, all licensees are required to implement the Standardized Approach for credit risk and market risks, and the Basic Indicator Approach or Standardized Approach.**

17. [1] **for operational risk from 2009.** The BSD intends to consider a possible transition to the Advanced approaches for credit risk after 2012. The Basel II implementation survey conducted by the BSD shows that some institutions are expected to realize a significant decrease in capital requirement due to improved risk weightings[2] for some asset classes under the Standardized approach while 75 percent of the banks do not foresee any significant changes in capital requirements. The CBB is encouraged to conduct a full-scale quantitative impact study of the Basel II implementation on the capital level of the banking system. Based on the result of the QIS, any needed adjustments of the Pillar I or Pillar II schemes should be considered. Special attention should be paid to the risk weighting for retail credit and residential mortgage loans as well as Pillar II.

18. **The Asset Classification and Provisioning Regulation is outdated, and loss provisioning requirement should be reviewed.** Under the current rule, there is no minimum provision requirement for "Pass," "Special Mention," and three to six months past due residential mortgage loans classified as "Substandard" while 20 percent for other "Substandard," 50 percent for "Doubtful," and 100 percent for "Loss" are applied. It is recommended that the CBB consider raising the required minimum loan loss provisions for "special mention" and "substandard," given the widening loan loss reserves surplus over the required reserves. Also, the special treatment for three to six months past due residential mortgage loans should be reconsidered. In addition, the regulation should clearly state that all relevant Off Balance Sheet items are classified and provisioned. Furthermore, the CBB is encouraged to issue guidance on collectively assessed loan provisions or general provision in line with the IFRS. Also, it is recommended that the CBB collect more detailed asset quality data such as delinquency ratio, and past due loans over one month by the time bucket, among others.

19. **Exposures (any advance or credit, financial guarantee or liability) to a single person or group are limited to 25 percent of the licensee's stated capital and reserves, and 10 percent of the licensee's stated capital and reserves for unsecured exposures.** Although

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[1] Only licensees that meet the qualifying criteria will be allowed to use the Standardized Approach for operational risk.

[2] According the BSD's implementation plan, the risk weights for residential mortgage will decrease from 50 percent to 35 percent (50 per cent for those with over 90 per cent loan to value ratio) while the risk weight for loans to individuals or small business will decrease from 100 percent to 75 percent.

the authorities monitor large exposure limits for groups, there is no explicit legal provision dealing with an aggregate large exposure limit. The CBB indicated that it is working on introducing a regulation for an aggregate limit on such exposures. Moreover, the CBB is encouraged to issue guideline on credit risk management including concentration risk.

20. **The FIA restricts unsecured lending or guarantee to each of the related parties (including a bank's directors, holding company, subsidiary, or affiliate or any director thereof) up to $40,000 or 1 percent of the stated capital of the licensee (whichever is the greater).** Also, the FIA requires that credit facilities to the related parties should not be granted on more favorable terms and conditions generally applicable to borrowers. However, there is no comprehensive definition of "related parties" in the FIA. It is recommended that the CBB define "related parties" comprehensively, covering the bank's subsidiaries and affiliates, any party that the bank exerts control over or that exerts control over the bank, the bank's major shareholders, directors, senior management and key staff, their direct and related interests, their close family members, and corresponding persons in affiliated companies. In addition, there is need to place aggregate limit on the total exposures to the related parties. The CBB is encouraged to require exposures to related parties to be deducted from bank's capital.

Methods of ongoing supervision (BCPs 19–21)

21. **Since the second half of 2007, the BSD is moving toward risk-based supervision and has provided guidance to the financial institutions on risk management processes.** The BSD's structure was reorganized into "Policy," "Approval & Licensing," and three "Supervision" units conducting off-site monitoring as well as on-site inspection for allocated institutions. Responsibility for many institutions has been re-assigned and supervisors are in the process of "learning their institutions." The BSD is developing and simulating risk assessment system (RAS) modeled after Canadian supervisory framework in consultation with the OSFI. According to the new RAS risk template, the CBB started assessing risk profile of some banks and banking groups on a quarterly basis. In addition, the CBB monitors and assesses trends, developments and risks for the onshore banking and offshore banking sector as a whole. The CBB is encouraged to keep building up supervisory capacity including highly skilled staff by the risk type (e.g., credit risk, market risk, liquidity risk, and IT risk, among others), information system for the processing, monitoring and analysis of prudential information.

22. **The CBB has placed more emphasis on offsite monitoring and risk focused targeted onsite inspection than full scope comprehensive onsite inspection.**[3] On-site inspections have been conducted in about half of the on-shore and off-shore institutions on the risk-based approach. The supervisors assess the strength of the risk management processes on a "principles" basis, with the level of testing determined on a case-by-case basis. The BSD is

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[3] The BSD conducted 36 onsite inspections (onshore banks: 7 full-scope, 2 targeted, 2 AML, offshore banks: 9 full-scope, 16 AML) during 2005, 13 onsite inspections (onshore banks: 3 full-scope, 6 AML, offshore banks: 2 AML) during 2006, and 4 inspections (onshore banks: 3 full-scope, 1 special) during 2007.

encouraged to include sufficient testing as part of the risk-based approach to supervision. Considering the current developing stage of risk based supervision framework, a sharp decrease of onsite inspection is not desirable or advisable. Therefore, the BSD is recommended not to decrease onsite inspection too much until the risk assessment system is believed to be sound. Also, the transition process should be expedited.

23. **Although the new regulatory reporting forms were also introduced recently, they should further expanded into more detailed information about risk profile of the banks and banking groups.** The current quarterly prudential returns mainly cover capital adequacy ratio, classified asset and provisions, large exposures and exposures to related parties. It is recommended that more information about overall risk profiles by the risk type should be filed with the CBB in line with the RAS. Especially, given the large credit portfolio, more detailed information on credit risk, (inter alia, sectoral distribution, delinquency ratio, past due loans by the time bucket, loan to value ratio, and debt to income ratio, among others) should be collected and monitored.

Accounting and disclosure (BCP 22)

24. **Audited financial statements are prepared in accordance with International Financial Reporting Standard, and published annually.** An auditor is approved by the CBB by the amendment to the FIA 2006. Where the CBB is not satisfied with the annual report of an auditor, the CBB may appoint another auditor to make an independent report. It is recommended that financial institutions are required to disclose the quarterly financial returns including any statements that are to be re-filed. According to the Asset Classification and Provisioning Regulation (Part 2. 3), three to four months past due residential mortgage loans are not defined as nonaccrual loan, thereby interest can be accrued. Nonaccrual of interest on residential mortgage loans at three months' delinquency should be implemented. In addition, the CBB is encouraged to publish aggregate information (e.g., capital ratio, income earning capacity, and risk profiles) on the banking system to facilitate public understanding of the banking system and the exercise of market discipline.

Corrective and remedial powers of supervisors (BCP 23)

25. **Although the CBB has a broad range of enforcement powers, there is a need for more transparent and systematic framework to bring about timely corrective and remedial actions.** The CBB can exercise a range of options, such as requesting behavioral changes, changes in management/Board, restricting activities, delaying approvals, suspension of license, and recommendation of revocation. However, there are no criteria against which adequate level of supervisory tools would be determined for each case. Since this lack of transparency of the enforcement framework may provide for a room for either lenient enforcement actions or court challenges, the CBB is encouraged to have more explicit framework for corrective and remedial actions.[4] In addition, it is recommended that the CBB

[4] The CBB indicated that it is drafting "a Ladder of Intervention" to document and improve transparency for corrective actions.

use penalties and sanctions (monetary) for directors, managers and other individuals as well as remedial measures and recommendation for institutions if deemed.

Consolidated and cross-border banking supervision (BCPs 24–25)

26. **There is no clear legal framework for group-wide consolidated supervision of banking groups and/or financial conglomerates.** In the current FIA and relevant regulations, there are no explicit provisions on legal definition of a banking group and consolidated supervision of a banking group such as licensing of a bank holding company and applying consolidated prudential rules or limits to a banking group. Especially, there are no explicit regulations, rules, guidance or instructions requiring that larger exposure limits and related party exposure limits are applied on a fully consolidated basis at the whole (and sub) group level. The fact that the top parent bank or bank holding company is a license under the FIA doesn't warrant that all prudential rules and limits are applied on a consolidated basis. Therefore, amendments to the FIA are recommended to explicitly require banking groups to comply with all prudential ratios on a fully consolidated basis. Also, more in-depth risk analysis and monitoring of banking groups' cross-border activities are needed. Special attention should be paid to potential double gearing, risk contagion from cross-border operations or non-financial activities, group-wide risk concentration, and group-wide internal control and risk management. In addition, consolidated prudential reports appear to lack information on group wide risks of the banking group, which should be monitored. Moreover, there is a need to conduct joint onsite inspections every three to five years for significant foreign subsidiaries of the local financial group with the host supervisors.

27. **Given the systemic importance of Canadian banks in the Barbados financial system, the CBB is strongly recommended to be more proactive in home-host cooperation with the home supervisor.** The CBB has established a multilateral MOU with regional regulatory authorities (Barbados, Bahamas, Belize, Trinidad and Tobago, The Cayman Islands, BVI, Jamaica, Turks and Caicos, Nederlandse Antillen) for the exchange of information and cooperation and consultation. This seems to have led to on-going dialogue and discussions on common issues among home and host supervisors in the region. However, the CBB hasn't reached an MOU yet on cooperation in banking supervision with significant home supervisors, especially Canada and Bermuda. Information exchange with the home and host supervisors does not seem to be active enough for the Canadian banks' dominance in Barbados. The CBB is encouraged to conclude those two MOUs on information exchange and cooperation.[5] In addition, for regional financial groups such as First Caribbean International Bank, a group specific MOU is strongly recommended among all relevant supervisors including OSFI (home supervisor), CBB (sub-home supervisor), and other significant host supervisors. The CBB is encouraged to get the information on the comprehensive risk profile of the parent banks at least annually from the home supervisors including Canadian OSFI, the Central Bank of Trinidad and Tobago, and Bermuda bank supervisors to monitor soundness of the parent bank.

[5] According to the CBB, an MOU with the OSFI is in discussion as of now.

Appendix II. Recommended Action Plan to Improve Compliance of the Basel Core Principles

Reference Principle	Recommended Action
Objectives, Autonomy, Powers, and Resources (BCP 1 (1) (2))	CBB should pursue acquiring delegated authority from the MoF. Keep building up supervisory capacity and resources.
Legal framework (BCP 1(3))	Update and revise laws and regulations (including the capital adequacy and the asset classification and loan loss provisioning regulation) in a timely manner.
Cooperation (BCP 1(6))	Engage in discussions proactively with foreign banking supervisors regarding the condition of the parent banks; and complete the negotiations of the MOUs with other supervisors.
Licensing Criteria (BCP 3)	Formalize the licensing requirements through regulation or guideline and make them publicly available.
Major acquisitions (BCP 5)	Identify the limits and the various types of exposures that require approval.
Capital Adequacy (BCP 6)	Introduce capital requirement for market risk Conduct full scale quantitative impact study of the Basel II implementation and make needed adjustment.
Risk Management Process (BCP 7)	Conduct a higher level of transaction testing to augment the principles-based assessment of risk management activities.
Credit Risk (BCP 8)	Conduct onsite inspection to be satisfied that the new guideline on credit risk management is complied by the banks.
Problem assets, provisions & reserves (BCP 9)	Update and strengthen asset classification and provisioning regulation including clear definitions of various terms and increase of required reserves.
Large exposure limits (BCP 10)	Establish an aggregate limit for large exposures. Consider setting guideline on concentration risk management at the portfolio level.
Exposures to related parties (BCP 11)	Develop guideline for related party transactions, including comprehensive definition of related parties, setting an aggregate limit for related parties and providing for a deduction in the capital computation for exposures to related parties.
Country or transfer risk (BCP 12)	Reconsider the language in the guideline for country and transfer risk, the supervisor should be satisfied that the provision for credit risk is sufficient to cover both the credit and the country risk. Conduct onsite inspection on this and increase banks' risk awareness.
Market risk (BCP 13)	Introduce capital requirement for market risk. Complete guideline on market risk measurement and increase banks' risk awareness.

Reference Principle	Recommended Action
Operational Risk (BCP 15)	Conduct a higher level of transaction testing to augment the principles-based assessment of operational risk management.
Interest Rate Risk (BCP 16)	Issue a guideline addressing interest rate risk and increase risk awareness.
Supervisory approaches and techniques (BCP 19, 20)	Expedite the transition process to risk-based supervision. Do not decrease onsite inspections too much until the transition is completed (e.g., reduce the time between the conduct of full scope inspections).
Supervisory reporting (BCP 21)	Expand prudential returns to cover more information on risk profiles of the licensee.
Accounting and disclosure (BCP 22)	Require nonaccrual of interest on residential mortgage loans at three months' delinquency. Require the publication of the quarterly financial returns including any statements that are to be re-filed.
Corrective and remedial powers of supervisors (BCP 23)	Establish the necessary framework to apply sanctions and penalties for statutory breaches. Provide disclosure of corrective action taken.
Consolidated supervision (BCP 24)	Enhance the prudential returns for consolidated statements. Establish clear legal framework for consolidated supervision.
Home, host relationships (BCP 25)	Develop institution-specific MOU to facilitate cross-border supervision; re-establish the coordinated inspections conducted on the banks.

Authorities' response

The Authorities wish to commend the assessors on their efforts to understand the regulatory framework in Barbados. The Authorities are of the view that the assessors have made practical suggestions that can further enhance the quality of supervision and regulation of banks in Barbados. In this regard, the Authorities intend to consider the recommendations in the planned revisions to the legislation and the development of Regulations and Guidelines to industry.

Notwithstanding the above, the Authorities consider that the assessors' conclusions and ratings were flawed in some areas.

In particular, while the authorities recognize the need for further legislative enhancements with respect to the Asset Classification and Provisioning Regulations, large exposures and consolidated supervision, they do not consider that the assessment in these areas adequately or accurately reflects the circumstances in which banks are regulated in Barbados. Certainly, the Authorities' ability to achieve compliance in these areas is not impeded. Favorable consideration of these issues would also impact the assessment of the legal framework.

IOSCO Objectives and Principles of Securities Regulation

General

1. **This assessment of the observance of the IOSCO Objectives and Principles of Securities Regulation (the IOSCO Principles) was conducted as part of an update to the Financial Sector Assessment Program of Barbados.**[1] Because the 2002 assessment was conducted before the Securities Commission was fully operational and before the development of the IOSCO Methodology for Assessing the Implementation of the IOSCO Objectives and Principles of Securities Regulation (the Assessment Methodology) (December 2003 version), an assessment was performed on all the IOSCO Principles. Material contained in the 2002 IOSCO Assessment Report was used when applicable.

Description of regulatory structure and practices

The securities regulatory environment & legal framework

2. **The Securities Commission was created in 2001 when a new Securities Act (SA) was enacted.** The Securities Commission has regulatory authority over all market participants. Market intermediaries, public companies, the BSE and the Central Securities Depository (CSD) all are required to be authorized under the SA by the Securities Commission to do business. In 2002, the new Mutual Funds Act (MFA) was proclaimed governing the licensing and operation of mutual funds and mutual fund administrators in Barbados. Owing to regional initiatives, such as the formation of the Caribbean Exchange Network, and IOSCO developments, the need for improvements in and harmonization of securities legislation has been recognized and an update of the relevant legislation in Barbados is under consideration.

3. **The Securities Commission is a functional regulator.** A person or company that wants to carry on most securities activities in or from Barbados must obtain a license from the Securities Commission. Even banks, insurance companies and other financial institutions licensed under the FIA must fulfill the requirements set out in the securities legislation in order to obtain a license.

Self-regulatory organizations (SROs)

4. **The BSE and CSD are self-regulatory organizations that exercise regulatory authority over securities market activities under the overall supervision of the Securities Commission.** The BSE has been delegated authority under the SA to approve the listing of securities on the exchange, supervise market activity, regulate daily trading on the exchange, register and license market actors and monitor their market conduct. The CSD is a wholly owned subsidiary of the BSE and it acts both as the central depository for all listed securities and as registrar and transfer agent for the listed companies. The CSD has been delegated authority to regulate clearance and settlement of transactions, approve new issues' prospectuses

[1] The assessment was conducted by Tanis MacLaren.

for registration with the Securities Commission and issue certificates of approval for these prospectuses. Virtually all securities of listed companies are held in dematerialized form at the CSD and all trades on the BSE must be settled at the CSD.

Market Structure

5. **There are very few registered firms actively participating in the securities markets**. As of December 31, 2007, there were [seven] securities companies, seven brokers, two dealers, two investment advisers, two traders and five underwriters licensed and operating in Barbados. The 25 registrations are held by just nine firms, as most are registered in multiple categories. Of these, several firms are not very active in the markets; their licenses are held to facilitate private banking operations for the customers of affiliated financial institutions. The BSE has 16 ordinary members, including two firms associated with major international accounting firms and six related to banks or insurance companies, and four designated members: the Barbados Bar Association, the Barbados Chamber of Commerce, the Barbados Institute of Banking and Finance and the CBB. There were four licensed mutual fund administrators and 14 mutual funds with total net assets of BB$758.9 million.

The BSE was established in 1987 and reincorporated under the new Securities Act in August 2001. As of December 2001, capitalization was estimated at around US$ 1.8 billion or 71 percent of GDP. Even though the number of issues traded on the regular market has not significantly expanded, and, on a net basis, only one additional company has been listed as of December 2007, the market capitalization reached US$ 5.6 billion, or close to 150 percent of GDP. (If cross-listed shares are included, the market capitalization at the end of 2007 reached US$ 9.4 billion or 250 percent of GDP.)

6. **The debt markets, like the equity markets, are underdeveloped.** From 2003 to 2007, there have been 28 public issues of corporate debt securities for a total of BB$ 1,369.6 million. Slightly over 35 percent of the total was raised in 2006. The BSE facilitates trading of corporate and government debt securities in the secondary market, but this type of trading of debt is almost nonexistent. The average total value of secondary market trades in government debentures and treasury bills between 2003 and 2007 was BB$22.4 million, at an average of 188 trades per year.

Preconditions for effective securities regulation

7. **The general preconditions for effective securities regulation in Barbados appear to be present, but the legislative framework governing commercial law is outdated.** On the positive side, there are no significant barriers to entry and exit for market participants; competition is encouraged and foreign participation is welcomed; the legal and accounting system supports the operations of the Securities Commission and effective regulation of market participants; the regulator has legally enforceable powers of decision and action; and the taxation framework is supportive of the operations of the industry in the jurisdiction. However, much of the commercial law was drafted years ago based on even older legislation in England and Canada and does not reflect the demands posed by cross-border trade, modern financial

instruments and current corporate governance standards. The legislation regarding bankruptcy, insolvency and winding up in the jurisdiction is also very outdated.

Principles relating to the regulator (Pr. 1–5)

8. **The Securities Commission is an operationally independent body with clear responsibilities set out in legislation to regulate the domestic securities and mutual funds markets.** However, there are significant gaps in its powers in the areas of inspections, access to information at regulated firms, information sharing and cooperation with other regulators. It does not have rule making authority, nor does it have general authority to grant exemptions from the legislation where appropriate.

9. **It is publicly accountable for its actions through dissemination of its annual report and subject to review of its decisions by the courts. It engages the public through the publication of regulatory initiatives for comment and by investor education efforts.** The Commission does not publish its own bulletin, nor does it have a website to disseminate information of interest to the public. The legislation and regulations are not easily obtainable outside the country. Most regulatory actions are published in the Official Gazette.

10. **Resources at the Securities Commission have increased substantially since the 2002 assessment, but current levels may still not be sufficient to meet the demands of active regulation of the markets, particularly in light of regional developments such as the CXN.** Staff are paid on the general government salary scale which makes it difficult to hire and retain personnel with the requisite skills and experience.

Principles of self-regulation (Pr. 6–7)

11. **The jurisdiction places appropriate reliance on its SROs and the Commission's oversight of their activities is adequate for its stage of development.** The SROs operate in a professional manner and observe standards of fairness and confidentiality that are equivalent to those at the Commission.

Principles for the enforcement of securities regulation (Pr. 8–10)

12. **The Commission has sufficient powers to investigate and take action on a breach of securities legislation.** The development of an enforcement program is in its early stages and will be assisted by the additional staff resources that are in the process of being hired. The fines set out in the legislation may be too low to be effective deterrents in the marketplace.

13. **There are gaps in the regulatory regime regarding inspection and compliance matters.** The Commission's legal authority to inspect or obtain information from regulated entities outside the context of an investigation is severely constrained. Human resource limitations have prevented the implementation of an on-site inspection program, although that is under development. Registered entities under the MFA or SA are not required to have controls and procedures in place to appropriately ensure compliance and manage risk.

Principles for cooperation (Pr. 11–13)

14. **The Commission has authority to share regulatory information with domestic regulatory counterparties, a domestic MOU is in place and information is being shared in practice.** The ability to share information with foreign regulatory authorities and enforcement agencies is much less clear. The ability to obtain information from market participants to assist either foreign or domestic entities is limited. These limitations may prove problematic in addressing issues arising from CXN in a timely manner and will prevent the regulator from becoming a signatory to the IOSCO Multi-lateral MOU.

Principles for issuers (Pr. 14–16)

15. **Public issuers, whether domestic or foreign, are subject to the same extensive initial and on-going disclosure requirements.** Annual financial statements must be prepared and attested to in accordance with international standards of accounting (IFRS) and auditing. The BSE requires listed companies to prepare quarterly financial statements. Public disclosure of material changes must only be made within seven days of the change, which is a fairly long time period by international standards. The requirements for insiders to disclose their securities holdings should be made clearer and more timely. The 2002 Assessment also recommended improvements in the timely disclosure of material change and insider reporting.

16. **Issuers that wish to offer their shares to the public in several jurisdictions in the region must meet the requirements set by each country for initial offering documents and continuous disclosure obligations.** Some consideration has been given to reduce the inefficiencies in this system by adopting a model used in Canada to coordinate regulatory actions. This model would allow an issuer to deal with the regulator in its local regulator and that regulator would coordinate the necessary review and approvals with the other regulators.

17. **The disclosure rules, governance requirements and the take over bid rules that apply to public companies are spread across two statutes and the stock exchange rules.** The routine corporate reporting, governance and proxy requirements are part of the Companies Act, as are the takeover bid regulations. There are also prospectus requirements in that Act. These are supplemented by some rules for listed companies in the BSE rules and the prospectus and financial statement requirements of the SA. Only the BSE rulebook includes some of the recent initiatives in good corporate governance practices. No one body has clear authority to interpret the rules where there might be conflict or ambiguities. Consolidating these rules for public companies in securities legislation, supplemented as necessary by stock exchange requirements, simplifies both amending the requirements and their administration.

Principles for collective investment schemes (Pr. 17–20)

18. **Mutual funds must be licensed by the Securities Commission, as must their administrators, following detailed qualification requirements.** The same registration requirements apply to foreign funds and foreign administrators. Reputation, fit and proper qualifications for key individuals at the operator and administrator and minimum capital requirements for the administrator are addressed. Each fund and administrator must undertake

to comply with the law. The regime does not require that mutual fund operators and administrators have in place adequate internal control policies and procedures.

19. **Funds may be organized using a wide range of legal structures, all of which limit the exposure of an investor to liability to their investment in the fund.** The organizational form, and the overall risks of the investment, must be disclosed in the offering document. The mutual fund's assets must be held in trust by a custodian and registered in that custodian's name.

20. **Full disclosure of all material facts required to make an informed decision must be set out in the offering document and this must include acceptable valuation and redemption provisions.** There are valuation rules in the legislation and the IFRS requirements for fair market valuation would also apply. The portfolio statement of the fund, containing valuations of the securities, is audited as part of the annual financial statements. There are no rules or procedures at the Securities Commission addressing pricing errors. Suspensions of redemptions are only permitted in exceptional circumstances.

Principles for market intermediaries (Pr. 21–24)

21. **All market intermediaries have to apply to the Securities Commission and meet the minimum licensing standards for registration, even if they also carry a license issued by the CBB or Supervisor of Insurance.** The Commission has full authority to grant, refuse, withdraw or impose conditions on a license, subject to the right of the applicant/licensee to be heard. As for mutual funds, there extensive requirements regarding many aspects of business conduct—such as know your client and the suitability obligation— but there are no specific requirements that a firm have in place adequate internal controls and risk management procedures, nor is there a general requirement that client assets be segregated from the firm's assets.

22. **Despite the fact that the minimum capital requirements do not vary with the risks undertaken by the firm, they appear to meet the objectives of a capital requirement: they provide a cushion to absorb losses and allow for an orderly liquidation of the business if the firm fails, without losses to clients or disruption to the markets.** Capital takes the form of liquid assets on deposit with an arm's length financial institution that may be used for meeting claims against the firm, without notice to the Commission. The funds must be immediately repaid if drawn down. There are no early warning mechanisms in place to alert the Commission to a licensee's deteriorating financial position or contingency plan in place at the Commission to deal with a firm's failure.

Principles for the secondary market (Pr. 25–30)

23. **The BSE is subject to a registration and oversight regime as a precondition to being permitted to operate as a stock exchange.** Its rules and any amendments must be approved by the Commission following a publication for comment process. Trading on the BSE is subject to surveillance both at the Exchange and at the Commission. There is real time

transparency of trading data available to members and the timeliness of information available to the public will be improved with the launch of a new BSE website.

24. **Rules regarding market abuse transactions appear in the SA and the current BSE rules, with expanded provisions appearing in the common rules being adopted across the CXN exchanges.** The coordination mechanisms in place among the regulators do not set out clear lines of responsibility for pursuing these offences or how matters will be dealt with when they involve cross border activities. The overall market abuse regime needs to be examined to ensure it is comprehensive. In particular, trading on insider information about any public company, not just a listed one, should be made an offence.

25. **Given the level of market activity and the way the business is conducted, the actual risk of a market disruption from a default is fairly slight, but if conditions change the dated nature of the bankruptcy and other commercial laws in Barbados will be of concern.** The bankruptcy law is based on an English statute that dates from the early 20th century and does not recognize investment market needs such as orderly close out procedures. The personal property laws are similarly outdated and may not recognize pledges or transfers of securities held in electronic form.

26. **CSD, as a clearing agency, is subject to oversight by the Commission as an SRO**. The settlement cycle for securities is three business days after the trade date. Listed securities are held in dematerialized form at CSD that also acts as registrar and transfer agent for listed companies. Virtually all clients have an account at CSD and most of the positions are held in the name of that client as the beneficial owner. CSD settles the securities on a gross basis with the brokers for their clients, while the cash is settled on a net basis, through CSD's account at the CBB.

Appendix III. Recommended Action Plan to Improve Implementation of the IOSCO Objectives and Principles of Securities Regulation

Reference Principle	Recommended Action
Principles Relating to the Regulator (P. 1–5)	The Securities Commission should be given legislative authority to grant exemptions and make legally binding rules under both the SA and MFA. Elimination of the Minister's exceptive power under the MFA would enhance the Securities Commission's independence. The authorities should develop a website that would contain information about its activities, the securities laws, registered firms and public companies. Increased visibility benefits investors and the markets. The Commission should be provided with comprehensive authority to inspect all firms registered under either the MFA or SA and to have full access to all information held by the firms at any time. Additional resources may be needed, particularly in the compliance and enforcement areas, and recognition should be given to the difficulty of attracting additional staff with the required specialized skills at government salary levels.
Principles of Self-Regulation (P. 6–7)	The Commission should consider doing on-site inspections of the SROs.
Principles for Enforcement (P. 8–10)	The Commission must establish an effective program for on-site supervision of firms registered under both the SA and MFA. Where appropriate, these reviews could be coordinated with the inspection activities of the CBB and the BSE. Registered firms should be required to have compliance programs in place. The levels of fines that may be imposed under the SA and MFA should be reassessed. Consideration should be given to raising these to provide a greater deterrent.
Principles for Cooperation (P. 11–13)	The Commission requires detailed and clear authority to share information and provide assistance to other regulators, both domestic and foreign.
Principles for Cooperation (P. 11–13) (continued)	The MOU among the securities commissions involved in CXN should be finalized and the three exchanges should have an MOU to govern their relationship.
Principles for Issuers (P. 14–16)	The disclosure requirements for public companies should be amended to provide for: • Public disclosure of material changes to be made immediately, with the filing of the report with the regulator promptly thereafter. Prompt confidential filings should be made where the matter is sensitive and the public disclosure should be made as soon as possible. • At least semi-annual financial statements to be included in offering documents and made available to

Reference Principle	Recommended Action
	shareholders. The rules governing public company disclosure (annual reporting, management reporting, financial statements, proxy requirements), voting (proxies etc,) and take over bids, which are presently in the Companies Act, should be consolidated in the SA. The takeover bid rules need to be updated, harmonized across the region, particularly with Jamaica and Trinidad and Tobago, and imported into the SA. Insiders of all public companies should be required to make prompt public disclosure of their shareholdings in the company and keep that information up to date.
Principles for Collective Investment Schemes (P. 17–20)	The MFA should be amended to contain a clear requirement that mutual fund operators and administrators have in place adequate internal control policies and procedure, which would be tested on inspection by the Securities Commission. The Securities Commission should consider requiring the custodian to be completely at arm's length to the fund and the administrator. The Securities Commission should introduce a comprehensive set of duties that would apply to the mutual fund, its operator, administrator and portfolio manager owed to the fund investors.
Principles for Market Intermediaries (P. 21–24)	Requirements that all registered firms have adequate internal control policies and procedures in place; be required to segregate client assets; have a duty of best execution; and not front run client orders should be added to the SA. The authority should consider recommending that firms establish a compliance function: someone responsible for monitoring the compliance of the firm with all applicable requirements. The authorities should develop a contingency plan to address the failure of a registered firm.
Principles for Secondary Markets (P. 25–30)	The regulator needs to put in place an effective on-site examination program for both the firms that trade on the BSE and for the BSE itself. The market abuse prohibitions rules in the BSE rules and securities legislation should be reviewed to ensure they are comprehensive. In particular, trading on insider information about any public company, not just a listed one, should be made an offence. Some significant modernization of bankruptcy and insolvency laws is needed to prevent the outdated provisions from being a significant impediment to development of the markets.

Authorities' response

The Commission agrees with the assessment to some extent as indicated in our previous submission. However, as explained to the Assessor, the Commission has recognized some of the deficiencies highlighted in relation to the legislation and prior to the assessment had co-ordinated a Legislation Committee which is reviewing the Securities Act and all Related Legislation, also with a view to completing our application for signatory to the IOSCO MMOU albeit Appendix B. This work is in progress and will continue.

To date the Committee has finished its review of the Securities Act and is in the process of reviewing the impact of the amended securities legislation on the Companies Act *inter alia* Division J. The Committee will also review the Mutual Funds legislation. Hopefully all of the required updates and amendments to the legislation will be completed by December 2010 which is also the deadline for application to IOSCO FOR signature to the MMOU.

Other deficiencies highlighted such as the absence of internal controls highlighted in the assessment will also be addressed with the continuing review of the securities and related legislation.

Appendix IV. Stress Testing Procedures, Assumptions, and Outcomes

1. **This appendix describes the methodology and results of the stress tests that were carried out as part of the Barbados FSAP Update.** The assessment is based on a bottom-up estimation of the vulnerabilities of onshore subsidiaries to various exceptional but plausible shocks. However, it is important to recognize that scenario analysis is not general equilibrium analysis, and is considered an imperfect guide to gauge the resilience to the shocks analyzed if macro policy framework, and/or the financial system were to diverge fundamentally from the current one. The shocks and scenarios used in the stress test analysis were chosen in collaboration with the CBB. The CBB provided individual bank data as of September 2007.

Coverage—Institutions and Risks

Institutions

2. **The stress test covers the four subsidiaries of the on-shore banking system, and it is based on data as of September 2007**. The two foreign branches of the on-shore system were not included in the exercise given that minimum capital requirements do not apply for them.

3. **The stress test assesses the resiliency of the system to a number of shocks, including to the economic activity, interest rate, exchange rate, liquidity, as well as shocks to macroeconomic variables for the world economy.**

Summary of Methodology

Credit Risk

4. **The credit risk analysis consisted on tracking the impact on commercial banks' CAR of shocks to default rates of the banks' loans.** This was accomplished by first estimating a one-year horizon, 95 percent confidence level simplified value at risk (VaR) for each bank. Assuming that the portfolio loss distribution can be characterized by its mean and its variance, and that the vector of default probabilities are given exogenously, the VaR of the loan portfolio delivers the expected and unexpected losses. The adjustment of banks' CAR after each shock or scenario was calculated from the sum of expected losses and unexpected losses, net of existing provisions under the assumption of a uniform probability of default for all borrowers in the same bank, and a Gamma probability distribution for loan losses. The following parameters/assumptions were used in the calculations:

- The loss given default (LGD) was assumed to be the same for all loans, at about 25 percent, based on discussion with commercial banks (indicating a 0-40 percent range).

- The unsecured share of bank assets was assumed to be about 20 percent of total assets across banks. An 80 percent ratio of secure assets is a conservative assumption based on some banks' broad estimations during meetings. Credit card loans and consumer loans seems to have the lowest levels of collaterization.

- Loan default probabilities (PD) were assumed to be homogeneous and independent from each other, and were approximated using the evolution of NPLs and their expected levels after each shock or scenario. Expected NPLs were projected based on historical relationships between NPL levels and key macroeconomic variables (GDP growth, nominal interest rates and inflation).
- The effective loan portfolio concentration was estimated by computing a Herfindahl-Hirschman index using the most disaggregated loan category available.

In addition, to compare the results of the 2002 FSAP stress test analysis, the mission also tracked the impact on each bank's CAR of an increase in each bank's provisioning associated with different hypothetical increases in NPLs (see Stress Testing the Banking System technical note).

Interest Rate Risk

5. **Changes in the nominal interest rate in Barbadian dollars were considered.** The impact of an upward parallel move in the yield curve on banks capitalization was assessed over a one-year horizon. The test combines:

- The direct effects on the balance sheet for interest bearing assets and liabilities; a gap method was used. The indirect effect over the quality of the portfolio is included in the credit risk stress test.
- The effects of potential mark-to-market losses derived from banks' holdings of fixed rate government papers; according to authorities estimates most of the portfolio—90 percent approximately—is held to maturity; a duration model was used.

Exchange Rate Risk

6. **Depreciation/appreciation of the Barbadian dollar was considered.** These results include:

- The direct effect on the balance sheet derived from any currency mismatch.
- The indirect effect of any impact on the banks' portfolios quality. Discussions with CBB's staff suggested that an x percent depreciation would lead to an x/20 percent of new NPL of foreign currency loans.

Liquidity Risk

7. **The test assesses whether banks would be able to survive liquidity drains without resorting to outside sources of liquidity (CBB).** The scenarios considered include:

- A dry-up of up to 50/100 percent of the funding from parents institutions.
- Deposits run of up to 50 percent in a 30-day period.

Scenario Analysis

8. **Given that shocks tend to hit small open economies simultaneously, a scenario analysis is also presented.** The system is subject to shocks to the tourism and construction domestic sectors, as well as to shocks to the U.S. economy and international oil prices.

Appendix V: Barbados: Follow-Up on Key Recommendations of the 2002 FSAP

FSAP Recommendations	Status as of April 2008
Banking Sector	
Financial Institutions Act: The FIA should be amended to strengthen the independence of CBB, impose aggregate limits on large exposure and connected lending, facilitate license revocation and distressed bank resolution, and require CBB's prior approval of the external auditor for licensees.	The FIA (Amendment, 2006) did not address the independence of CBB, aggregate limits on large exposure and connected lending and license revocation. Distressed bank resolution and CBB's prior approval of the external auditor were addressed in the amendment. Most of the outstanding items are in a proposed amendment currently being worked on by the CBB.
On-site examinations: Supervisory resources of the CBB should be boosted to enable it to conduct regular onsite examinations of all onshore and offshore banks on an 18–24 months cycle.	BSD's supervisory staff has increased from 28 at 2002 to 32 at March 2008. However, regular on site examination cycle has lengthened due to an increase in other mandates.
Deposit Insurance Act: The potential for financial instability may be contained by a well designed deposit insurance scheme in a properly supervised banking system.	The deposit insurance scheme was introduced in mid-2007 for institutions licensed under the FIA. It covers up to BDS$25,000 per depositor and per institution, and its fund represents about 0.2 percent of total deposits. Aspects related to the organization, the MOU with the Central Bank; and staffing are in progress.
Credit Unions	
CBB assisted on site examinations: A high priority should be assigned to completing the CBB assisted on site examinations of the five large credit unions and such examinations should be made regular.	The focus of the joint inspections has shifted from the largest five to the largest two credit unions. The two largest are not being inspected on an annual basis. Consideration should be given to adding the third largest to the joint inspection process as it has significantly higher assets than its peers (medium sized category).
Credit Union Law: Consideration could be given to introducing a separate credit unions law in light of the experience gained with these examinations. In the meantime, the capacity of the Registrar of Cooperatives to effectively supervise credit unions should be strengthened.	The Cooperative Societies Act was amended in December 2007 and its regulations updated in January 2008, however, the amendments are unlikely to serve as a good substitute for a dedicated Act. Plans are being considered to establish a Financial Services Commission which will bring under one roof the supervision of all nonblank institutions, including the insurance companies, credit unions, and the stock exchange. The IDB project will provide training in risk based supervision to the Cooperatives Department.
Insurance Sector	
Supervisory resources: Supervisory resources need to be increased to allow the instigation of an on-site inspection process supported by a more analytical off-site review using timely and sufficiently detailed returns from companies.	On-site inspections commenced in 2004. However, these inspections need to be supported by a more analytical off-site review, with attention to standard procedures, rather than compliance oriented off site analysis. This, in turn, will require better content and more timely information collection. Staff has increased since the last assessment, however four positions created in 2006 have yet to be filled.

FSAP Recommendations	Status as of April 2008
Solvency margins: A solvency margin requirement can be developed for life insurance companies which, if supplemented by a review of provisioning rules and asset requirements will greatly improve the regulatory framework.	Proposed amendments regarding solvency margins and capital requirements have been drafted but not implemented.
Circulars: The development of several circulars would codify presumed understandings between market participants and the supervisor. In particular, attention to corporate governance and internal controls would offer ready improvement. Such circulars would assist in ensuring that reputational risk is minimized.	Several circulars and standards were recommended from the previous assessment, in particular, standards on corporate governance, market conduct, internal controls (including asset and derivative controls, particularly in the case of the offshore market), asset and liability valuation. Except for one circular covering segregated cell companies distributed in October 2007, no other circulars were issued.
Independence and Transparency: The supervisor has not published information about the operations of the office or the market. A draft has been prepared. Improved transparency would promote independence and would be the most cost effective way to deliver better compliance with the core principles.	Returns from the industry continue to be delinquent. At the time of this assessment, the Supervisor of Insurance's 2005 Report was still in draft form. The 2006 information had not been compiled. The Financial Services Commission (the single regulatory agency of the nonbank sector), which has not been approved as of the date of this re-assessment. If approved, it will increase the independence and transparency of the regulation of the insurance sector.
Capital Markets	
Securities Commission: The new legislation and the authorities' efforts to promote a more efficient and transparent market have been reflected in the assessment of the IOSCO Principles. Full implementation of many of the Principles requires effective exercise of the SC's powers in practice. However, as the SC is not yet fully staffed or operational, this is not yet in place.	The authorities report that inspection and enforcement of the Securities Act has improved since the Securities Commission became fully operational in 2003. Some joint inspections done with CBB. Three new inspection/compliance examiners to be added in 2008 and own inspection program to commence. BSE in process of establishing own inspection program for member brokers.
Public company reporting: Disclosure could be improved by immediate disclosure of material events by public companies and immediate disclosure of transactions in company's securities by insiders of company.	No change.
Securities settlement period: Securities clearing and settlement should move toward DVP principles and T+3 settlement cycle.	Effective January 1st 2006, the securities clearing and settlement cycle was reduced to T+3, or three business days after trade day.

Appendix VI. Barbados—Detailed Recommendations of FSAP Update

BANKING

Legal and regulatory framework

Short-term

- Update existing regulations (capital adequacy regulation, classification of assets and loss provision) and issue new regulations (large exposures; related party transactions; licensing activities—to include holding companies).
- Increase transparency by sharing with the industry licensing requirements and permissible activities.

Medium-Term

- Amend Financial Institutions Act (to grant CBB authority to issue regulations, similar to text in the International Financial Services Act, and to get clear, delegated authority from the MoF).
- Develop methodology for imposing sanctions and penalties.

Off-site and on-site supervision

Short-term

- Accelerate development of risk assessment model. This would include identifying the criteria for evaluating the inherent risks; and the risk management and mitigation activities; determining the frequency and timing of the risk assessments; the definitions and level of risks to be assigned, and the impact the assessment will have on an institution's supervisory strategy.
- Maintain a proper level of a broader scope onsite inspections (resume inspection frequency, reduce the current "exam cycle" of 18–30 months).
- Conduct higher level of transaction testing to support assessment of risk management activities.
- Develop program to document significant changes that arise between the completion of the inspection to the issuance of the report of inspection (primarily the changes of asset classification, changes to the loan loss provision).
- Develop mechanism for notifying the FIU when inspections determine that a licensee should have filed a suspicious transaction report but failed to do so.

Medium-Term

- Keep building up supervisory framework to assess, monitor, address risks in the banks and banking system.

- Improve data gathering and analysis to identify incipient system-wide vulnerabilities.

Basel II implementation

Short-term

- Conduct full-scale Quantitative Impact Study to assess the impact on capital level of banking system as well as macro-economy and financial markets.
- Based on the result of the QIS, make any needed adjustments including changes in risk weights, delay of implementation schedule, and strengthening Pillar 2 framework, among others.

Cross-border consolidated supervision and home/host cooperation

Short-term

- Complete MOUs with OSFI, Bermuda and other jurisdictions.
- Expand and document home/host information sharing on risk profiles of parents and subsidiaries to assess the impact of parent/related party on Barbados banks.
- Conduct comprehensive scope, coordinated cross-border inspections of Barbados-based bank.

Medium-term

- Establish clear legal framework for consolidated supervision of banking groups or financial conglomerates including explicit provisions on legal definition of a bank group and consolidated prudential rules or limits.
- Strengthen surveillance of regional cross-border financial groups through more frequent and comprehensive group-wide risk assessment taking account .of risk contagion across the region.
- Develop multilateral MOU for specific holding company or group.

Short-term

- Provide the Securities Commission with statutory power under the MFA and SA to:
    - make legally binding rules and give exemptions;
    - inspect and access all information at regulated firms at any time; and
    - share information and otherwise cooperate with domestic and foreign supervisors.

Medium-term

- Elimination of the Minister’s exemptive power under the MFA would enhance the Securities Commission’s independence.

Commission

Short-term

- Develop and implement regular inspection program for regulated firms under both Acts and require all registered firms to have adequate internal control and risk management policies and procedures. Where appropriate, these reviews could be coordinated with the inspection activities of the CBB and the BSE.
- The Securities Commission should consider requiring the custodian of mutual fund assets to be completely at arm's length to both the fund and the administrator.
- The authority should consider recommending that firms registered under either Act establish a compliance function: someone responsible for monitoring the compliance of the firm with all applicable requirements.

Medium-term

- The Commission should develop a website that would contain information about its activities, the securities laws, registered firms and public companies. Increased visibility benefits investors and the markets.
- The Commission should consider doing an on-site inspection of the SROs.

Commission and government

Short-term

- The market abuse prohibitions rules in the BSE rules and securities legislation should be reviewed to ensure they are comprehensive. In particular, trading on insider information about any public company, not just a listed one, should be made an offence.
- Require (i) immediate public disclosure of material changes regarding mutual funds and public companies; and (ii) insiders of public companies to make prompt public disclosure of their shareholdings and keep that information up to date.
- All registered firms should be required to have adequate internal control policies and procedures in place; be required to segregate client assets; have a duty of best execution; and not front run client orders.
- The levels of fines that may be imposed under the SA and MFA should be reassessed. Consideration should be given to raising these to provide a greater deterrent.

Medium-term

- Consider obtaining technical assistance to identify and propose recommendations to address limitations on capital market development.

- Study ways (including offering higher salaries) to attract additional staff with the required specialized skills in the compliance and enforcement areas.
- A comprehensive set of duties should be introduced that would apply to the mutual fund, its operator, administrator and portfolio manager and be owed to the fund investors.
- Update and harmonize takeover bid rules across the region (particularly with Jamaica and Trinidad and Tobago) at the exchange and statutory levels; consider importing the takeover bid rules into the SA.
- The disclosure requirements for public companies should be amended to provide for the most recently released financial statements (including semi-annual statements) to be included in offering documents and made available to shareholders.

Financial sector authorities (including the BSE)

Short-term

- Develop a contingency plan to address the failure of a registered firm.
- The MOU among the securities commissions involved in CXN should be finalized and the three exchanges should have clear arrangements in place (via an MOU or contract) to govern their relationship.

Medium-term

- The rules governing public company disclosure (annual reporting, management reporting, financial statements, proxy requirements), voting (proxies etc,) and take over bids, presently in the Companies Act, should be consolidated in the SA.
- Some significant modernization of bankruptcy and insolvency laws is needed to prevent the outdated provisions from being a significant impediment to development of the markets.

INSURANCE

Short-term

- Efforts to improve the timeliness and usefulness of supervisory returns should have a high priority.
- Bring regulation of the insurance sector in line with best international practices to protect the reputation and the charter value of the insurance business in Barbados from negative shocks.
- Develop standards and circulars to enhance the observance of the IAIS principles. In particular, standards on corporate governance, market conduct, internal controls (including asset and derivative controls, particularly in the case of the offshore market),

asset and liability valuation, and a solvency standard for life insurers would lead to a considerable improvement in the observance of the principles.

- Study ways to increase enforcement resources. On site inspections need to be supported by a more analytical rather than compliance oriented off site effort. This, in turn, will require better content and more timely information collection.
- Pursue practical collaboration with respect to the supervision of larger groups in Barbados with the authorities in Trinidad and Tobago. Effective supervision of the sector can only be done by supplementing the solo approach with a group wide assessment.

CREDIT UNIONS

Short-term

- Consider issuing a specialized Credit Union Law. The amendments to the Cooperative Societies Act are not a substitute to a separate Act. The legislative changes have not kept pace with the accelerated growth of the sector and the risks associated with the high degree of concentration in the largest two to three credit unions in terms of total assets and membership base. In addition, loan delinquency rates need to be measured accurately.
- Increase the on-site examination of the systemically important credit unions by undertaking joint inspections (Cooperatives Department and Central Bank) on an annual basis and consider adding the third largest to the joint inspection process.
- Increase the number of inspections conducted by the Cooperatives Department such that an annual inspection is conducted on all 34 credit unions. Increase the number of examiners and continue to provide training on risk based supervision.

DEPOSIT INSURANCE

Short-term

- Expand and improve the level of public awareness about the characteristics of the new deposit insurance scheme.
- Complete the process of organization, the MOU with the Central Bank; staffing, and necessary systems.

14th Actuarial Review

of the National Insurance, Unemployment And Severance Funds as of 31 December 2011

BARBADOS
SOCIAL SECURITY
Tel: (246) 431-7400

National Insurance Office

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PUBLIC SECTOR REFORM
Making Barbados Work Better

Fax: (246) 431-7408

January 27th, 2014

Sen. Dr. The Hon. Esther Byer-Suckoo
Minister of Labour & Social Security and Human Resource Development
3rd Floor West
Warrens Office Complex
Warrens
St. Michael

Dear Minister:

In accordance with Section 34 of the National Insurance and Social Security Act, which requires that an actuarial review of the National Insurance Fund be conducted every three years, I am pleased to submit the report of the 14th Actuarial Review, prepared as at December 31st, 2011.

This review has been conducted by Mr. Derek Osborne of Horizonow Consultants Ltd.

Yours sincerely,

Dr. Justin Robinson
Chairman, National Insurance Board

Table of Contents

Abbreviations and Acronyms

GDP	Gross Domestic Product
IE	Insurable Earnings
ILO	International Labour Office
IPS	Investment Policy Statement
ISSA	International Social Security Association
NI	National Insurance
NIB	National Insurance Board
NIF	National Insurance Fund
NIS	National Insurance Scheme
OECD	Organisation for Economic Co-operation & Development
PAYG	Pay-as-you-go
STB	Short-term Benefits
TFR	Total Fertility Rate

Introduction

The Barbados National Insurance Scheme (NIS) began operations in June 1967. It currently covers all employed and self-employed persons and offers five main types of social security benefits with payments from three separate funds. The National Insurance Fund covers short-term benefits, long-term benefits or pensions and employment injury benefits, while the Unemployment Fund and Severance Fund cover unemployment benefits and severance payments, respectively. All benefits are financed by contributions which are levied on employment earnings up to a wage ceiling and are paid by employers, employees and self-employed persons. Funds that have accumulated in previous years that are not yet required for the payment of benefits are invested locally, regionally and internationally in various types of securities and properties.

This is the report of the 14th Actuarial Review of National Insurance, Unemployment and Severance Funds and it is being prepared as of December 31, 2011, three years after the 13th Actuarial Review. Section 34 of the National Insurance and Social Security Act requires that such reviews be conducted at three year intervals. The preparation of this report was delayed due to the unavailability of financial and statistical data. Although some statistical data were incomplete and financial statements unaudited, the data provided is considered sufficient for the purpose of this review.

The main purpose of periodic actuarial reviews is to determine if the social security system in Barbados operates on sound financial and actuarial bases and if it provides adequate and affordable levels of income protection. Where considered necessary, recommendations aimed at ensuring that these objectives can be achieved for current and future generations are made.

For this review, 60-year demographic and financial projections have been performed. It should be noted that these projections are dependent on the underlying data, methodology and assumptions concerning uncertain future events and that the outcomes and eventual experience will most likely differ, possibly materially, from that indicated in the projections. Therefore, in accordance with the National Insurance Act, periodic actuarial reviews should be conducted. The next Actuarial Review of the three Funds is due as at December 31, 2014.

This report was finalised two years after the review date. The actuary visited Barbados in September 2013 and October 2013 and held discussions with the members of the Board, the Director, representatives of the Central Bank and Barbados Statistical Service, and staff of the National Insurance Office. He wishes to thank Mr. Ian Carrington, Director, Derek Lowe, Marketing & Research Officer, and all other members of the National Insurance staff who assisted with this review.

December 31st, 2013

Executive Summary

National social security systems make promises to former and current workers that extend beyond 60 years. It is therefore important that these systems are well designed, well governed and properly administered. Periodic actuarial reviews of the National Insurance, Unemployment and Severance Funds provide a comprehensive assessment of the current and projected state of Barbados' social security system. They also provide policy recommendations for changes designed to ensure that a suitable balance between benefit adequacy and financial sustainability is achieved for both current and future periods.

This actuarial review analyses experience between 2009 and 2011 and presents prospects for the three Funds. While the Funds have different objectives and financing mechanisms, the success of any social security system is closely linked to the strength of the local economy. During the 3-year review period, the Barbadian economy contracted, unemployment increased, the number of NIS contributors and contribution income declined while payouts for most benefits increased. Contributing to the decline in contributions was increasing non-compliance among employers and self-employed persons. While the yield on investments remained strong, inflation was equally as high resulting in no real rate of return on reserves. Overall, the three Funds had varying experiences:

» For the National Insurance Fund, the gap between contributions and expenditure narrowed, and income and expenditure were generally in line with projections of the 13th Actuarial Review. As at December 2011 total reserves were $3.8 billion, 7.8 times expenditure in 2011.

» The Unemployment Fund paid out significantly more than combined contribution and investment income resulting in total reserves declining from $127.8 million to $85.4 million between year-ends 2008 and 2011.

» For the Severance Fund, reserves grew from $112.6 million to $152.0 million over the same period as benefit payments remained very low.

National Insurance Fund

This report's assessment of National Insurance policy and design indicators suggests that current contribution and benefit provisions generally provide a very good level of benefit adequacy and income protection to most workers and pensioners. The automatic annual adjustments of the earnings limit and pensions have been effective in replacing most of the price inflation felt by pensioners and maintaining adequate insurance coverage for higher paid workers. The heavy concentration of investments in Barbados Government and other public sector securities presents growing concerns for the Fund's long-term sustainability. The key risk factor here is whether the Fund will receive cash when Debentures and Treasury Notes will have to be liquidated to meet current expenditure.

For this Review three sets of 60-year projections of Barbados' population and National Insurance Fund finances have been performed so that a range of reasonable prospects for the Fund may be assessed. These projections are based on there being no changes to the current contribution rate and legislated benefit rules. Given the uncertainty in projecting such an extended period, the timing of certain events and the rates that will apply are presented as ranges.

1. Total expenditure will exceed contribution income each year.

2. Total expenditure will first exceed total income between 2028 and 2035 in the Pessimistic and Best Estimate scenarios.

3. The Fund will be depleted between 2045 and 2056 in the Pessimistic and Best Estimate scenarios, but not within the next 60 years under the Optimistic Scenario.

4. The pay-as-you-go rate in 2071 will be between 23.5% and 34.7%.

5. The average long-term cost of benefits over the next 60 years, often referred to as the general average premium, is between 20.9% and 26.0%.

A sustainable national pension is one that over the long term, delivers on its financial promises in such a way that the financial burden is borne equitably by participants. These results indicate that the National Insurance Fund may not be financially sustainable over the long-term under two of the three scenarios, but will be very well funded if there is sustained economic growth. There is, however, no need for panic or immediate action as the projections above are consistent with the partially funded nature of a national pension system.

This report was finalised in December 2013 and thus the recommendations presented below are made with the benefit of actual experience in 2012 and most of 2013. The state of NIS' finances in 2013 can be summarised as follows:- while total expenditure now exceeds contributions and no contribution rate increase is anticipated, deficits are not expected before the next 25 years and there are significant reserves to sustain payments for the medium term. The current economic climate can be described as being in the midst of a sluggish recovery with weakening public finances, relatively high interest rates and moderate inflation.

Major reforms to a national pension system should not be a regular occurrence. Thus, given that extensive reforms were made ten years ago, and some of them are still being phased in, the recommendations in this report focus more on operational issues than on contribution and benefit provisions. All recommendations, however, are based on the overriding goal of further enhancing coverage, maintaining or improving benefit adequacy while enhancing long-term sustainability. These recommendations are:

1. To enhance coverage:
    a. Implement a simple and attractive means by which self-employed persons can contribute and benefit from the NIF.

2. To enhance benefit adequacy:
    a. For Old-Age, consider removing the requirement that the benefit shall not be awarded at an early age if the calculated amount is less than the minimum pension.
    b. Consider awarding Old Age and reduced Survivors pensions to widow(er)s who meet the eligibility conditions to both pensions. An analysis of the financial impact of this change should be conducted first.

3. To enhance sustainability:
    a. Increase investment diversification with goals of reducing the portion of the Fund held in Government of Barbados to 50% over 5 years and increasing the portion held in overseas investments.
    b. Take steps to improve contribution compliance.

4. To enhance administrative efficiency:
    a. Make maximum use of the capabilities of the information technology systems and/or upgrade current systems so that service levels may be improved.
    b. Ensure that all key positions with the National Insurance Office are filled.

Unemployment & Severance Funds

Unemployment Fund experience has been in line with what is expected during recessionary periods – contributions decrease, benefit payments increase and reserve levels fall. Unemployment benefit provisions and the flexibility available to extend the maximum duration for a limited period have proven that current rules adequately meet the needs of unemployed persons.

Short-term projections of the Unemployment Fund indicate that reserves could be depleted as soon as 2016 if the contribution rate remains at 1.5%. Even under a scenario of increasing contribution income and declining benefit costs, the Fund will be depleted by 2023.

The Severance Fund, meantime, has excess reserves and will continue to grow with the current ½% contribution rate and benefit provisions. The payment and reimbursement rules of the Severance Payments Fund, however, do not appear to be in line with prevailing employment practices and behaviour.

Following are recommendations for the Unemployment and Severance Funds:

(i) Increase the contribution rate for the Unemployment Fund by ½% (to 2%) or inject $50 million into the Fund. Such an injection could be a transfer from the Severance Fund, if legally possible.

(ii) Temporarily suspend the ½% contribution rate to the Severance Payment Fund.

(iii) Perform a comprehensive review of the provisions of the Severance Payments Act and determine what amendments are required to create a scheme that better meets the needs of both employers and workers when redundancy either occurs or is being considered.

(iv) Establish written investment policy statements for both the Unemployment and Severance Funds. These could be included in separate sections of the National Insurance Fund's Investment Policy.

Good Governance Guidelines

In 2011, the International Social Security Association (ISSA) published the "*ISSA Good Governance Guidelines for Social Security Institutions*." These Guidelines present a governance framework that spans a range of governance issues. It recognizes accountability, transparency, predictability, participation and dynamism as core good governance principles. It recommends qualified persons be appointed to serve on Boards and in leadership positions and that there be clear roles for the Minister, the Board and management. These ISSA Good Governance Guidelines, prepared specifically for social security schemes, can help ensure that the NIS is a well governed, efficient and sustainable system. It is recommended that similar guidelines, tailored to the Barbados NIS, be implemented at all levels.

With reserves of over $4 billion the NIF may appear as a suitable provider of financing for investment projects that the Government considers necessary to spur economic resurgence. The Board is encouraged to tread cautiously into the field of non-traditional investments and avoid initiatives where the risk-reward tradeoff suggests that it may not be prudent to participate. For the National Insurance Fund to consistently deliver on its future obligations without having to levy high contribution rates in the future, a firm commitment to implementing and following a good governance framework, especially as it relates to investments, is required.

Section I
National Insurance Fund

Chapter 1 - Activities & Experience Since 13th Actuarial Review

1.1 Amendments to Act & Regulations

Each year National Insurance & Social Security Orders that facilitate the annual, automatic adjustments to the earnings limit, pensions and grants are signed by the Minister with responsibility for National Insurance. For the earnings limit, annual adjustments represent the change in national wage index for the previous year while for pensions and benefits, the lower of the previous 3-years average price inflation and previous 3-years average change in wage index is used. The following table shows the recent changes to earnings limits, minimum contributory pension and pension adjustments.

Change Effective	Monthly Earnings Limit (Ceiling)	Increases to Earnings Limit	Minimum Contributory Pension (per week)	Increases To Pensions & Grants
January 2009	$3,720	4.7%	$148	4.18%
January 2010	$3,900	4.8%	$155	4.82%
January 2011	$4,090	4.9%	$163	4.84%
January 2012	$4,180	2.2%	$170	4.01%

Most of the pension reforms enacted in 2006 have been fully phased in with two exceptions:

i. the normal pension age that is currently 66 will increase to 66½ in 2014 and to 67 in 2018.

ii. Until 2022, calculations for Old Age Contributory Pensions will use a combination of the "old" and "new" bases.

Further details of all contribution and benefit provisions can be found in Appendix A.

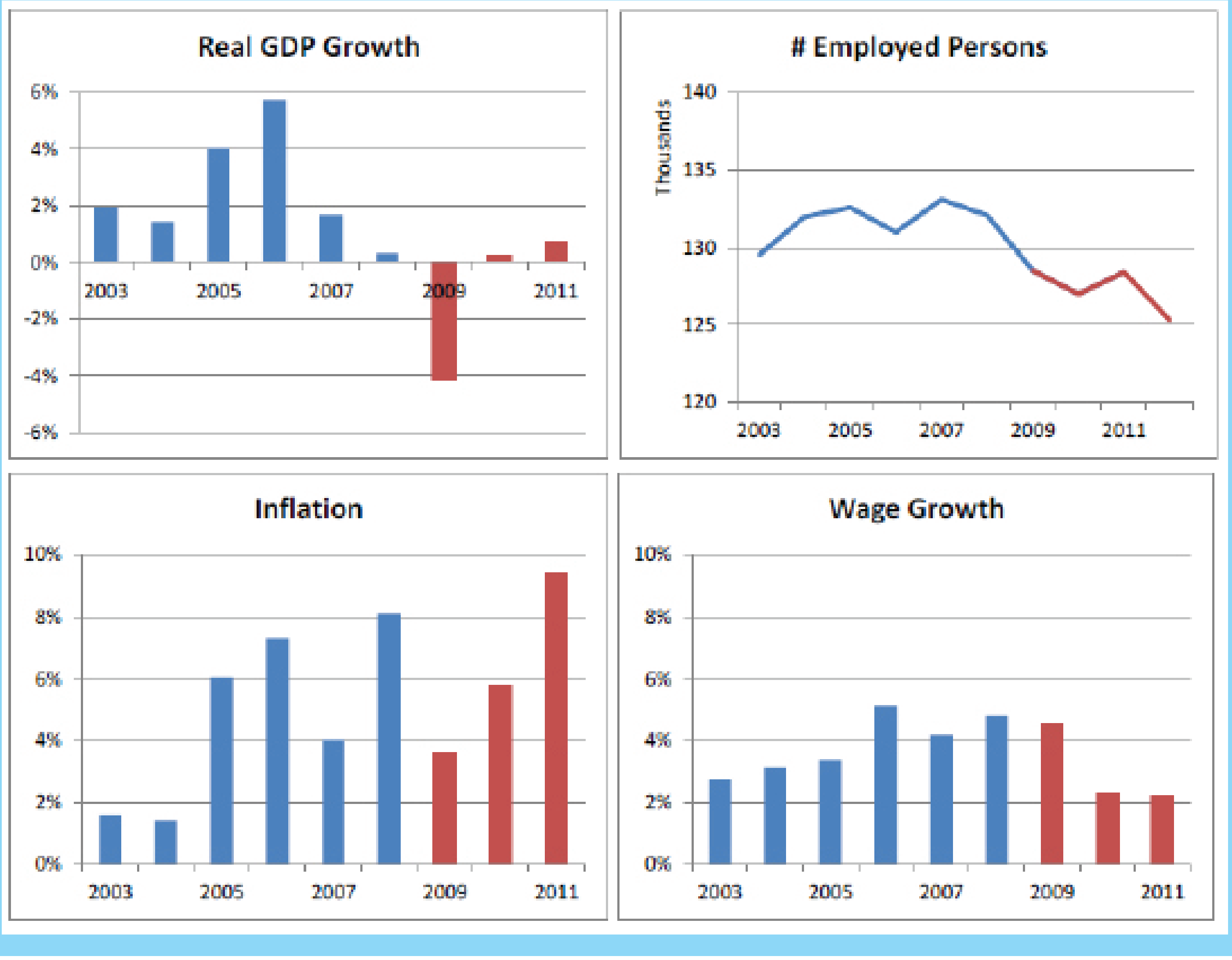
1.2 Economic Experience

The NIF's two sources of income, contributions and earnings on investments, are closely linked to economic performance and labour market changes. Some benefits are also affected by economic changes. For example, more people are likely to claim Old Age Contributory and Invalidity pensions if they lose their job and cannot find a new one. Economic conditions, therefore, directly impact NIF finances.

As shown in the charts in Figure 1.1, Barbados' economy contracted by 4% in the first year of the review period followed by two years of minimal real growth. Average GDP growth in the 3-year period was -3.1% per annum. As a consequence of the economic downturn, employment levels further contracted between 2008 and 2011 from 132,000 to 128,400.

Inflation during the review period was high, averaging 6.3% per annum, while the increase in average wages was only 3.0%. Real wages, therefore, decreased during the review period.

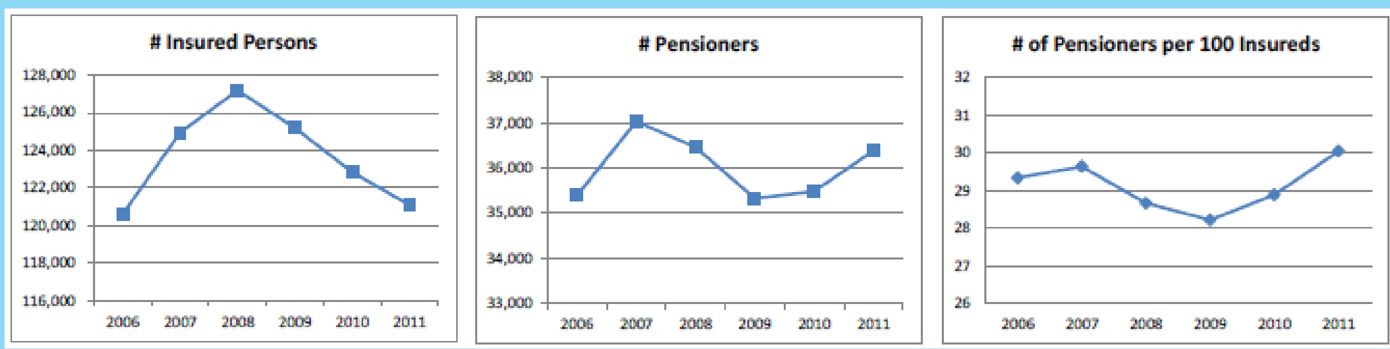
Figure 1.1. Key Economic Indicators, 2003 to 2011



1.3 National Insurance Fund Experience

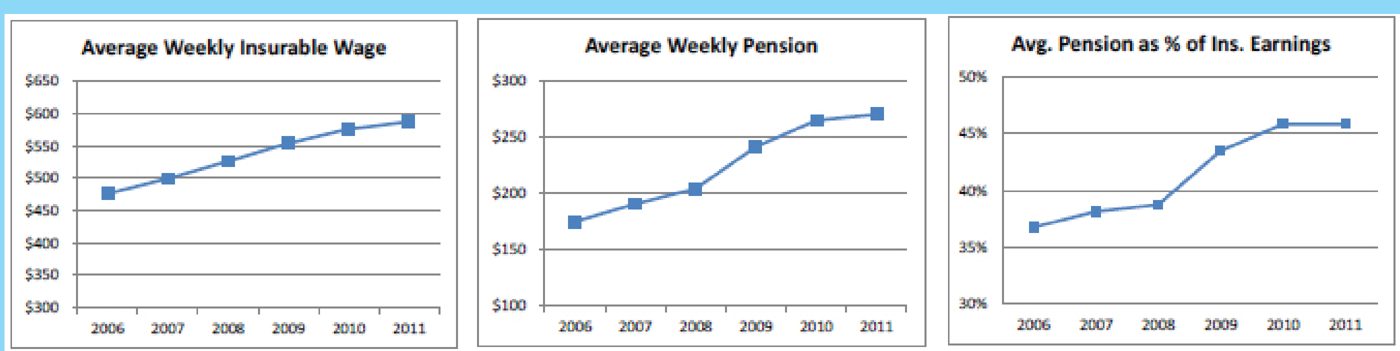
In line with recent economic patterns, the number of insured persons making contributions declined. (Figure 1.2 below) While it is expected that the number of pensions in payment would increase gradually each year, there was a reduction in 2008 and 2009 and increases since then. Data issues may account for some of this volatility. The key result from the reduction in contributors and change in pensioners is a small increase in the demographic ratio (number of pensioners per 100 insured persons) from 28.7 to 30.0 between 2008 and 2011.

Figure 1.2. Contributors & Pensioners, 2006 to 2011



Both the average insurable wage and the average pension in payment increased between 2008 and 2011. (Figure 1.3 below) The larger than average increase in pensions in 2009 was due to a special adjustment to minimum pensions in September 2008. Average pensions divided by average insurable earnings is often referred to as the replacement ratio. This ratio increased between 2008 and 2011 indicating that average pensions increased at a faster rate than average insurable earnings.

Figure 1.3. Average Insurance Wages & Pensions in Payment, 2006 to 2011



The following table provides summary income and expenditure amounts for 2009 to 2011. A more detailed version of the National Insurance Fund finances for these years may be found in Appendix D.

Table 1.1. Summary of NIF Finances, 2009 – 2011 (millions of $'s)

	2009	2010	2011
Income			
Contributions	523.3	564.7	541.6
Investment	204.0	195.0	213.9
Other	4.1	4.9	3.8
Total	731.4	764.6	759.3
Expenditure			
Benefits	398.9	461.8	463.1
Administrative	28.2	28.6	28.0
Total	**427.1**	**490.4**	**491.1**
Excess of Income over Expenditure	**304.3**	**274.1**	**268.2**
Change in Revaluation Surplus	**(10.4)**	**(15.6)**	**25.2**
Reserves (end of year)	**3,266.7**	**3,525.3**	**3,818.8**

Notes: Totals may be off due to rounding

Key highlights of income and expenditure are:

(i) Contributions fell in 2011 due to a reduction in the workforce and increasing contribution delinquencies.
(ii) Investment income and administrative costs fluctuated only slightly.
(iii) Benefit expenditure increased significantly in 2010 with very little increase in 2011.
(iv) Administrative costs were relatively stable.
(v) The excess of income over expenditure decreased each year.
(vi) Total reserves grew from $2.97 billion at the end of 2008 to $3.82 billion at the end of 2011. Revaluation Surplus represents the appreciation in the price of local equities relative to the initial purchase price. The change in Revaluation Surplus, therefore, represents unrealised gains/ (losses) on local equities.

1.4 Experience Compared with Projections of 13th Actuarial Review

In the 13th Actuarial Review, projections were prepared under three scenarios – *Best Estimate, Low Dependency* (optimistic) and *High Dependency* (pessimistic). Shown below is a comparison of actual cumulative experience over the 3-year period with the projections of the Best Estimate Scenario.

Table 1.2. Projections from 13th Actuarial Review Compared With Actual Experience

	2009-2011 Projected (millions of $'s)	**2009-2011 Actual** (millions of $'s)	**Variance**
Contribution Income	$1,658	$1,630	1.7% below
Investment Income	$598	$613	2.5% above
Benefit Expenditure	$1,280	$1,324	3.4% above
Administrative Expenditure	$121	$85	29.8% below
2011 Year-end Reserves	$3,758	$3,819	1.6% above

With the exception of administrative costs, income and expenditure were generally in line with expectation. Actual administrative costs were well below projected as the costs of the IT system installed in 2004 were depreciated more quickly than anticipated.

The variance in 2011 year-end reserves is greater than the cumulative differences in the four income and expenditure items would suggest due to the introduction of a "Revaluation Surplus" after the 13th Actuarial Review was completed. 2008 reserves were increased by $84.6 million which represented the difference between cost and market prices for local equities.

1.5 Investments

At the end of 2011, National Insurance investments stood at $3.7 billion, up from $2.8 billion at the end of 2008. The relationship between investments and reserves, which measures how efficiently available funds are invested has been fairly good, averaging 97% over the 3-year review period. At the end of 2011, NIF investments stood at 44% of GDP.

During the review period, the average yield on investments was 6.6% and the average yield on reserves was 6.2%. With inflation averaging 6.3% per annum, the average real rate of return on reserves was -0.1%.

The following table provides a summary of the investment mix of the National Insurance Fund at year-ends 2008 and 2011.

Table 1.3. Summary of Investments, Year-end 2011 & 2008 (millions of $'s)

Investment Category	2011		2008	
	$'s	%	$'s	%
Treasury Bills & Notes	965.6	26.1	593.0	21.8
Debentures	1,270.6	34.3	960.6	35.4
Bonds	279.2	7.5	257.5	9.5
Fixed Deposits	217.9	5.9	435.7	16.0
Local & Regional Equities	364.5	9.8	214.6	7.9
Loans	196.0	5.3	71.9	2.6
Real Estate	248.8	6.7	76.3	2.8
Foreign Investments	158.8	4.3	107.2	3.9
Total	**3,701.4**	**100.0**	**2,716.8**	**100.0**

Notes: Totals may be off due to rounding

Notable changes in asset mix between 2008 and 2011 are:

(i) Slight increase in the percentage of the Fund held in Barbados Government securities.
(ii) Significant reduction in the percentage held in fixed deposits from 16% to 6%.
(iii) Significant increase in loans and real estate holdings.
(iv) Nearly 50% increase in the value of foreign investments even though there were only limited new funds placed overseas during the review period (none since 2009) due to Central Bank restrictions.

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

- 68.3% of assets are held in public sector (Government and Quasi-Government) securities,
- 5.9% of assets are held in short-term deposits, and
- 91% of assets are held locally.

Overall, NIF assets remain heavily invested within Barbados with significant concentration in public sector securities.

1.6 Subsequent Events

This report was prepared in late 2013, almost 2 years after the end of the review period. Following is a brief summary of economic and NIS experience in 2012 and first half of 2013 that influence the analysis, projections and recommendations of this review.

- The economy remained sluggish with zero growth in 2012 and a contraction of less than 1% forecasted for 2013. Gross public sector debt was estimated at 102% of GDP in mid-2013.

- Employment levels continued to decline in 2012 and first quarter of 2013. While inflation remained high through mid-2012, the increase in Retail Price Index between July 2012 and June 2013 was 2.1%.

- In 2012, and during the first 6 months of 2013, contribution income continued to decline over the previous year while benefit expenditure continued to increase.

- During the first six months of 2013, NIF benefit expenditure was $262.7 million compared with contribution income of $264.1 million.

- The proportion of the NIF invested in Government of Barbados and other public sector securities increased from 68.3% in December 2011 to 73.8% in October 2013.

- The Investment Policy Statement which guides National Insurance Fund investments was revised in early 2013. The following table shows the asset mix in October 2013 of the National Insurance Fund compared with the acceptable ranges found in the Investment Policy Guidelines.

Table 1.4. October 2013 Asset Mix Compared With Investment Policy Guidelines

Investment Classification	Actual	Target	Variance
Money Market*	6.0%	6%	In Line
Fixed Income			
Debentures – Gov't of Barbados	43.8%	25%	Well In Excess
Treasury Notes	18.3%	19%	In Line
Statutory Corporations Debt	7.4%	10%	Under
Regional Government Debt	1.4%	2%	In Line
Loan	3.3%	3%	In Line
Corporate Bonds	1.1%	3%	Under
Equities			
Local & Regional	7.2%	8%	In Line
International	4.3%	12%	Under
Real Estate	7.5%	12%	Under

* Incudes Treasury Bills

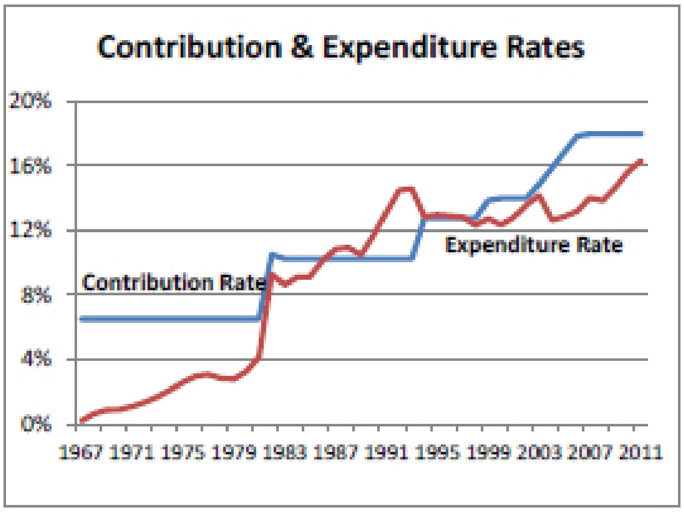
As shown above the portion held in Debentures is well above the target. Recent Government pronouncements suggest that funds from the NIF may be used to part-finance major capital hotel refurbishment and social infrastructure projects.

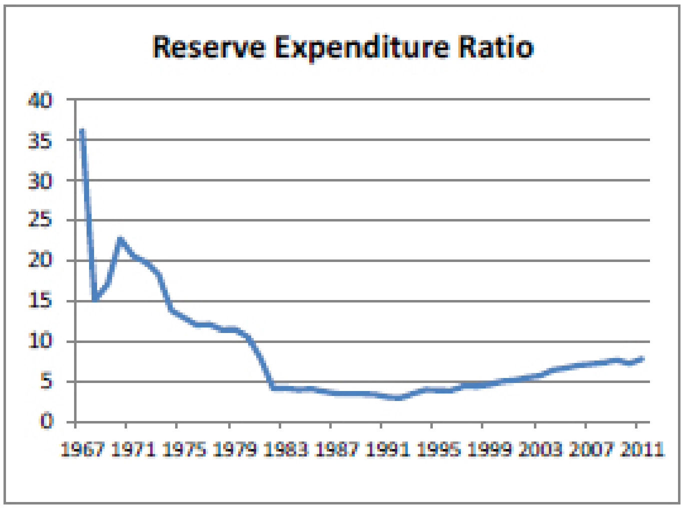
Chapter 2 - Assessment Of Performance & System Design

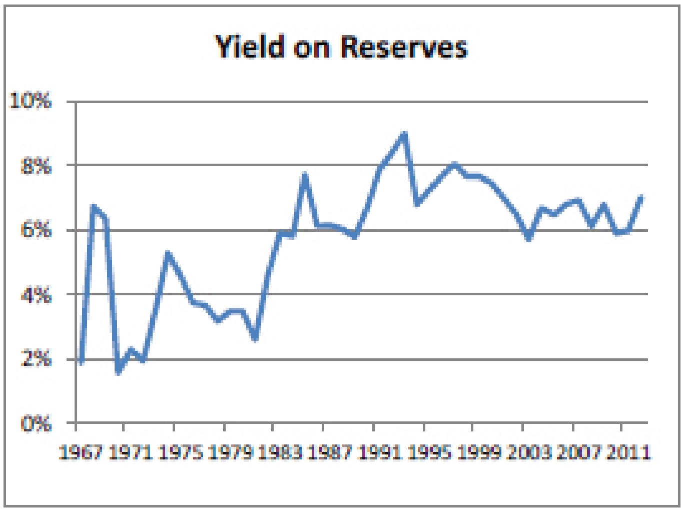
National social security systems must balance benefit adequacy with affordability and long-term sustainability. There is an obvious trade-off between these concepts:- higher benefits provide larger incomes to beneficiaries, but cost more. On the other hand, inadequate pensions result in pressures to increase benefits or add new ones. This Chapter contains a review of past trends for key financial indicators and current design parameters, and examines how well key policy objectives are being met.

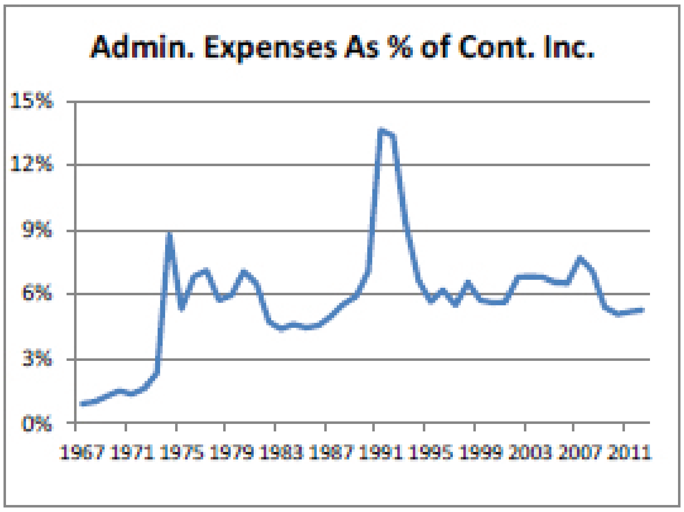
2.1 Historical Performance, 1967 – 2011

Experience for key financial factors from 1967 to 2011 is presented in the following charts:









As a social security system matures total expenditure as a percentage of insurable wages gradually increases while the size of the reserve relative to annual expenditure decreases if the contribution rate is not increased. For the NIS, expenditure has gradually increased as depicted by the red line (top left chart), while the relative size of reserves declined for the first 25 years but has been increasing since. This increase has been due to the many contribution rate adjustments that have been made, the most recent ones occurring between 2003 and 2006.

One key objective of the reforms made in 2002 was to have a reserve of at least 5 times expenditure in 2030. At the end of 2011, this ratio was 7.8. The combination of a reducing number of contributors and contribution income but an increasing number of pensioners and benefit expenditure has resulted in a sharp increase in the expenditure rate (red line in top left chart) between 2008 and 2011.

As the size of the Fund grows, the rate of return becomes more critical to achieving long-term sustainability. As shown above, rates have generally remained slightly above 6% since 2003. The Fund continues to experience relatively low administrative costs. Higher costs between 2002 and 2008 relate to the investment made in new information technology systems.

Following are values for several key indicators as of the dates of the 12th, 13th and 14th Actuarial Reviews along with a brief analysis of the changes that have occurred.

Table 2.1. National Insurance Performance Indicators

	2005	2008	2011	Comments
1. Avg. Contribution Rate	16.9%	18.0%	18.0%	No change since 2006
2. Expenditure Rate	12.8%	13.9%	16.3%	Significant increase between 2008 and 2011
3. Benefits as % of GDP	4.9%	5.0%	6.4%	Benefits grew considerably faster than GDP in most recent 3 years
4. Reserve-Expenditure Ratio	6.6	7.3	7.8	Gradual increase as expected after rate increases in 2003 to 2006
5. 3-year average nominal yield on reserves	6.3%	6.6%	6.2%	Little change in past nine years
6. 3-year average real yield on reserves (net of inflation)	3.2%	0.1%	-0.1%	No net real returns on NI Fund in past 6 years
7. Administrative Expenses (3-yr average) as: • % of Contributions • % of Insurable Wages	 6.7% 1.06%	 7.1% 1.27%	 5.2% 0.94%	Once depreciation of IT system completed, administrative costs have returned to very good levels
8. # of Contributors Per Pension	3.4	3.5	3.3	Very little change over 6 years
9. Avg. Pension as % of Avg. Insurable Wage	35%	39%	46%	Significant increase over 6 years

These indicators are generally consistent with expectations and economic conditions between 2005 and 2011.

2.2 Meeting Policy Objectives

The National Insurance system is mandatory for all employed and self-employed persons and is expected to be perpetual. It has a defined benefit structure where the rules governing eligibility and the amounts payable are defined. Together, the rules and the amounts at which key parameters are set determine benefit adequacy. How well certain rules are enforced, and how well the system is managed, also impact how well policy objectives are met.

The OECD in their report "OECD Pensions Outlook 2012" classified a national pension system's primary objectives into several categories. The ones being most relevant for the Barbados NIS are:

- *Coverage*, which looks at how well workers of all sectors are covered for income security in old age;
- *Adequacy*, which relates to the ability of pensions to provide a decent standard of living;
- *Financial sustainability*, which ultimately relates to the affordability of the system to future contributors;
- *Work incentives*, which relate to pension systems having rules that do not encourage people to cease working but instead encourage them to remain employed longer; and
- *Administrative efficiency*, which relate to keeping operating and management costs low while delivering quality service.

To determine how well these objectives are now being met, and how likely they are to be met in the future, an analysis of current contribution and benefit provisions, key rates and parameters as well as actual performance indicators have been reviewed. While some mention is made of Short-term and Employment Injury benefits, this analysis focuses primarily on pensions which account for 90% of NIF benefit expenditure.

2.2.1 Coverage

With NIS participation mandatory for all employed and self-employed persons, coverage concerns relate to actual participation rates by formal and informal sector workers and the proportion of elderly residents receiving an NIS pension. The following three estimates for 2011 provide a fairly good analysis of current coverage levels:

a) % of employed persons contributing to the NIS 90%

b) % of the elderly resident population who receive an NIS pension 70%

c) % of workers that have their wages fully covered by the NIS 78%

The first two indicators above suggest that most workers participate in the NIS and that among the elderly, almost three-quarters receive some form of monthly income from the NIS. Both of these indicators are very good. The majority of the 10% of workers who do not contribute are self-employed.

Although adjustments to the earnings limit occur each year, having 22% of the workforce earning more than the earnings limit, suggests that the ceiling or earnings limit may be slightly low.

In total, the NIS provides a reasonably good level of coverage to the working and elderly population.

2.2.2 Adequacy

Benefit adequacy can be broken down into two components:

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

Current Adequacy

The minimum contributory pension in 2013 is $175 per week or $758 per month, approximately 30% of the average insurable wage. This is an acceptable minimum pension replacement rate. Annual adjustments to the minimum rate and all pensions in payment, provide further support to maintaining benefit adequacy.

For pensioners receiving more than the minimum, their pension replacement rates are initially between 30% and 60% of their final average insurable earnings. Given that they now receive regular pension adjustments, their benefits can also generally be considered adequate.

While new awards are no longer financed by the NIF, the existence of a government-financed non-contributory old age pension for those who do not qualify for the NIS contributory Old Age pension or other public or private pensions, provides further income protection for lower income seniors.

Future Adequacy

A worker who has steady earnings below the earnings limit and contributes to the NIS for a full career sustaining himself/herself predominantly from his employment earnings, can expect a pension of close to 60% of pre-retirement earnings. By ILO and other international standards this is quite high and thus meets reasonable tests of benefit adequacy. The challenge quite often, especially for the self-employed, is that many workers do not have steady wages and do not consistently work and contribute for 35 or 40 years.

Annual adjustments to the earnings limit and pensions will ensure benefit adequacy both at the time of award and throughout the pension payout period as the pension maintains its initial purchasing power. The uncertainty of future benefit adequacy, therefore, relates only to those who have employment earnings well in excess of the earnings limit and those who fail to contribute for at least 10 years.

When compared with targeted replacement rates for mandatory social security pensions in OECD countries, the Barbados NIS provides relatively high replacement rates. The NIS pension is not intended to provide all of the income required to support oneself in old age. Based on the above, current NIS contribution and benefit provisions provide pensions in old age that meet reasonable tests of future benefit adequacy.

When non-pension benefits are considered, the various short-term, employment injury and unemployment benefit provide full income protection for all contingencies that could lead to involuntary loss of employment income.

Financial Sustainability

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

By design, the NIF is partially funded and the current contribution rate and accumulated reserves are expected to be adequate to meet all obligations for another 30 to 40 years. However, with contributions alone no longer sufficient to meet expenditure, increasing portions of investment income will be needed to pay benefits and then eventually investments will have to be liquidated. This is a natural progression for partially funded national pension systems.

There are several risks associated with holding reserves of over $4 billion that can impact long-term financial sustainability. The main risks for the NIF at this time are reductions in investment returns, imprudent use of Fund assets and the inability of Government to return cash to the NIS when debentures mature and the NIS needs cash to meet its obligations. Finding ways to effectively mitigate these risks will be critical given the state of both the economy and Government finances.

It is not possible to determine today the highest contribution rate that workers and employers will be able to afford, or willing to pay, twenty to thirty years from now. The current average rate of 18% is already high by regional standards, but as previously exhibited by stakeholders, significant reforms can be made after wide and open consultation. The key challenge for the NIB regarding financial sustainability is determining when next to consider increasing the contribution rate or making benefit reforms.

Work Incentives

Implicit incentives and disincentives to either remain working or claim Retirement benefit are found in both the eligibility conditions for, and the manner in which, the Old Age Contributory benefit is calculated. The specific factors that influence employment decisions are:

- Reduced benefits if awarded between 60 and normal pension age (currently 66);
- No pension awarded prior to normal pension age if still employed; and
- Increased benefits if awarded after pension age.

These conditions are considered adequate and appropriate.

Administrative Efficiency

While the NIS has a very low cost of administration relative to its Caribbean counterparts, the level of service and availability of reliable information remain challenges. Examples of these are the time it takes to process claims and the lengthy delays in having financial audits conducted and annual reports prepared.

Unlike most other social security institutions in the region that are operated as quasi-public sector entities where the Board oversees the entire administration, the National Insurance Office is staffed with public servants and the Board manages the Fund. While this approach has its advantages, experience suggests that NIS operations could be more effective if greater autonomy was given to the Board on human resource matters and the conducting of financial audits.

Recommendations relating to each of these national pension policy objectives are presented in Chapter 5.

Chapter 3 - Best-Estimate Projections

Many demographic and economic factors, such as changes in the size and age structure of the population, economic growth, employment and wage levels and inflation, influence National Insurance Fund finances. Therefore, to best assess the Fund's long-term costs and sustainability, projections of Barbados' total population and the economy are required. For this review 60-year projections have been performed.

In developing all of the assumptions used for the projections, historical trends and reasonable future expectations, as well as the interrelationships between the various assumptions, have been taken into account. Core projections have been performed using assumptions that reflect best estimates. As a result, the set of demographic and financial projection results based on this assumption set is referred to throughout this report as "*Best Estimate*."

Given the significant uncertainty inherent in forecasting such a long period, projections have also been performed using two additional sets of assumptions. These alternative projection sets, which encompass assumptions that are generally more optimistic and more pessimistic than best-estimate assumptions, are labelled "*Optimistic*" and "*Pessimistic*", given the implications for future NIF finances. Results of these projections are presented in Chapter 4.

3.1 Population Projections

3.1.1 Assumptions

Projections of Barbados' population begin with the results of the 2010 census and in each projection year thereafter, fertility, mortality and migration assumptions are applied. Fertility rates are used to estimate the number of births each year while mortality rates determine how many, and at what ages, people are expected to die. Net migration represents the difference between the number of persons who permanently enter and leave Barbados, and is the most volatile of the three factors. The 2010 population census placed Barbados' population at 277,723.

The total fertility rate (TFR) represents the average number of live births per female of childbearing age in a particular year. If there is no migration, a TFR of 2.1 is required for each generation to replace itself. Barbados TFR was estimated at between 1.65 and 1.7 over the period 2006 to 2012. For these projections it is assumed that TFR's in Barbados will remain below replacement level at 1.65.

Using mortality rates from Barbados Abridged Life Tables, 1999-2001, current population estimates and the number of deaths in the past few years suggest life expectancy at birth in 2011 of around 73 for males and 79 for females. Improvements in life expectancy are assumed to occur in accordance with UN estimates.

The third factor that affects population size is migration. This is the most volatile and most difficult to measure. Using the 2000 and 2010 census counts, and reported births and deaths between censuses, implied net out-migration between 2000 and 2010 is estimated at around 400 per annum.

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

The following table indicates the principal demographic and economic best-estimate assumptions for this and the previous Review. Further details may be found in Appendix B.

Table 3.1. Principal Demographic & Economic Assumptions

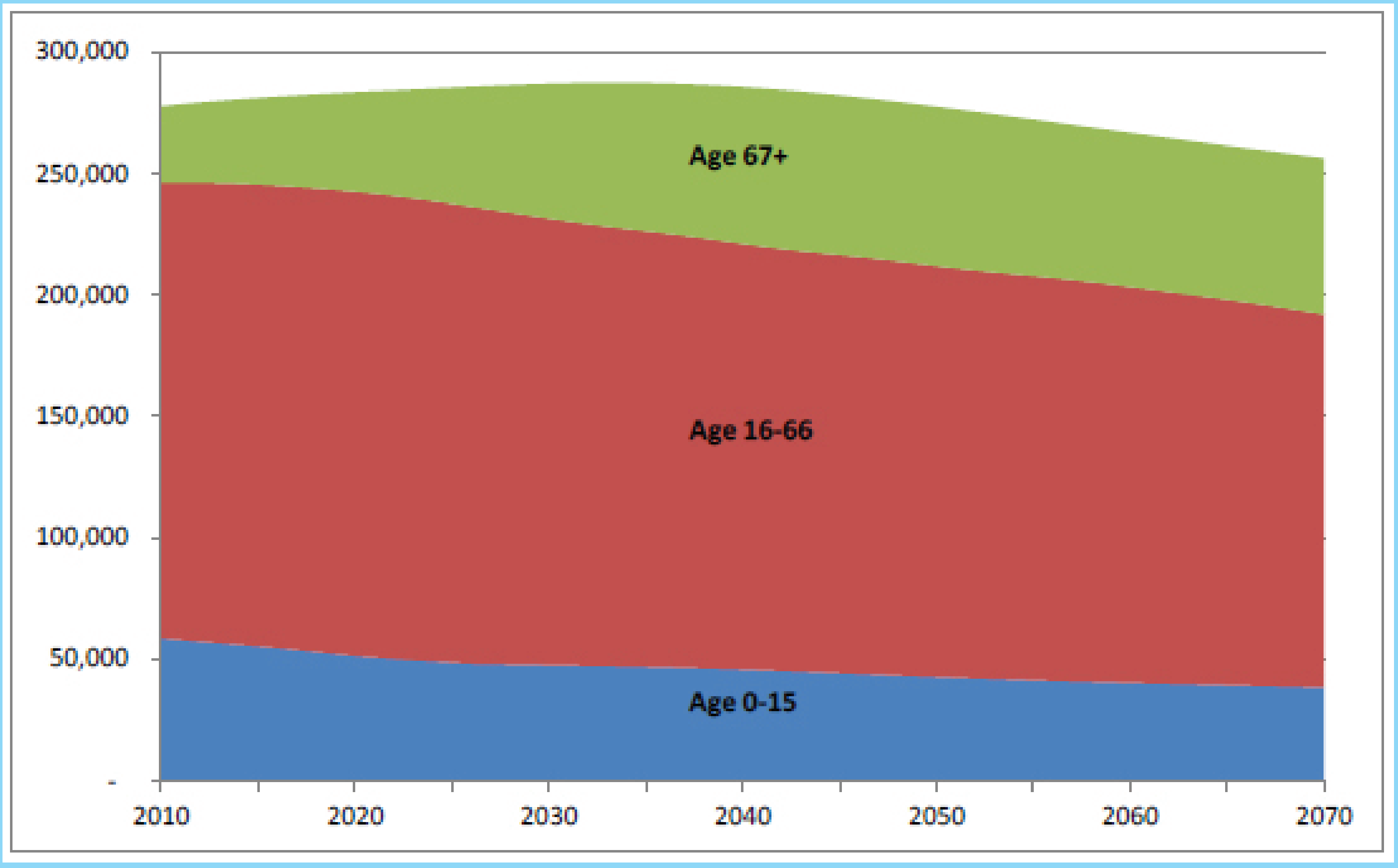
		14th Actuarial Review	13th Actuarial Review
Total Fertility Rate		1.65	Increasing from 1.8 to 1.9
Mortality Improvements^		Slow	Slow
Net In-Migration Per Annum		-300 p.a. in 2010 increasing to 0 p.a. in 2020 increasing to 300 p.a. in 2030, constant thereafter	100 p.a. between 2000 & 2010 increasing to 200 p.a. in 2020, increasing further to 300 p.a. in 2035, constant thereafter.
Real GDP Growth Rates	Short-term	-0.6% in 2013 to 2.0% in 2015	2.5% declining to 1.5%
	Med.-term	1.5%	2.50%
	Long-term	1.0%	1.25%
Real Increase in Wages		0.75%	1.0%
Long-term Inflation		2.5%	2.5%

^ UN mortality improvement rates

3.1.2 Projection Results

From the 2010 Census population of 277,821 and with the above assumptions, Barbados' population is projected to increase only slightly over the next 20 years and then gradually decrease.

Figure 3.1. Projected Barbados Population (Best-Estimate scenario)



It should be noted that the projections presented in this report have been prepared for the sole purpose of determining the implications for NIF finances under three different sets of future economic growth and development scenarios.

For the NIF, while projected future population size is important, the age distribution is more critical, as pensions to the elderly represent the bulk of expenditure and contributions that will be paid by those in the working-age groups. As shown above, while the number of children and working-age persons is projected to decrease over time, the elderly population is expected to increase. These projections show a smaller projected population than presented in the 13th Actuarial Review.

3.2 National Insurance Fund Projections

Best Estimate National Insurance Fund demographic and financial projections have been modelled using the best-estimate population results, best estimate NI-specific assumptions and the contribution and benefit provisions that were in place on January 1, 2012, with provisions made for previous reforms that are being phased in gradually.

3.2.1 Assumptions

Key National Insurance assumptions are shown below.

Table 3.2. National Insurance Best Estimate Assumptions

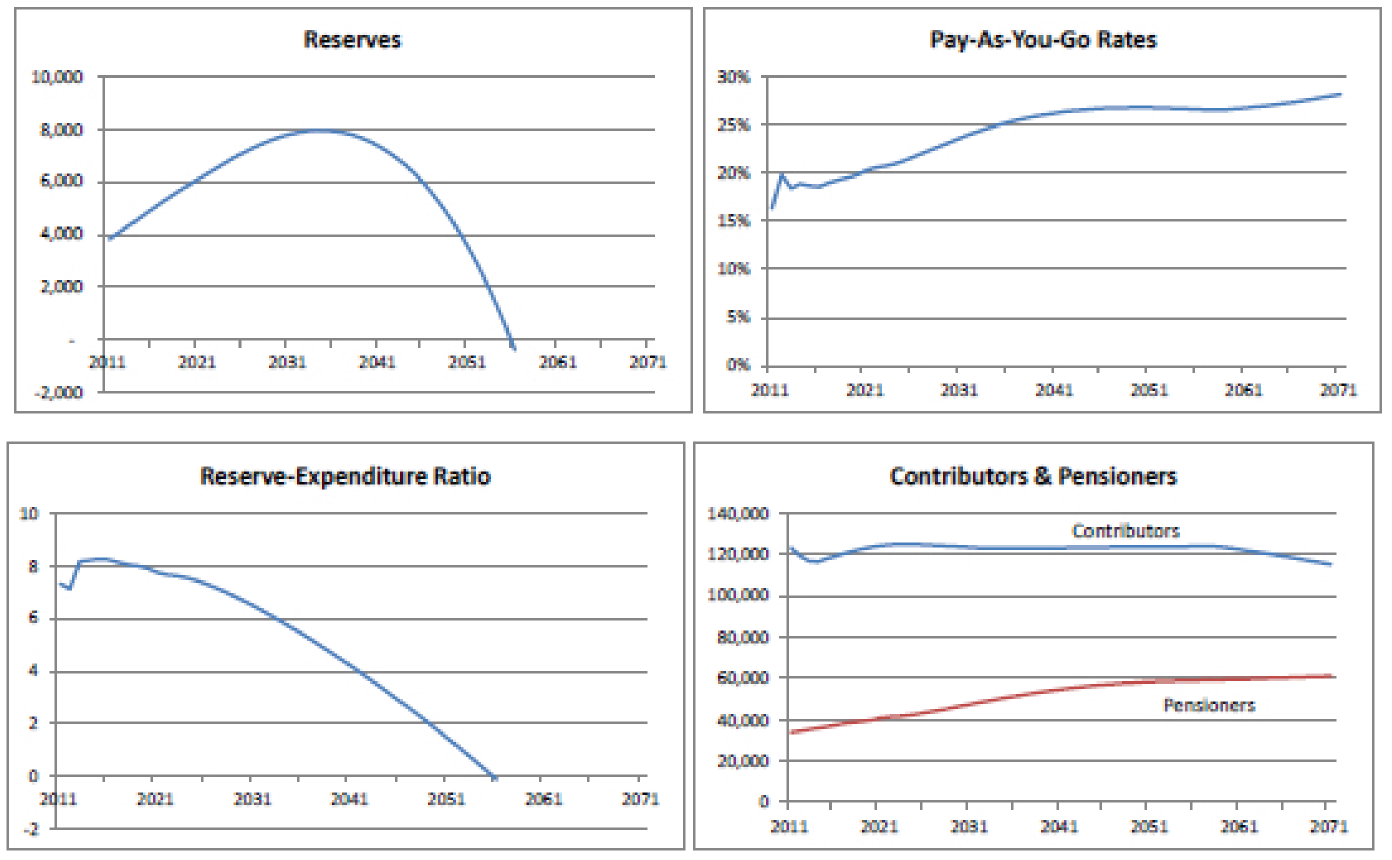
	14th Review	13th Review
Avg. Contribution Rate	18% in all years	18% in all years
Insurable Wage Ceiling increases	Annually by the change in the wage index	Annually by the change in the wage index
Short-term Benefits	1.65% of Insurable Earnings	Increases from 1.38% to 1.5% of Insurable Earnings over 60 years
Pension Increases	Annually by lower of 3-year average change in prices and wages	Annually by lower of 3-year average change in prices and wages
Long-term Yield on Reserves	5.0% (2.5% above inflation)	5.5% (3.0% above inflation)
Other Income	0.9% of Contribution Income	0.9% of Contribution Income
Admin. Expenses as a % of Insurable Wages	1.0% of Insurable Earnings	Decrease from 1.3% to 0.8% of Insurable Earnings over 20 years

With the automatic annual earnings limit and pension adjustments it is being assumed that the prevailing level of coverage and income security made possible by the earnings ceiling and the minimum pension will be generally maintained throughout the projection period.

3.2.2 Projection Results

The charts in Figure 3.2 highlight key projection results of the Best Estimate scenario assuming that the contribution rate is not increased and that there are no changes to benefit rules other than those already legislated.

Figure 3.2. Projection Results – Best Estimate Scenario



The key results of these projections are summarised as follows:

1. Expenditure will exceed contribution income in each year.
2. The first cash flow deficit (total expenditure greater than total income) will occur in 2035.
3. Reserves are projected to be exhausted in 2056.
4. In 2056 when reserves are exhausted, annual expenditure relative to total insurable wages (pay-as-you-go rate) will be 26.6%. The contribution rate will therefore have to be increased to this level to meet total expenditure.
5. The pay-as-you-go rate will increase to 28.2% in 2071.
6. The general average premium, or the average level contribution rate required over the next 60 years to fully cover total expenditure during that period, is 23.5%
7. The number of contributors for each pension in payment is expected to fall from 3.6 in 2011 to 1.9 in 2071.

One key funding objective of the pension reforms made in 2002 was a target reserve-expenditure ratio of 5.0 in 2030. For this Best Estimate scenario, this target is met as the projected reserve-expenditure ratio in 2030 is 6.7.

Numerical details of the financial and demographic projections for the Best Estimate scenario are provided in Tables 3.3 to 3.5.

Table 3.3. Projected Income, Expenditure & Reserves -Best Estimate (millions of $'s)

	Cash Inflows				Cash Outflows				Reserves	
Year	Contribution Income	Investment Income	Other Income	Total	Benefits	Admin & Other Expenses	Total	Surplus/ (Deficit)	End of Year	# of Times current year's Expenditure
2009	523.3	193.6	6.1	**723.0**	398.9	28.2	**427.1**	**295.9**	**3,267**	7.6
2010	564.7	179.5	6.1	**750.2**	461.8	28.6	**490.4**	**259.8**	**3,525**	7.2
2011	541.6	239.1	6.1	**786.8**	463.1	28.0	**491.1**	**295.7**	**3,819**	7.8
2012	529.3	250.1	6.1	**785.5**	540.3	27.8	**568.1**	**217.3**	**4,036**	7.1
2013	512.9	251.1	4.6	**768.6**	496.8	28.5	**525.4**	**243.2**	**4,296**	8.2
2014	52.7	257.2	4.7	**786.5**	521.9	29.2	**551.1**	**235.5**	**4,531**	8.2
2015	556.8	260.1	5.0	**822.0**	548.1	30.0	**578.0**	**243.9**	**4,775**	8.3
2016	590.2	262.3	5.3	**857.8**	578.2	31.3	**609.4**	**48.4**	**5,024**	8.2
2017	612.5	263.1	5.5	**881.1**	613.9	32.5	**646.3**	**234.7**	**5,258**	8.1
2021	701.6	294.2	6.3	**1,002.0**	753.8	37.3	**791.2**	**210.9**	**6,134**	7.8
2031	918.8	378.8	8.3	**1,305.9**	1,160.1	49.3	**1,209.4**	**96.5**	**7,812**	6.5
2041	1,206.7	363.2	10.9	**1,580.7**	1,694.4	65.3	**1,759.7**	**(179.0)**	**7,350**	4.2
2051	1,615.8	180.9	14.5	**1,811.3**	2,318.9	88.2	**2,407.1**	**(595.9)**	**3,404**	1.4
2061	2,168.3	(259.3)	19.5	**1,928.5**	3,105.7	119.4	**3,225.1**	**(1,296.6)**	**(5,973)**	(1.9)
2071	2,819.2	(1,214.5)	25.4	**1,630.0**	4,258.3	156.6	**4,414.9**	**(2,784.9)**	**(26,288)**	(6.0)

Investment income includes change in Revaluation Reserve & figures for 2012 are actual.

Table 3.4. Projected Benefit Expenditure - Best Estimate (millions of $'s)

Pensions, Grants & Benefits							Benefits as a % of	
Year	Old Age Cont.	Invalidity	Survivors	Non-Cont. Old Age	Short-Term	Emp. Injury	Insurable Wages	GDP
2011	319	50	20	19	39	6	15.4%	6.4%
2012	383	61	23	17	49	7	18.4%	6.4%
2013	357	49	23	14	48	6	17.1%	5.8%
2014	377	52	24	13	49	7	17.5%	5.9%
2015	398	55	25	11	52	7	17.5%	6.0%
2016	423	58	26	10	54	8	17.6%	6.1%
2017	453	61	27	9	56	8	18.0%	6.2%
2021	571	73	31	5	64	10	19.3%	6.7%
2031	925	96	42	0	84	13	22.7%	7.8%
2041	1,390	121	57	0	111	16	25.3%	8.7%
2051	1,916	161	72	-	148	21	25.8%	9.0%
2061	2,565	222	91	-	199	29	25.8%	9.2%
2071	3,564	281	119	-	258	37	27.2%	9.6%

Note: Figures for Old Age Non-contributory pensions are amounts for which NIS is financially obligated.

Table 3.5. Projected Contributors & Pensioners at Year-end - Best Estimate

Year	# of Contributors	Old Age Cont.	Invalidity	Survivors	Old Age Non-Cont.	Death & Disablement	Total # of Pensioners	Ratio of Contributors to Pensioners
2011	121,088	23,169	3,656	2,732	4,108	339	**34,004**	3.6
2012	119,380	23,969	3,415	2,880	3,752	331	**34,346**	3.5
2013	116,995	24,820	3,567	3,014	3,408	346	**35,154**	3.3
2014	116,594	25,502	3,721	3,111	3,078	360	**35,772**	3.3
2015	118,094	26,236	3,880	3,200	2,764	374	**36,455**	3.2
2016	119,482	27,152	4,030	3,271	2,466	388	**37,308**	3.2
2017	120,788	28,023	4,161	3,325	2,186	399	**38,094**	3.2
2021	124,467	31,160	4,570	3,333	1,241	432	**40,737**	3.1
2031	123,649	38,651	4,864	3,487	92	459	**47,553**	2.6
2041	123,420	45,641	4,859	3,811	0	465	**54,777**	2.3
2051	123,880	49,152	4,965	3,858	-	474	**58,450**	2.1
2061	122,530	50,335	5,086	3,783	-	483	**59,686**	2.1
2071	115,302	52,230	4,740	3,690	-	453	**61,113**	1.9

Note: The number of Old Age Non-contributory pensioners shown are those for whom NIS is financially obligated.

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

3.2.3 General Average Premium

The general average premium is the average level contribution rate required over the next 60 years to fully cover total expenditure during that period. This rate may be looked at as the average long-term cost of the complete National Insurance benefits package. For the Best Estimate projections, the general average premium is 23.5%.

3.2.4 Actuarial Balance

Another measure of the financial sustainability of a National Insurance system is called "actuarial balance." For a given period, the actuarial balance can be defined as the difference between:

a) the sum of the beginning reserves and the present value of future contributions (money available to meet expenditure), and
b) the present value of future expenditure,divided by the present value of future insurable wages.

This formula produces a rate that indicates the adequacy or insufficiency of the present contribution rate for a given period. For the National Insurance Fund, the deficiency expressed in dollars and as a percentage of GDP is shown in Table 3.6.

Table 3.6.

Actuarial Balance 2012 – 2071 ($'s are in millions)

	2011 Year-end Reserves	3,819
Plus	**PV of Future Contributions**	17,457
Minus	**PV of Future Expenditure**	22,793
Equal	**PV of Surplus/(Shortfall)**	(1,517)
	Actuarial Balance (% of Insurable Earnings)	(1.6%)
	Actuarial Balance (% of GDP)	17%

Consistent with previous discussions, the negative actuarial balance indicates that together with reserves, the current contribution rate is insufficient to meet future expenditure for the next 60 years. The shortfall of 1.6% indicates that the average contribution rate would have to be increased to 19.6% for the entire period in order for reserves to last up to 2071.

3.3 Comparison with Results of The 13th Actuarial Review

The projection results presented earlier in this chapter differ from those of the 13th Actuarial Review as shown in the following table:

Table 3.7. Summary Results – 13th & 14th Actuarial Reviews

	14th Actuarial Review	*13th Actuarial Review*
Expenditure First Exceeds Total Income	2035	2048
Reserves Depleted	2056	2068
General Average Premium	23.5%	20.9%
Pay-as-you-go rate in 2068	27.7%	26.1%

The results of this 14th Review show a less favourable outlook than presented in the 13th Review. The main reasons for this are:

- Significant reduction since 2008 in size of the workforce and the number of NIS contributors; (Figure 1.1)
- Tempered economic outlook with smaller populations and lower economic growth;
- ½% reduction in long-term yield on reserves and discounting rate has significant effect on present values and general average premium calculations.

3.4 Sensitivity Analysis

Given the extensive set of assumptions required for projecting NIF finances and the length of the projection period, future experience will certainly differ from that projected under best estimate assumptions. To illustrate a reasonable range for the Fund's outlook, projections using two different sets of population, economic and National Insurance assumptions are presented in the following chapter. However, certain National Insurance factors such as compliance, yield on reserves and level of administrative costs will also impact the Fund's outlook. The change in long-term costs for differences in these factors is shown in the following table.

Table 3.8. Sensitivity Tests – National Insurance Factors

Assumption	Differs From Best Estimate	Pay-as-you-Go Rate in 2041	General Average Premium	Reserves Depleted
Best Estimate		26.3%	23.5%	2056
Contribution Collections	+3.0% -3.0%	24.8% 27.8%	22.9% 24.1%	2066 2049
Long-term Yield on Reserves (5.0%)	+1.0% -1.0%	26.3% 26.3%	23.0% 24.0%	2069 2049

As shown above, the long-term costs of NIF benefits could be reduced/increased by a few basis points if collections are greater/lower than assumed and yields on reserves are greater/lower than assumed.

With over 70% of Fund investments held in public sector instruments, one key concern for long-term sustainability is a restructuring of Government debt where the face amount is reduced and/or yields are drastically reduced. Both scenarios have occurred in the Caribbean in recent years as governments sought ways to improve their fiscal positions. A scenario where 50% of the portfolio loses 20% of its value and future returns were 4% instead of 5% suggests that reserves would be depleted in 2049 instead of 2056.

Chapter 4 - Alternative Scenarios

Best Estimate projections up to 2071 presented in the previous chapter provide estimates of future National Insurance Fund demographics and finances under best-estimate assumptions. Given the uncertainty in forecasting such a long period, two alternative scenarios that highlight the sensitivity of the results to differences in assumptions regarding future outlook have been performed. These alternative projection sets encompass assumptions that are generally more optimistic and more pessimistic than those of the Best Estimate projections. However, since long-term sustainability will likely be more sensitive to future population growth and economic development than NIB-specific factors such as compliance rates and operating costs, the basis for the alternative scenarios also focus on differences in population and economic outlooks. The Optimistic scenario represents one with a larger economy with higher wages, lower pensions, better contributions compliance and higher investment returns while the Pessimistic scenario represents a smaller population with lower wages and larger pensions, lower contributions compliance and lower investment returns.

Following is a summary of the main assumptions for the three projection scenarios. The values for all other assumptions are similar across scenarios.

Table 4.1. Principal Demographic, Economic & National Insurance Assumptions

		Optimistic	*Best Estimate*	*Pessimistic*
Ultimate Total Fertility Rate		1.70	1.65	1.60
Mortality Improvements^		Very Slow	Slow	Medium
Net (In) Migration Per Annum		25% of Best Estimate for out migration, 175% for in migration	-300 p.a. in 2010 increasing to 0 in 2020, increasing to 300 p.a. in 2030, constant thereafter	175% of Best Estimate for out migration, 25% for in migration
Ultimate Real GDP Growth	Short-term		-0.6% in 2013 to 2.0% in 2015	
	Med.-term	1.5%	2.25%	2.00%
	Long-term	1.0%	1.25%	1.00%
Real Increase In Wages (p.a.)		1.0%	0.75%	0.5%
Inflation (p.a.)		2.25%	2.5%	2.75%
Collection Of Contributions		+2%	-	-2%
Long-term Yield on Reserves		5.5%	5.0%	4.5%

^ UN mortality improvement rates

The main population and National Insurance demographic and financial results of the three projection sets are presented in Figure 4.1 and Table 4.2. As expected, the outlook for National Insurance finances is closely linked to the size and age distribution of the general population and National Insurance performance indicators such as contribution collection rates and yield on investments.

Figure 4.1. Projection Results – All Scenarios

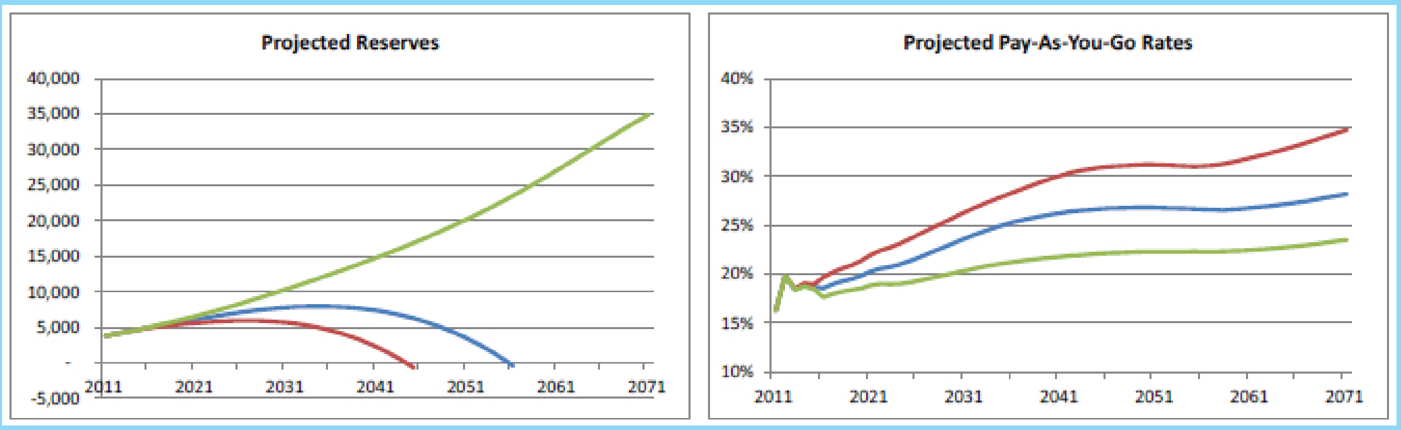


Table 4.2. Summary Results – All Scenarios

	Optimistic	***Best Estimate***	***Pessimistic***
Expenditure First Exceeds Total Income	-	2035	2028
Reserves Depleted	-	2056	2045
Reserve Expenditure Ratio in 2030	8.6	6.7	5.1
General Average Premium	20.9%	23.5%	26.0%
Pay-as-you-go rate in 2041	21.8%	26.3%	30.1%
Pay-as-you-go rate in 2071	23.5%	28.2%	34.7%
# of Contributors per pensioner– 2071	2.0	1.9	1.7
Actuarial Balance (% of Ins. Earnings)	0.9%	(1.6%)	(4.0%)
Actuarial Balance (% of GDP)	10%	(17%)	(43%)

Chapter 5 - Balancing Adequacy & Sustainability

By design, National Insurance Fund pension obligations are partially funded; that is, assets on hand are not sufficient to meet total liabilities if all payments were due on a particular date. This funding mechanism is considered suitable for national pension systems given their expected perpetual life. With funding levels (measured by the reserve-expenditure ratio) expected to gradually deteriorate and pay-as-you-go rates projected to increase to around 28%, changes to the contribution rate and/or further benefit reforms may be required.

The ability of any social security system to remain meaningful to insured persons, yet affordable to future generations, is dependent on the following four ingredients:

(i) A growing economy,
(ii) A well designed system,
(iii) Effective and efficient administration, and
(iv) Good governance.

While National Insurance officials have little influence over the economy they can directly impact the other three ingredients listed above. Extensive reforms made in 2002 which focussed on improving system design and enhancing financial sustainability included:

- Increasing the normal pension age,
- Reducing the initial Contributory Old-Age pension amount,
- Introducing reduced early Old-Age pensions if retired, and
- Introducing annual indexation of the earnings limit and pensions, and
- Increasing the contribution rate

Greater focus should now be placed on improving operations and administration and implementing good governance practices at all levels.

Under the headings of the policy objectives previously discussed in Chapter 2 the following table and sections suggest further reforms, or new initiatives, that if implemented soon, should serve to further enhance sustainability while maintaining benefit adequacy.

Table 5.1 Policy Objective Challenges And Options For Reform

	Challenges With Current Situation	Reform Options
Coverage	Many self-employeds not contributing	More flexible options for self-employed contributions
Benefit Adequacy	No Old Age Contributory pension prior to normal pension age if calculated benefit less than minimum pension	Allow reduced early age pensions
Financial Sustainability	Contribution delinquencies have grown in recent years Investments heavily concentrated within Barbados and in Government debt	Enhance links with government departments and agencies Better enforcement and/or or increased penalties for non-compliance Diversify investments outside of public sector and outside of Barbados
Administrative Efficiency	Lengthy service times Incomplete data	Make greater use of available technology or upgrade where necessary Ensure adequate staff in key positions

5.1. Coverage

5.1.1 Self-employed Persons

Most self-employed persons and informal sector workers do not regularly make NIS contributions. (3,500 out of the 20,400 in 2011 as estimated by the Barbados Statistical Service) While many reasons have been presented as to why they do not participate, a system whereby someone can make flexible, lump sum payments, or in other words, simply "put money on their account" as their needs allow, should be considered for such workers. Currently, the contribution payable is based on the amount earned and the number of weeks worked. An alternative approach whereby the amount paid during a given year is converted to average wages and number of contributions can be developed. Such an approach can also serve to prevent self-employed persons "back-paying" several years of contributions simply to qualify for an Old Age pension. See Appendix F for details of the proposed alternative approach.

Enhanced and sustained public education activities highlighting the benefits of self-employed persons and informal sector workers contributing to the NIS should be continued.

Following are details of the recommended approach to managing registration, contributions and benefits for self-employed persons.

1. Registration & Education	• Each self-employed person has a unique NIS # • Upon registration (or re-registration) he/she shall indicate what income band he/she is usually in. There shall be 4 income bands as shown below. o A: 95% or more of the earnings limit (100%) o B: 75% to 95% of the earnings limit (80%) o C: 50% to 75% of the earnings limit (60%) o D: less than 50% of the earnings limit (40%) • For each of these bands there shall be an implicit average insurable wage. The percentage in the brackets is the proportion to be applied to the earnings limit to determine the implicit average insurable wage. • Unless changed by the individual (as permitted by certain guidelines) this income band will remain in effect until pension age. No changes to a higher band should be allowed after age 55. • As the earnings limit changes each year self-employed persons shall be informed of the expected contributions payable during the year for each band.
2. Contribution payments	• No forms required • No need to pay for any particular month or indicate how many weeks were worked • Pay in cash or send a cheque or any other permitted form of payment indicating that it is to be applied to his/her "account" or NIS #. (New options for paying contributions at banks and bank machines should be considered) A receipt for the amount paid shall be provided. The receipt will also indicate the total amount contributed in the current year and the target amount expected for the remainder of the year. • All contributions received during a calendar year are applied to that year only. There shall be no paying for previous years. • The self-employed person is never considered to be "in arrears" during the year. For the purpose of providing Letters of Good Standing, for example, the contributions made in the previous calendar year shall be used. If actual contributions exceed the maximum amount due for the year, the excess shall be carried over to the next year.

3. Year-end internal calculations	• Using the amount contributed during the previous year and the income band selected, obtain the number of weeks paid for the year as: o Total contributions made / 0.155 / implicit avg. insurable wage • Self-employed persons shall be sent a statement early in the new year indicating the number of weeks of contributions made for the previous year and their eligibility to receive benefits during the current year.
4. Short-term benefits	• Similar to what is currently in place but instead the required contributions must have been made in the previous calendar year
5. Long-term benefits	• Same approach as currently in place: o Must have made minimum # of contributions to qualify Pension amount calculated using average insurable earnings and benefit % based on # of contributions made

Following are examples of how the number of contribution weeks shall be determined for two different self-employed persons. For this illustration the wage ceiling is assumed to be $1,000 per week.

	Self-Employed #1	**Self-employed #2**
Income Band	Band A (at or above wage ceiling)	Band C (50% to 75% of wage ceiling)
Implicit Weekly Insurable Wage	$1,000 per week	$600 per week
Max. Contributions Expected	$1,000 x 52 x 15.5% = $8,060	$600 x 52 x 15.5% = $4,836
Actual Contributions Paid in the Year	$7,000	$3,000
# Contribution Weeks Made	$7,000 / 0.155 / $1,000 = 45 wks	$3,000 / 0.155 / $600 = 32 wks

For the year illustrated above, the database shall reflect that Self-employed # 1 made 45 weekly contributions for the year at an average insurable wage of $1,000 per week.

5.2. Benefit Adequacy

5.2.1 Old-Age Benefit Awards Prior to Normal Pension Age

Section 32(1B) of the Benefits Regulations provides that an applicant for Old Age contributory pension who is less than normal pension age shall not be awarded the pension if the calculated reduced pension amount is less than the minimum pension. This provision was added when the ability to receive reduced pensions from age 60 was introduced. This restriction has disadvantaged many claimants.

The Board may wish to first of all of determine how many applications are affected by this restriction and if significant, whether an amendment should be made. Two possible alternatives and their implications are discussed below.

a) Award early pensions at a rate lower than the current minimum rate	• Set minimum pension rates for each age under normal pension age. These minimums could be either the full 0.5% per month or slightly less
b) Award the minimum pension	• This would lead to increased cost over current rules as the full effect of the reduction for early payment would not be applied to lower income pensioners.

5.2.2 Payment of Old Age or Invalidity Pension With Survivors Pension

When the National Insurance Scheme was established the concept of survivors' benefit was predominantly geared towards the non-working widow of a contributor. Today, women make up more than 50% of NIS contributors and thus are often entitled to their own Old Age pension.

When a spouse dies, and the survivor is in receipt of, or later qualifies for, an Old Age pension, he/she will only receive the larger of the Old Age pension or the Survivors' pension. As a consequence of present rules, it is possible for household income to fall by more than 50% should one pensioner die. For example, if the husband's weekly pension is $500 and the wife's $300, total household income would fall from $800 to $300 after the husband's death. ($300 is the greater of 50% of $500 and $300) Therefore, there would be a strong argument that in such a case more than just the greater benefit be paid as household expenses do not fall by as much as 50% following the death of one person.

Also, if both spouses are receiving Old Age pensions, the pension to the surviving spouse upon death of one spouse may be different depending on who dies first. Using the above example, if the wife had died first, the husband's pension would remain at $500. ($500 is the greater of $500 and 50% of $300) Therefore, if both spouses shared household income equally regardless of whose pension is larger – the current survivors' pension discriminates against the spouse with the lower pension.

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

To eliminate such anomalies and possible financial hardship that the present survivors' pension provisions may create, the Board may consider the payment of both pensions. There are many reasonable options under which the payments of both pensions can be made. Following are two examples:

Option 1:

Where both spouses are pensioners, the survivor would receive the higher of two pensions, but not less than 60% of combined pensions.

Where a Survivor pensioner later qualifies for an Old Age pension, pay 100% of the larger pension plus 50% of the smaller pension.

Option 2:

In all cases, pay 100% of the Old Age pension (their own pension) plus 50% of what the Survivors pension would otherwise have been. This translates to approximately 100% of one's own pension plus 25% of the deceased spouse's pension.

If adopted, persons who have already claimed Survivors' pensions and who are now receiving only the greater of two benefits would have their pensions reworked under the new laws and would receive larger pensions going forward only. The rules that apply for Old Age pension should also apply to Invalidity pension.

This change would result in an increase in both current and long-term pension costs. To properly estimate the cost implications of this change a detailed analysis of Survivor pension claims over a 2-year period should be conducted.

5.3. Financial Sustainability

Enhancing financial sustainability can be achieved through avenues that either increase revenue, from contributions and investments, or reduce the growth of expenditure on benefits and administrative costs.

5.3.1 Investments

The recent defaults and restructurings of public debt by several Caribbean governments show that even government bonds are not as safe as they were once thought to be. With international rating agencies voicing concerns about public sector finances and debt levels (102% of GDP in mid-2013), the NIF's primary long-term risk is the inability of Government to repay the face amount of Treasury Notes and Debentures on or before their maturity dates. While investment managers and policy makers may focus primarily on the Fund's overall rate of return, the rate of return in the short-term will be irrelevant if the Fund is not able to realise the full face value of fixed income securities when needed. The NIF should therefore seek to reduce its exposure to Barbados Government and public sector securities to a maximum of 50% over the next 5 years.

In tough economic times when government revenue is down and demands for employment and social programs are high, social security funds are often targeted by governments to meet both discretionary and non-discretionary spending. The Board should treat all loan/investment requests from Government and statutory bodies with the same amount of scrutiny and due diligence that it would non-traditional investments. Where proposals do not meet the Fund's investment criteria or fit within investment guidelines, they should be rejected.

To ensure that the asset mix remains consistent with current and future needs of the Fund it is further recommended that the recently approved Investment Policy Statement be reviewed periodically as prevailing investment and economic conditions change.

5.3.2 Contribution Rate Increases

As shown in Chapter 3, contribution rate increases may be necessary if the NIF is to meet its obligations beyond the next forty years. However, with reserves of $4.1 billion in 2013 and reserves projected to be more than 5 times expenditure in 2030, a rate increase is not required or recommended now.

Until reserves are exhausted, there is no right or wrong time to increase the contribution rate. The following factors should be considered when deciding whether or not to increase the contribution rate:

- Can workers and employers afford a rate increase in the current environment?
- Can current revenues and liquid assets meet expenditure in the short-term?
- Are there suitable investment opportunities for additional surplus cash?
- Is advanced funding (higher contribution rates and a large fund now with lower contribution rates later) superior to higher contribution rates and a very small fund in the future?

This last question has been debated by economists and social security scholars for many years. Both options have risks and both depend ultimately on a strong economy. However, it is agreed amongst most that to the extent that a social security fund is invested in Government debt, that segment is essentially pay-as-you-go given that the primary sources of Government's revenue are similar to those who make NIS contributions.

While the current funding objective sets a target reserve-expenditure ratio for 2030, it does not speak to what should happen if projected reserves fall short of this target. Further, it would be better if the target year were set as a certain number of years from the review date (say 20 or 30 years) instead of a fixed date of 2030. Also, as the Fund matures, pay-as-you-go rates are likely to stabilise and a ratio of less than 5 will be acceptable. A recommended revised financing objective is:

1. *Reserves of 5 times annual expenditure in 2030 years and 3 times annual expenditure 30 years from the review date.*
2. *Should projections in 2 successive actuarial reviews suggest that these targets will not be met a combination of contribution rate adjustments and benefit reforms should be implemented to bring the Fund back into balance.*

Based on the projections presented in Chapters 3 and 4 the goal of having reserves of 5 times annual expenditure in 2030 is met under all scenarios but a ratio of 3 in 2041 is not met in the Pessimistic scenario.

5.3.3 Compliance

With the economic downturn and businesses having difficulties meeting their obligations, instances of employers and self-employed persons paying contributions late, or not at all, have increased. Not only does the late or non-payment of contributions reduce investments earnings, the failure of employers and self-employed persons to make regular contributions will result in hundreds of workers retiring either without a secure source of income in old age or a smaller pension than would otherwise have been possible.

The Board should fully enforce all existing avenues available to it and identify new means of ensuring that all who are required to contribute do so on a timely basis. While special considerations may be given to the repayment of arrears given the current economic climate, there should be zero-tolerance approach to non-compliance for current contributions.

5.4. Administrative Efficiency

Administrative efficiency relates to both how well the National Insurance Office administers the National Insurance program (collects contributions, adjudicates and pays benefits and invests surplus funds) and how much it costs to perform these functions. As shown in Section 2.2, administrative costs remain very low (between 5% and 6% of contribution income) by regional standards but several service and reporting issues prevail.

Given the significant investment made in an IT system several years ago, the National Insurance Office underperforms what would reasonably be expected in delivering timely benefit adjudication. The concerns relate primarily to the time that it takes to award short-term claims and the time it takes to award pensions. Obtaining complete and reliable data form the National Insurance Office is also a concern. This may be both system related and due to the lack of adequate human resources devoted to data gathering and analysis. Because of this, the publishing of annual reports and the provision of data required for this report have been delayed extensively.

The Board is encouraged to:

a) invest in system upgrades and/or enhancements as well as ensure that the Office is adequately staffed at all levels with the skills required to ensure that exceptional customer service is consistently provided, and

b) engage the Minister and other relevant Government officials in discussions aimed at identifying ways of ensuring the National Insurance Office could be more effective in the delivery of its services and fulfilling statutory obligations.

Section II
Unemployment & Severance Funds

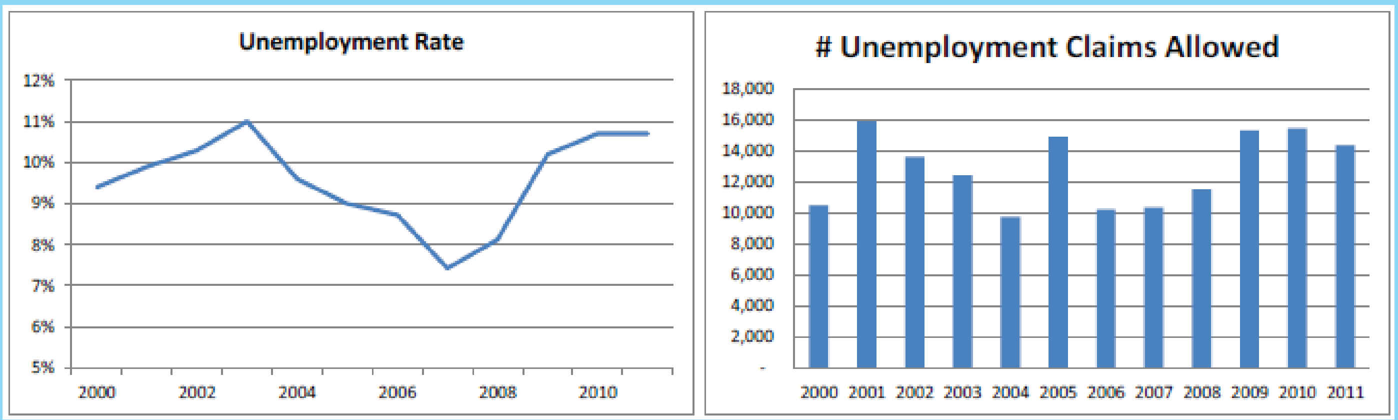
Chapter 6 - Unemployment Fund

Unemployment benefits are administered by the National Insurance Board and are paid from the Unemployment Fund. This Fund finances weekly payments to unemployed persons of 60% of average insurable earnings for up to 26 weeks. The contribution rate for unemployment benefits has been fixed at 1.5% since 1998. Details of unemployment benefit provisions may be found in Appendix A.

6.1 Unemployment Fund Experience

The following charts show the national unemployment rate from 2000 to 2011 and the total number of unemployment claims allowed by the National Insurance Office. Consistent with the global economic crisis and the recession in Barbados, unemployment rates and the number of claims awarded began trending upwards in 2008.

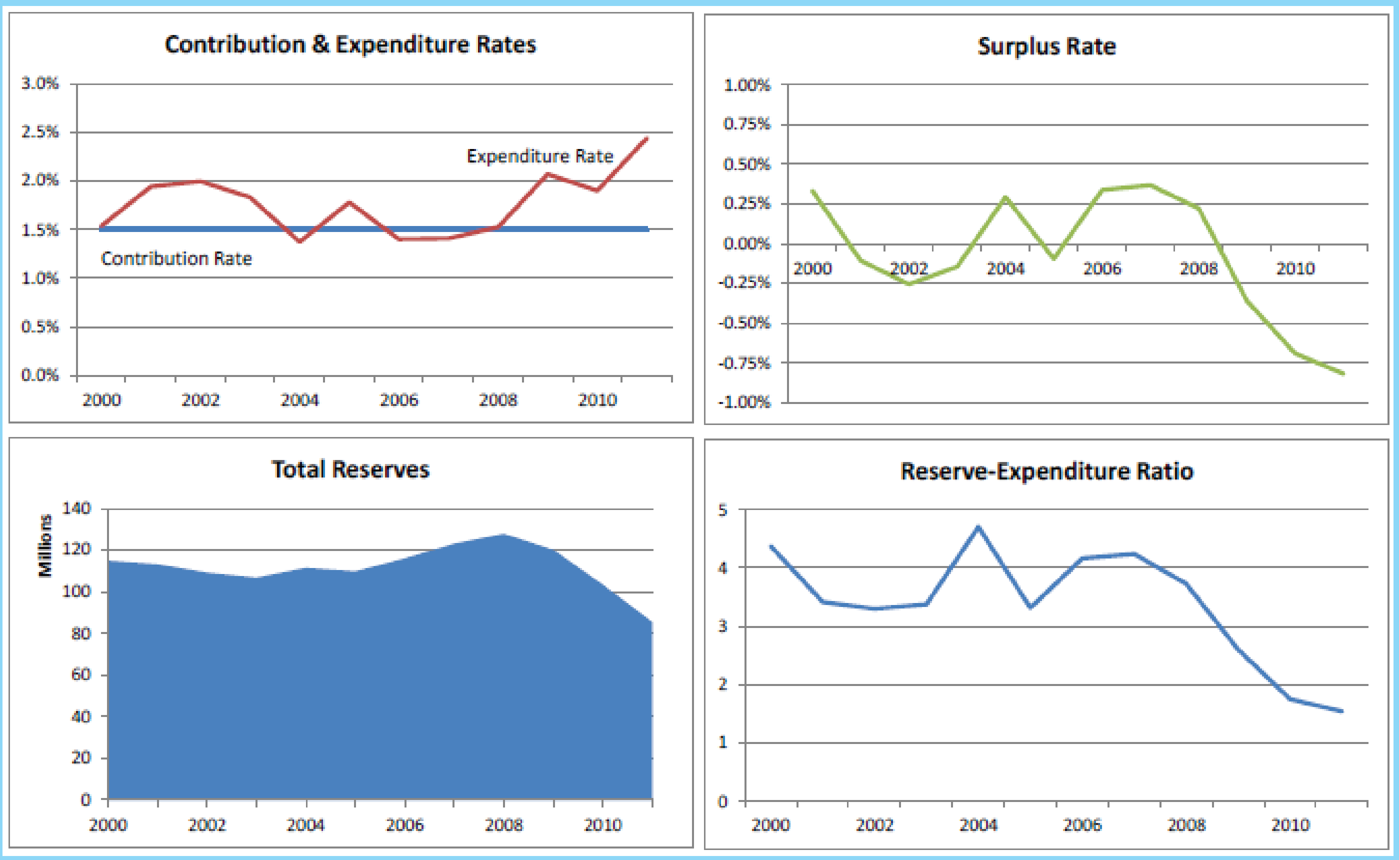
Figure 6.1. Barbados Unemployment Rate & # of Unemployed Persons



In response to rising unemployment and the difficulty unemployed persons had in finding new jobs, the maximum duration for Unemployment benefit was extended from 26 weeks to 40 weeks effective 23rd August 2010. The benefit rate for this extended period was set at 40% instead of the usual 60%. This extension ceased effective June 2012. This amendment had an immediate impact on the amount paid in unemployment claims. The other amendment made during the review period that affected the Unemployment Fund was the transfer of $10 million to a newly created "Retraining Account" used for the retraining of unemployed persons.

The following charts illustrate Unemployment Fund experience from 2000 to 2011.

Figure 6.3. Unemployment Fund Experience, 2000 to 2011



Between 2000 and 2008 each of the four charts above depicts what may be termed "good" experience for a pay-as-you-go financed, short-term income replacement benefit:

- Expenditure generally in line with contributions (top left chart)
- Relatively small surpluses or deficits (top right chart)
- Total reserves remain relatively stable or growing (lower left chart)
- Reserve-expenditure fluctuating within a narrow range but remaining at around 4 (lower right chart)

These trends all changed in 2009 with the onset of the recession and increased unemployment claims:- the gap between expenditure and contributions widened, annual deficits grew, reserves began to decline and the size of reserves relative to annual payouts decreased sharply.

The following table highlights Fund income and expenditure for 2009 to 2011.

Table 6.1. Unemployment Fund Experience, 2009 to 2011 ($'s in millions)

	2009	2010	2011
Contribution Income	$31.8	$36.4	$$32.8
Investment Income	$6.7	$5.8	$4.6
Total Income	**$38.5**	**$42.2**	**$37.4**
Benefits	$44.0	$46.2	$53.5
Administrative Expenses	$2.2	$2.8	$1.9
Transfer to Retraining Account	-	$10.0	-
Total Expenditure	**$46.2**	**$59.0**	**$55.4**
Excess of Income Over Expenditure	$ (7.7)	$ (16.8)	$ (17.9)
Year-end Reserves	**$120.1**	**$103.3**	**$85.4**
Contribution Rate	1.50%	1.50%	1.50%
Benefit Rate (as % of IE)	2.07%	1.90%	2.44%
Yield on Reserves	5.5%	5.3%	5.0%
Administrative Costs as of IE	0.10%	0.12%	0.09%
Reserve-expenditure ratio	2.6%	1.8%	1.5%

As shown above, the Fund incurred deficits in each of the three years in the review period. In 2010 a transfer of $10 million from the Unemployment Fund to the Retraining Account was made and in August 2010, the maximum benefit period was extended from 26 weeks to 40 weeks. These policy decisions further contributed to increasing costs and reserves falling from $128.8 million at the end of 2008 to $85.4 million at the end of 2011.

At the end of 2011, the reserve-expenditure ratio of 1.5 was only 50% more than the minimum ratio of 1 considered acceptable for the Unemployment Fund.

6.2 Unemployment Fund Investments

With cash flow deficits and declining reserves approaching one year's worth of expenditure, how Fund assets are invested is critical to being able to meet benefit obligations as they become due.

Following was the asset mix of the Unemployment Fund in December 2011.

Table 6.3. Unemployment Fund Investments, December 2011

Asset Class	Amount (millions of $'s)	% of Total
Deposits	19.5	26.0
Treasury Bills	1.0	1.3
Treasury Notes	35.2	46.9
Debentures	19.3	25.7
Total	**75.0**	**100.0**

Of the four criteria under which social security investments are typically made, yield, security, liquidity and social utility, liquidity is now the most critical for the Unemployment Fund. As shown above, all investments are in fixed-income securities with 74% in Government of Barbados debt of varying maturities.

Unlike the National Insurance Fund, the Unemployment Fund does not have a written Investment Policy that guides how and where its investments are placed. Even though the Fund has been declining in size and may have to hold mainly liquid assets in the near-term, it is recommended that a written investment policy be created and approved at all levels.

6.3 Subsequent Events

This report is being prepared in late 2013. During 2012 and the first eight months of 2013 there were further reductions in reserves due to expenditure being well in excess of combined contribution and benefit expenditure. Although expenditure in 2013 is down when compared to 2012, total reserves stood at $56.2 million as of August 2013 and the year-to-date deficit was 0.5% of insurable wages.

6.4 Short-term Unemployment Fund Projections

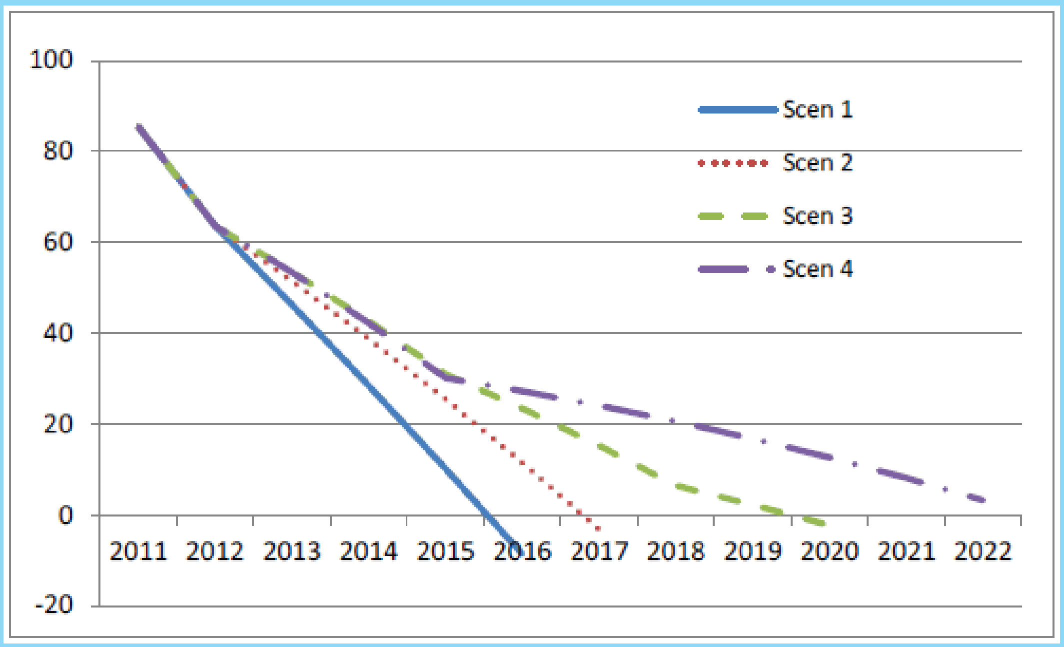
To determine the adequacy of the current contribution rate and reserve funds to support future benefit expenditure 10-year projections of the Unemployment Fund under four different scenarios are presented. Key assumptions for these projections are shown in Table 6.4. Common assumptions for all scenarios are an investment yield of 5.0% and administrative costs of 0.10% of insurable earnings and no increase in the contribution rate.

Table 6.4. Key Assumptions For Unemployment Fund Projections

Scenario	Annual Increase in Contribution Income	Benefits As % of Insurable Earnings		
		2014 - 2015	2016 - 2018	2019 - 2021
1	-2%	2.25%	2.25%	2.25%
2	0%	2.0%	2.0%	2.0%
3	2%	1.9%	1.7%	1.5%
4	3%	1.9%	1.5%	1.5%

Figure 6.4 below illustrates the results of these projections:

Figure 6.4. Projected Unemployment Fund – Existing Rules



Under all scenarios reserves are projected to fall below the "one-times" expenditure threshold (approximately $50 million) and in three of the four scenarios, reserves would be depleted between 2016 and 2020.

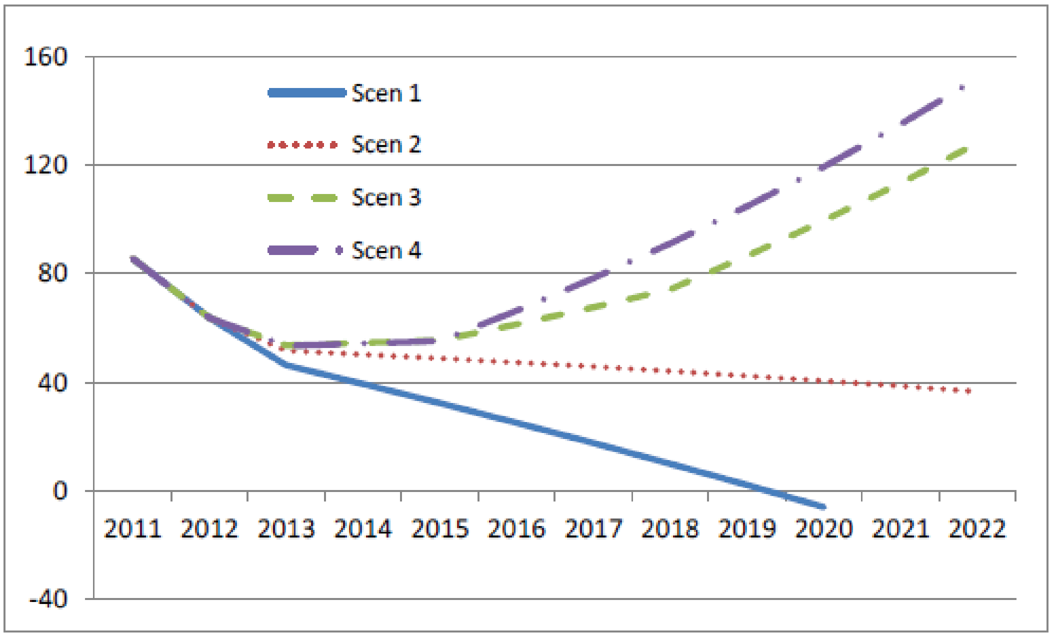
6.5 Financing Future Unemployment Benefits

Unless there is immediate and dramatic turnaround in the economy which leads to growth in employment and wages, and a reduction in unemployment benefit claims, additional financing is required in the short-term to boost the reserves of the Unemployment Fund. Two options for such additional financing are:

(a) Increase the contribution rate;
(b) Transfers from the Severance Fund.

Projections of the Unemployment Fund where the contribution rate is increased by ½% (to 2.0%) starting in 2014, are shown below. Under two of the four scenarios the ½% rate increase would be adequate for 10 years while under the other two scenarios a further increase would likely be necessary to maintain a reserve of at least $50 million.

Figure 6.5. Projected Unemployment Fund – ½% Increase in Contributions



Note: Includes actual finances for 2012 and benefit expenditure of 1.95% of IE for 2013

A transfer of $50 million into the Unemployment Fund instead of a ½% rate increase would provide a short-term boost to the Fund but will not provide a medium-term solution to ensuring sustainability. It would also defer for a few years the increased burden on workers and employers that a rate increase would create.

While transferring reserves from the Severance Fund, which is very well funded, may seem like a relatively easy solution, legal opinions suggest that it may not be possible to do so. The main reason offered is that contributions made for a particular purpose should be used for that purpose only. Also, there is a slight difference between the source of contributions for each fund:- employers only for the Severance Fund and equal sharing by employer and workers towards the Unemployment Fund. The Board should seek a definitive opinion from the Attorney General's Office and possibly a policy decision from Cabinet on this matter. In a broad social security context, it would appear appropriate to transfer from one fund to another, especially since one fund is extremely over funded relative to its annual payout. (See Chapter 7)

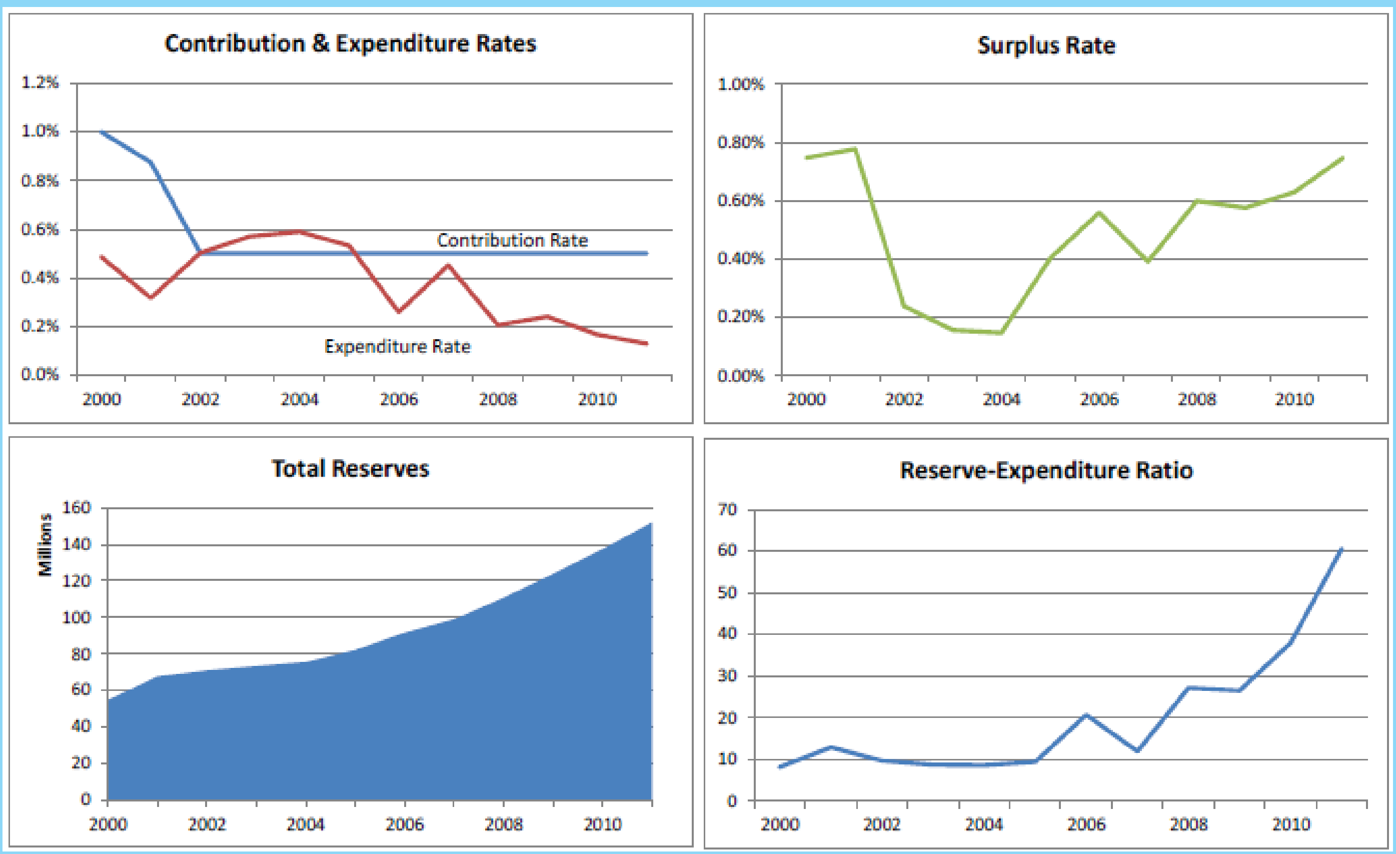
Chapter 7 - The Severance Fund

The National Insurance Board administers the Severance Payments Fund as established under the Severance Payments Act. The Severance Payments Fund provides a 25% refund to employers who make the required severance payments in accordance with the Severance Payments Act. In cases where the employer refuses to, or is unable to make such payment, the Severance Fund makes the payment directly to the employee and the amount paid is recoverable by the National Insurance Board from the employer.

7.1 Severance Fund Experience

Since October 2001, the contribution rate for Severance benefits has been fixed at 0.5% of insurable earnings. This rate is payable by the employer only. There were no amendments to Severance payment rules during the review period. Further details of eligibility conditions and rates of payment can be found in Appendix A.
It may be expected that experience of the Severance Fund during the review period would be similar to that of the Unemployment Fund. However, as illustrated by the charts below, this was not the case.

Figure 7.1. Severance Fund Experience, 2000 to 2011



Since 2004 the Severance Fund had a very favourable experience:

- Expenditure lower than contributions with widening gaps in recent years (top left chart)
- Increasing surpluses (top right chart)
- Increasing reserves (lower left chart), and
- Significant increases in the reserve-expenditure ratio (lower right chart)

The following table highlights Fund income and expenditure for 2009 to 2011.

Table 7.1. Severance Fund Experience, 2009 to 2011 ($'s in millions)

	2009	2010	2011
Contribution Income	$9.7	$10.9	$9.8
Investment Income	$6.2	$6.4	$7.3
Total Income	**$15.9**	**$17.3**	**$17.1**
Net Benefits Paid	$2.4	$2.8	$1.8
Administrative Expenses	$2.3	$0.8	$0.7
Total Expenditure	**$4.7**	**$3.6**	**$2.5**
Excess of Income Over Expenditure	$11.2	$13.7	$14.6
Year-end Reserves	**$123.8**	**$137.5**	**$152.0**
Contribution Rate	0.50%	0.50%	0.50%
Benefit Rate (as % of Insurable Earnings)	0.12%	0.13%	0.09%
Reserve-expenditure Ratio	26.3%	38.0%	60.6%
Yield on Reserves	5.4%	5.0%	5.2%
Admin. Expenses as % of Insurable Earnings	0.12%	0.04%	0.03%

During each of the three years under review not only was contribution income greater than total expenditure, investment income also exceeded total expenditure each year. Total reserves increased from $112.6 million to $152.0 million. While the time it takes to pay Severance claims (800 claims pending at the end of 2011) has often been lengthy, this delay does not change the previous statement that contributions are well in excess of expenditure.

7.2 Fund Investments

The following table shows the asset mix of the Severance Fund as at December 2011.

Table 7.3 Severance Fund Investments, December 2011

	Amount (millions of $'s)	% of Total
Deposits	25.2	18.3
Treasury Bills	18.5	13.4
Treasury Notes	27.9	20.2
Debentures	62.0	44.9
Bonds	4.4	3.2
Total	**138.0**	**100.0**

As shown above the Severance Fund is fully invested in fixed-income securities, with just under 80% held in Government of Barbados securities of varying maturities.

The Severance Fund has grown significantly in size and contribution income is now well in excess of total expenditure. Therefore, liquidity need not be a primary consideration for Fund investments. Instead, the Severance Fund should have a much longer-term investment horizon than was the case in December 2011.

Unlike the National Insurance Fund, the Severance Fund does not have a written Investment Policy that guides how and where its investments are placed. As the Fund grows, without any need for liquid assets, aiming for a higher rate through longer-term securities should be considered. It is therefore recommended that such a written investment policy be created and approved at all levels.

7.3 Future Severance Payments

The low payouts and growth in reserves of the Severance Fund, especially during a recessionary period, raises questions regarding the purpose and current relevance of the provisions of the Severance Payments Act in the current labour market and economy. The Severance Payments Act came into force in 1973 and was last amended in 1991. Representatives of both workers and employers indicated that the low payouts in recent years may be due to:

(i) Employers using redundancy as a last resort to reduce operating costs, and
(ii) Even with the existence of Severance Payments Act and reimbursement from the Severance Fund, the cost of making employees redundant, especially long-serving employees, is extremely high.

Following are three recommendations regarding the Severance Fund:

a) Eliminate the ½% contribution rate paid by employers to the Severance Fund. If there is no change to the rules for payments out of the Fund, investment income alone is expected to cover total expenditure.

b) Perform a comprehensive review of the objectives and key features of the Severance Payments Act and determine whether they are relevant to current employment practices and employer behaviour regarding redundancy, and if not, recommend changes.

c) If legally possible, consider transferring at least $50 million to the Unemployment Fund. (See Section 6.5)

Section III
Good Governance

Chapter 8 - Good Governance

A very influential but often invisible contributor to the state of public sector agencies is political interference and the failure to adopt and follow good governance practices. For example, poor governance practices and political interference at several regional social security schemes have resulted in overstaffing, poor investment diversification, failure to implement reforms, and the failure to disclose key reports that outline the state of the fund's current and future finances. While the Barbados NIS does not have a history of excessive political interference, inadequate staffing of the National Insurance Office, growing concentration of investments in Government debt, contrary to investment and actuarial advice, extensive delays in conducting financial audits and delays in publishing annual reports, are issues with which the NIS has been plagued.

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

8.1. ISSA Good Governance Guidelines

ISSA defines governance as:

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

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

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

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

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

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

The principle of *dynamism* is defined as the element of positive change in governance. While the first four principles of governance may well be applied in the context of maintaining the status quo, dynamism refers to changing and improving by doing things more efficiently and equitably, and by responding to the evolving needs of insured persons.

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

(a) Actuarial soundness

(b) Enforcing the prudent person principle in investment management

(c) Prevention and control of corruption and fraud

(d) Service standards

(e) Staffing policies & performance appraisals

(f) Investments in Information and Communication Technology infrastructure

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

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

(a) Powers of the Minister

(b) Functions and duties of the Board

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

(d) Board Member orientation

(e) Board Member code of conduct

(f) Disclosure of information

8.2. ISSA Investment Guidelines

With $4.1 billion in trust funds, the prudent investment of securities is critical to the long-term sustainability of the National Insurance Fund. In addition to its Good Governance Guidelines, ISSA in 2012 created ISSA Investment Guidelines which allow social security institutions to follow a "Governance Journey" moving from investment government principles to structures and processes which include defining and monitoring an investment strategy and monitoring of performance and reporting. These investment guidelines are consistent with the ISSA Good Governance Guidelines discussed in the previous section.

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

Statement of Actuarial Opinion

It is my opinion that for this report of the 14th Actuarial Review of the National Insurance, Unemployment and Severance Funds:

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

This report has been prepared in accordance with the Caribbean Actuarial Association Actuarial Practice Standard #3 for Social Security Programs.

Derek M. Osborne, FSA
Chief Actuary

Horizonow Consultants
December 31st, 2013

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Various reports and publications by the Barbados Statistical Service

Appendix A - Summary of Contribution & Benefit Provisions

A.1 Funds, Benefits, Insured Persons & Contribution Rates

The National Insurance Board, through three separate funds, provides for the following benefits and assistances:

1. National Insurance Fund

   - Long-term benefits: Old-age, Invalidity and Survivors' Benefits.
   - Short-term benefits: Sickness & Maternity Benefit, Funeral Grant.
   - Employment Injury Benefits: Injury Benefit, Disablement Benefit, Medical Expenses, Death Benefit and Funeral Grant.
   - Non-contributory pensions: Old-Age (for existing pensioners at December 31, 1999)

2. Unemployment Fund

   - Unemployment Benefit

3. Severance Payment Fund

   - Severance Payments
   - Rebates

Employed and self-employed persons between 16 and pensionable age (66 years effective January 2010) are covered for the above contingencies as follows:

- Employed persons in the private sector: All contingencies.
- Temporary government employees: All contingencies except severance.
- Permanent government employees: All contingencies, except sickness, unemployment and severance.
- Self-employed persons: All contingencies except employment injury benefits, unemployment and severance.

Employed persons under 16 or over age normal pension age are covered for employment injury benefits only.

Earnings used for determining contributions and benefits are limited to a weekly or monthly ceiling. If earnings are $91 per month, no contributions are payable. Earnings include basic salary and all other remuneration in cash or kind such as bonuses.

Starting 2005 the earnings ceiling has been indexed annually in line with changes in average wages. The monthly ceiling on insurable wages has increased since 1967 as follows:

Period	Weekly	Monthly
1967-1973	$50	
1974 -1977	$100	
1978-1981	$230	$1,000
1982-1984	$506	$2,200
1984-1986	$598	$2,600
1987-1991	$600	$2,600
1991-2004	$715	$3,100
2005	$736	$3,190

Period	Weekly	Monthly
2006	$759	$3,290
2007	$782	$3,390
2008	$819	$3,550
2009	$858	$3,720
2010	$900	$3,900
2011	$944	$4,090
2012	$965	$4,180
2013	$985	$4,270

Contributions are computed as a percentage of insurable earnings. Rates of contributions vary according to the type of employment. The contribution rates applicable to the four main categories of contributors for 2012 are shown below.

	National Insurance & Non-Contributory Pensions		Unemployment Benefits		Severance Benefits	
	E'ee	E'er	E'ee	E'er	E'ee	E'er
Employed Persons	8.75%	9.5%	0.75%	0.75%	-	0.5%
Temporary Government	8.75%	9.5%	0.75%	0.75%	-	-
Permanent Government	8.20%	8.95%	-	-	-	-
Self-employed*	15.5%		-	-	-	-

* Self-employed are not covered for Employment Injury benefits.

The average contribution rate payable in 2008 for National Insurance and Non-Contributory pensions is approximately 18%.

A.2. Summary of Benefits Provisions

A.2.1 LONG-TERM BENEFITS

(a) OLD-AGE CONTRIBUTORY PENSION

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

Age Requirement: Full Pension: Normal pension age: 66 from 2010 to 2013, 66½ from 2014 to 2017 and 67 thereafter. Pensions payable at normal pension age are not dependent on retirement from the workforce.

Reduced Pension: 60 to normal pension age. This pension is dependent on retirement from the workforce.

Increased pension: From normal pension age to age 70.

Amount Of Benefit: 40% of average earnings over the best five years, plus 1% of total insurable earnings on which contributions were based subsequent to the first 500 weekly contributions. These rates apply to persons attaining normal pension age up to 2012.

Effective 2023, pension accrual rates will be 2% for each 50 weekly contributions up to 1,000 weekly contributions plus 1.25% for each further 50 weekly contributions subsequent to the first 1000 weekly contributions up to a maximum of 60%. For persons attaining normal pension age between 2013 and 2022, 50% of the benefit will be based on the pre-2013 basis and 50% on the post-2022 basis.

Pensions are reduced by ½% for each month the age at award is less than normal pension age and increased by ½% for each month the age at award exceeds normal pension age.

Maximum Pension: 60 % of average earnings over the best five years.

Minimum Pension: The listed minimum pension is $175.00 per week. The minimum pension and all pensions will increase each year in accordance with the lesser of 3-year average wage increases and 3-year average price inflation.

(b) OLD-AGE CONTRIBUTORY GRANT

Contribution Requirement: 50 paid or credited weekly contributions.

Eligibility: Other than for the contribution requirement, the applicant must be eligible for Old-Age Contributory Pension.

Amount Of Benefit: 6 times average weekly insurable earnings for each 50 weekly contributions paid or credited. This amount is paid as a lump sum.

(c) INVALIDITY PENSION

Contribution Requirement: 150 paid weekly contributions.

Eligibility: The applicant has exhausted the maximum period for sickness benefit and is permanently incapable of work, and less than normal pension age.

Amount Of Benefit: 40% of average earnings over the best three years, plus 1% of total insurable earnings on which contributions were based subsequent to the first 500 weekly contributions.

Duration Of Pension: Payable for as long as invalidity continues or until normal pension age when converted to an old-age contributory pension.

Minimum Pension: As for Old-Age pension.

(d) INVALIDITY GRANT

Contribution Requirement: 50 paid or credited weekly contributions.

Eligibility: Other than for the contribution requirement, the applicant must be eligible for invalidity pension.

Amount Of Benefit: Same as Old Age Contributory grant.

(e) SURVIVORS' PENSION

Contribution Requirement: The deceased, at time of death, was receiving or was qualified to receive an invalidity or old-age contributory pension.

Eligibility: Widow or widower married for at least three years (includes common-law spouse) or a child who is under age 16, 25 if in full-time education or invalid.

Amount Of Benefit: The proportion of Invalidity pension shown below:

> Widow or widower: 50% if age 50 or over and married for at least 3 years; 33⅓% if between 45 and 50 and married for at least 3 years;
>
> Child: 16 ⅔% – up to 3 children at any one time if a spouse is also entitled;
>
> Child (orphan or disabled): 33⅓%;
>
> Maximum benefit: 100%

Duration Of Benefit:

- Widow or widower age 45 or over at time of death and married for 3 years, or disabled: life pension or until the beneficiary is entitled to a larger Old Age pension in his/her own right.
- For a widow or widower under age 45 and not disabled: one year.
- For children, age 16 or 25 if in full-time education, for as long as invalidity continues, if invalid.

(f) SURVIVORS' GRANT

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

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

Amount Of Benefit: Same as Old Age Contributory or Invalidity Grant.

(g) NON-CONTRIBUTORY OLD-AGE PENSION

Eligibility: Current normal pension age or over, or in the case of a blind person or a deaf mute aged 18 or over. Applicant must also be a Barbados citizen or a permanent resident who has lived in Barbados for a period of:

For a citizen: 12 years since attaining age 40 or an aggregate of 20 years since attaining age 18;

For a permanent resident: 15 years since attaining age 40 or an aggregate of 20 years since attaining age 18.

Amount Of Benefit: For 2013, $142 per week. NIS is only responsible for the first $74.75 per week as since 1998, all increases above this level and the cost associated with new awards after 1999 are being met by the Consolidated Fund. The pension payable is reduced to take account of any other pensions being received.

A.2.2 SHORT-TERM BENEFITS

(a) SICKNESS BENEFIT

Contribution Requirements:

- 7 weekly paid or credited contributions in the quarter but one before the quarter in which the person became ill and either,
  - i. 39 weekly paid or credited contributions in the four quarters ending with the quarter but one before the quarter in which the person became ill, or
  - ii. Person is engaged in employment immediately before becoming ill.

Self-employed persons must satisfy criteria (i).

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

Amount Of Benefit: 66 ⅔% of average weekly insurable earnings during the quarter but one before the quarter in which the person became ill. Benefit paid on the basis of six days per week.

Duration Of Benefit: Up to 26 weeks, plus an additional 26 weeks if at least 150 weekly contributions were paid and 75 contributions paid or credited in the preceding three contribution years.

(b) MATERNITY BENEFIT

Contribution Requirement:

For an employed person, insured for at least 26 weeks, and paid at least 16 contributions in the two quarters but one before the quarter the benefit becomes payable.

For a self-employed person, not less than 39 contributions should have been paid or credited in the four quarters ending with the quarter but one before the quarter benefit becomes payable, and not less than 16 contributions should have been paid in two quarters but one before the quarter the benefit becomes payable.

Amount Of Benefit: 100% of average weekly insurable earnings over the two quarters but one before benefit becomes payable. Benefit is paid on the basis of six days per week.

Duration Of Benefit: Up to 12 weeks.

(c) MATERNITY GRANT

Eligibility: Payable to a woman who does not satisfy the contribution requirement for maternity benefit but whose spouse has paid the number of contributions that would have enabled the woman to qualify for maternity benefit had they been paid by her.

Amount Of Grant: $1,125 effective January 2013. This amount will increase each year in accordance with the lesser of 3-year average wage increases and 3-year average price inflation.

(d) FUNERAL GRANT

Eligibility: Insured person had made at least 50 paid contributions, or if fewer, would have been entitled to either of sickness or maternity. A grant is also payable in respect of the death of the spouse of an insured in respect of whom a grant would have been payable had he/she died.

Amount Of Grant: $1,950 effective January 2013. This amount will increase each year in accordance with the lesser of 3-year average wage increases and 3-year average price inflation.

I.2.3. EMPLOYMENT INJURY BENEFITS

(a) INJURY BENEFIT

Eligibility: Incapable of work as a result of an accident arising out of insured employment, or as a result of a prescribed disease.

Amount Of Benefit: 90% of average insurable earnings in the quarter but one before quarter in which accident or disease occurred. (If past employment is for a shorter period, the average insurable earnings of the last 13 weeks, or if less, of someone in similar employment, will be used.)

Duration Of Benefit: 52 weeks.

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

(b) DISABLEMENT BENEFIT

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

Waiting Period: If injury benefit is awarded, the period of payment of injury benefit.

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

- If degree of disablement is less than 30%, a grant equal to 365 times the weekly benefit rate times the degree of disablement is paid.
- If degree of disablement is 30% or more, a weekly benefit of the injury benefit amount times the degree of disablement is paid.
- In addition, 50% of disablement pension may be paid if the person requires constant help.

(c) DEATH BENEFIT

Eligibility: Dependants as defined for survivors' benefit, but other persons who were dependent upon the earnings of the deceased may also qualify.

Amount Of Benefit: Proportion of disablement pension - same percentage as for Survivors benefits. Other dependants receive 16⅔%.

(d) MEDICAL EXPENSES

Expenses Covered:

- Medical, surgical, dental and hospital treatment, skilled nursing services and supply of medicines.
- Supply and maintenance of artificial limbs, dentures, spectacles and other apparatus
- Travelling expenses to obtain any of the above.

(e) FUNERAL GRANT

Condition Of Payment: Death of insured must be related to employment. (Only one funeral grant is payable.)

CARICOM Agreement On Social Security

Some former contributors with fewer contributions than required for Age, Invalidity and Survivors pensions, may qualify for a pension under the CARICOM Agreement on Social Security based on the total of all contributions made in participating countries.

A.2.3 UNEMPLOYMENT BENEFITS

Contribution Requirement:

- Insured for at least 52 weeks.
- 20 weekly contributions paid or credited in three consecutive quarters ending with the quarter but one before that in which unemployment began.
- 7 weekly contributions paid or credited in the quarter but one before that in which unemployment began.

Amount Of Benefit: 60% of average insurable earnings during the quarter but one before that in which unemployment began.

Waiting Period: 3 days. If unemployment lasts for two weeks or more, benefit is payable from the first day. Two periods of unemployment separated by less than thirteen weeks are treated as one.

Duration Of Benefit: 26 weeks of continuous unemployment, or (if different periods of unemployment occurred) a maximum of 26 weeks in the last year. Between August 2010 and June 2012 the maximum duration was 40 weeks.

A.2.4. SEVERANCE PAYMENTS

The Severance Payments Scheme provides for the payment of compensation to employees who are dismissed by reason of redundancy or natural disaster or who terminate the contract of employment after a period of lay-off or short-time. Under the scheme:

- The severance payment is payable to the employee by the employer,
- If the employer refuses or is unable to make such payment the Severance Fund makes the payment to the employee; (the payment is then recoverable by the National Insurance Board from the employer)
- An employer who pays the employee a severance payment in accordance with the Severance Payments Act is entitled to a rebate of 25% of the payment from the Severance Fund.

Employees aged 16 to normal pension age are covered for Severance payments with the following exceptions:

- persons employed in the Public Service, by any Statutory Board or in employment that is pensionable under any enactment;
- share fishermen;
- persons employed by their husbands or wives;
- domestic servants who are closely related to their employers;
- partners, independent contractors and freelance agents.

Eligibility: The employee must have completed 104 continuous weeks of employment with the same employer.

Amount Of Benefit: 25% of benefits in line with the scale shown below are refunded to the employer:

- 2.5 weeks basic pay for each year worked, up to 10 years;
- 3 weeks basic pay for each year worked between 10 and 20 years;
- 3.5 weeks basic pay for each year worked between 20 and 33 years.

Appendix B - Methodology, Data & Assumptions

This actuarial review makes use of the comprehensive methodology developed at the Financial and Actuarial Service of the ILO (ILO FACTS) for reviewing the long-term actuarial and financial status of a national pension scheme. The review has been undertaken by modifying the generic version of the ILO modelling tools to fit the specific case of Barbados and the National Insurance Fund. 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 Barbados' future demographic and economic environment. Next, projection factors specifically related to National Insurance are determined and used in combination with the demographic/economic framework to estimate future cash flows and reserves. Assumption selection takes into account both recent experience and future expectations, with emphasis placed on long-term trends rather than giving undue weight to recent experience. Projections have been made under three assumption sets for which the demographic and economic assumptions vary.

B.1 Modelling the Demographic & Economic Developments

The general Barbados population has been projected beginning with totals obtained from the preliminary results of the 2010 national census and by applying appropriate mortality, fertility and migration assumptions. For the Best Estimate scenario the total fertility rate is assumed to remain at 1.65. Table B.1 shows ultimate age-specific and total fertility rates. For the Pessimistic and Optimistic scenarios, total fertility rates are assumed to be at 1.6 and 1.7, respectively.

Table B.1. Age-Specific & Total Fertility Rates

Age Group	2010	Ultimate Fertility Rates		
		Optimistic	Best Estimate	Pessimistic
15 – 19	0.045	0.043	0.041	0.040
20 – 24	0.085	0.085	0.083	0.080
25 – 29	0.078	0.082	0.080	0.077
30 – 34	0.073	0.073	0.071	0.069
35 – 39	0.041	0.043	0.042	0.040
40 – 44	0.012	0.013	0.013	0.012
45 – 49	-	0.001	0.001	0.001
TFR	**1.65**	**1.7**	**1.65**	**1.6**

Mortality rates have been determined using the 2000 Life Table produced by the Barbados Statistical Service. These rates have been adjusted slightly so that the number of projected deaths closely matches the actual number of deaths from 2000 to 2011. Improvements in life expectancy for the *Best Estimate* scenario have been assumed to follow the "slow" rate as established by the United Nations with a "medium" rate assumed for the Pessimistic scenario and "very slow"1 for the *Optimistic* scenario. Sample mortality rates for the *Best Estimate* scenario and the life expectancies at birth and at age 67 for sample years are provided in Table B.2. Life expectancies at age 67 in 2071 for the three projection scenarios are shown in Table B.3.

Table B.2. Sample Mortality Rates & Life Expectancies

	Males			Females		
Age	**2011**	**2041**	**2071**	**2011**	**2041**	**2071**
0	0.0111	0.0083	0.0065	0.0106	0.0078	0.0060
5	0.0003	0.0002	0.0001	0.0002	0.0001	0.0000
15	0.0005	0.0004	0.0003	0.0003 `	0.0002	0.0001
25	0.0015	0.0010	0.0008	0.0008	0.0007	0.0006
35	0.0022	0.0016	0.0012	0.0013	0.0010	0.0008
45	0.0040	0.0031	0.0024	0.0022	0.0017	0.0013
55	0.0075	0.0061	0.0051	0.0046	0.0036	0.0029
65	0.0142	0.0121	0.0105	0.0094	0.0069	0.0053
75	0.0346	0.0308	0.0280	0.0259	0.0194	0.0152
85	0.0926	0.0868	0.0822	0.0742	0.0636	0.0559
95	0.1989	0.1950	0.1918	0.1841	0.1728	0.1639
Life Expectancy at:						
Birth	**75.9**	**78.2**	**79.9**	**80.1**	**82.7**	**84.7**
Age 67	**16.9**	**17.6**	**18.2**	**18.9**	**20.5**	**21.6**

Table B.3. Age 67 Life Expectancies

		2071		
	2011	**Optimistic**	**Best Estimate**	**Pessimistic**
Male	16.9	17.6	18.2	18.8
Female	18.9	20.4	21.6	22.8

Net migration (in minus out) for each scenario and 10-year age group is shown below for years 2015 and 2030.

Figures B.1. Net Immigration – Total Annual & Age-Specific Rates

Age	2015			2030+		
	Optimistic	Best Estimate	Pessimistic	Optimistic	Best Estimate	Pessimistic
0 - 9	(3)	(13)	(22)	44	25	6
10 - 19	(4)	(14)	(25)	50	28	7
20 - 29	(20)	(81)	(141)	282	161	40
30 - 39	(9)	(38)	(66)	131	75	19
40 - 49	(2)	(7)	(12)	24	14	3
50 - 59	0	0	0	(0)	(0)	(0)
60 - 69	0	1	2	(3)	(2)	(0)
70+	0	1	1	(2)	(1)	(0)
All Ages	**(38)**	**(150)**	**(263)**	**525**	**300**	**75**

The projection of the labour force, i.e. the number of people available for work, is obtained by applying assumed labour force participation rates to the projected number of persons in the total population. Over the first 20 years age-specific labour force participation rates for females are assumed to increase by 2%. Further, for both males and females for ages above 57, participation rates are assumed to gradually approach the rates that in 2011 apply to persons three years younger. Table B.3 below shows the assumed age-specific labour force participation rates in 2011 and 2071. Between these two years, rates are assumed to change linearly.

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

Age	Males		Females	
	2011	2071	2011	2071
17	28%	28%	21%	22%
22	78%	78%	69%	73%
27	92%	92%	86%	91%
32	92%	92%	87%	92%
37	95%	95%	87%	91%
42	93%	93%	87%	91%
47	93%	93%	86%	90%
52	91%	91%	81%	85%
57	86%	89%	70%	78%
62	66%	78%	45%	58%
67	14%	46%	7%	23%

Year	Males	Females
2008	77%	69%
2013	77%	69%
2018	78%	70%
2028	79%	72%
2038	80%	72%
2048	79%	71%
2058	79%	71%
2068	79%	71%

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 0.2% less than the assumed increase in labour productivity as it is expected that wages will almost adjust to efficiency levels over time. The inflation assumption affects nominal average wage increases. Actual projection assumptions may be found in Table 4.1.

B.2 Projection of National Insurance Income & Expenditure

This actuarial review addresses all National Insurance Fund revenue and expenditure items. For Short-term and Employment Injury benefits, income and expenditure are projected as a percentage of insurable earnings. Projections of pensions are performed following a year-by-year cohort methodology. For each year up to 2071, 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 and contribution density. Contribution density refers to the average number of weeks of contributions persons make during a year.

Benefit amounts are obtained through contingency factors based primarily on plan experience and applied to the population entitled to benefits. Investment income is based on the assumed yield on the beginning-of-year reserve and net cash flow in the year. National Insurance's administrative expenses are modelled as a percentage of insurable earnings. Finally, the end-of-year reserve is the beginning-of-year reserve plus the net result of cash inflow and outflow.

B.3 National Insurance Population Data and Assumptions

The data required for the valuation of the National Insurance Fund is extensive. As of December 31st, 2011, required data includes the insured population by active and inactive status, the distribution of insurable wages among contributors, the distribution of paid and credited contributions and pensions in payment, all segregated by age and sex.

Scheme specific assumptions such as the incidence of invalidity, the distribution of retirement by age, density and collection of contributions, are determined with reference to the application of the scheme's provisions and historical experience. Projecting investment income requires information of the existing assets at the valuation date and past performance of each class. Future expectations of changes in asset mix and expected rates of return on each asset type together allow for long-term rate of return expectations.

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

Table B.5. 2011 Active Insured Population, Earnings & Past Credits

	#of Active Insureds		Average Monthly Insurable Earnings		Average # of Years of Past Credits	
Age	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
15 – 19	1,502	1,486	1,101	939	1.2	1.1
20 – 24	5,304	5,740	1,756	1,542	4.1	3.9
25 – 29	6,454	7,673	2,327	2,274	7.8	7.6
30 – 34	6,086	7,511	2,628	2,515	11.7	11.5
35 – 39	6,526	8,139	2,744	2,525	15.8	15.5
40 – 44	6,561	7,812	2,801	2,528	20.0	19.6
45 – 49	6,719	8,308	2,839	2,463	24.2	23.7
50 - 54	6,481	7,733	2,880	2,470	28.4	27.9
55 – 59	5,490	6,133	2,924	2,464	32.7	32.1
60 – 64	3,440	3,406	2,802	2,248	34.9	34.2
65+	1,213	956	2,559	1,935	35.0	34.3
All Ages	**55,776**	**64,897**	**2,597**	**2,334**	**18.4**	**18.1**

Table B.6. Pensions in Payment - December 2011

Age	Old Age Benefit		Invalidity Benefit		Survivors Benefit		Disablement & Death Benefits		Non-Contributory	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
0 – 4	-	-	-	-	-	166				
5 – 9	-	-	-	-	-	353				
10 – 14	-	-	-	-	-	385				
15 – 19	-	-	-	-	-	173				
20 – 24	-	-	-	-	1	-	1	1	-	-
25 – 29	-	-	4	3	1	1	2	3	-	-
30 – 34	-	-	14	25	1	1	8	2	-	-
35 – 39	-	-	37	35	18	16	12	5	-	-
40 – 44	-	-	78	76	34	20	21	11	-	-
45 – 49	-	-	140	169	41	27	32	13	-	-
50 – 54	-	-	282	326	70	48	47	27	-	-
55 – 59	-	-	403	554	111	47	39	11	-	-
60 – 64	823	809	552	692	155	24	18	10	-	-
65 – 69	3,381	3,247	-	-	210	24	8	6	-	-
70 – 74	2,827	2,871	-	-	159	11	7	9	-	-
75 – 79	2,020	2,159	-	-	212	4	10	1	482	1,480
80 – 84	1,295	1,401	-	-	205	3	7	1	333	1,356
85 – 89	687	816	-	-	-	-	-	-	250	974
90 – 94	266	334	-	-	-	-	2	-	149	625
95 – 99	77	119	-	-	-	-	-	-	50	264
# of Pensioners	**11,376**	**11,756**	**1,510**	**1,880**	**1,218**	**1,303**	**214**	**100**	**1,26**	**4,699**
Avg Monthly Pension	**$1,218**	**$ 973**	**$ 1,171**	**$ 1,020**	**$ 859**	**$ 352**	**$ 870**	**$ 885**	**$ 324**	**$ 324**

Note: The average amount for Non-contributory pensions is the amount payable from the NIF.

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

Table B.7. Density Of Contributions

Age	Males	Females
17	41%	36%
22	71%	67%
27	82%	81%
32	84%	85%
37	87%	87%
42	88%	89%
47	89%	90%
52	91%	90%
57	90%	91%
62	90%	90%

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

Table B.8. Rates of Entry Into Invalidity

Age	Males	Females
17	-	-
22	0.204	-
27	0.612	0.408
32	0.884	0.680
37	1.904	1.292
42	1.768	2.584
47	4.012	4.080
52	5.304	7.344
57	9.248	12.580

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

Table B.9. Probability of a Deceased Having Eligible Survivors & Their Average Ages

Age	Males Probability of Eligible Spouse	Avg # of Eligible Children	Females Probability of Eligible Spouse	Avg # of Eligible Children
17	0%	-	0%	-
22	8%	0.0	0%	0.0
27	5%	0.0	0%	0.1
32	25%	0.1	8%	0.2
37	23%	0.2	15%	0.3
42	26%	0.3	13%	0.3
47	31%	0.3	10%	0.3
52	29%	0.2	8%	0.2
57	32%	0.1	10%	0.0
62	31%	0.1	10%	0.0
67	26%	0.1	7%	-
72	10%	0.0	4%	-
77	9%	0.0	3%	-
82	8%	0.0	2%	-
87	6%	0.0	1%	-

Appendix C - Projection Results – Alternate Scenarios

Table C.1. Projected Barbados Population, All Scenarios

Year	All Ages	0 – 15	16 – 66	67+	Age Depend. Ratio
2010	277,821	58,523 21.1%	187,698 67.6%	31,601 11.4%	0.17
			Best Estimate		
2020	283,551	51,311 18 1%	191,290 67.5%	40,949 14.4%	0.21
2030	286,970	47,627 16.6%	183,943 64.1%	55,399 19.3%	0.30
2040	285,628	45,813 16.0%	175,280 61.4%	64,535 22.6%	0.37
2050	277,593	42,719 15.4%	169,310 61.0%	65,564 23.6%	0.39
2060	266,771	40,282 15.1%	163,087 61.1%	63,402 23.8%	0.39
2070	256,303	38,378 15.0%	153,555 59.9%	64,370 25.1%	0.42
			Optimistic		
2020	285,257	52,478 18.4%	192,070 67.3%	40,708 14.3%	0.21
2030	290,316	49,667 17.1%	186,068 64.1%	54,581 18.8%	0.29
2040	292,125	48,739 16.7%	180,400 61.8%	62,986 21.6%	0.35
2050	287,725	46,803 16.3%	177,537 61.7%	63,384 22.0%	0.36
2060	281,017	45,192 16.1%	174,696 62.2%	61,128 21.8%	0.35
2070	274,927	44,037 16.0%	168,710 61.4%	62,180 22.6%	0.37
			Pessimistic		
2020	281,789	50,027 17.8%	190,533 67.6%	41,229 14.6%	0.22
2030	283,901	45,543 16.0%	181,864 64.1%	56,493 19.9%	0.31
2040	279,980	42,943 15.3%	170,232 60.8%	66,805 23.9%	0.39
2050	268,574	38,734 14.4%	161,162 60.0%	68,678 25.6%	0.43
2060	253,469	35,552 14.0%	151,487 59.8%	66,431 26.2%	0.44
2070	238,261	32,985 13.8%	138,313 58.1%	66,962 28.1%	0.48

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

Year	Cash Inflow				Cash Outflow			Surplus/ (Deficit)	Reserves	
	Contribution Income	Investment Income	Other Income	Total	Benefits	Admin & Other Expenses	Total		End of Year	# of Times Current yrs Expenditure
2009	523.3	193.6	6.1	**723.0**	398.9	28.2	**427.1**	**295.9**	**3,267**	7.6
2010	564.7	179.5	6.1	**750.2**	461.8	28.6	**490.4**	**259.8**	**3,525**	7.2
2011	541.6	239.1	6.1	**786.8**	463.1	28.0	**491.1**	**295.7**	**3,819**	7.8
2012	529.3	250.1	6.1	**785.5**	540.3	27.8	**568.1**	**217.3**	**4,036**	7.1
2013	511.0	251.0	4.6	**766.6**	497.0	28.5	**525.5**	**241.1**	**4,294**	8.2
2014	519.6	256.9	4.7	**781.1**	522.0	29.2	**551.2**	**229.9**	**4,524**	8.2
2015	547.8	248.2	4.9	**800.9**	547.4	30.0	**577.3**	**223.5**	**4,747**	8.2
2016	554.1	236.2	5.0	**795.3**	575.6	30.7	**606.3**	**189.0**	**4,936**	8.1
2017	571.4	233.0	5.1	**809.5**	609.9	31.5	**641.4**	**168.1**	**5,104**	8.0
2021	639.6	245.5	5.8	**890.8**	747.0	34.7	**781.7**	**109.1**	**5,631**	7.2
2031	812.5	252.3	7.3	**1,072.1**	1146.3	44.5	**1,190.8**	**(118.8)**	**5,670**	4.8
2041	1,024.4	109.7	9.2	**1,143.4**	1,654.9	57.0	**1,711.9**	**(568.5)**	**2,204**	1.3
2051	1,317.3	(278.7)	11.9	**1,050.5**	2,209.0	73.4	**2,282.4**	**(1,231.9)**	**(6,955)**	(3.0)
2061	1,671.7	(1,027.9)	15.0	**658.8**	2,867.2	95.0	**2,962.3**	**(2,303.4)**	**(24,517)**	(8.3)
2071	2,056.4	(2,449.0)	18.5	**(374.1)**	3,846.2	121.7	**3,967.9**	**(4,342.0)**	**(57,819)**	(14.6)

Investment income includes change in Revaluation Reserve & figures for 2012 are actual.

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

Year	Pensions, Grants & Benefits						Benefits as a % of:	
	Old Age Cont.	Invalidity	Survivors	Non-Cont. Old Age	Short-term	Emp. Injury	Insurable Wages	GDP
2011	319	50	20	19	39	6	15.4%	6.4%
2012	383	61	23	17	49	7	18.4%	6.4%
2013	357	49	23	14	48	7	17.2%	5.8%
2014	378	52	24	13	49	7	17.7%	6.0%
2015	398	55	25	11	51	7	17.8%	6.1%
2016	423	58	26	10	52	8	18.3%	6.2%
2017	452	61	27	9	53	8	18.8%	6.4%
2021	570	72	30	5	60	10	20.6%	7.0%
2031	925	92	41	0	76	12	24.9%	8.6%
2041	1,378	113	53	0	96	15	28.5%	9.9%
2051	1,858	144	65	-	123	19	29.6%	10.6%
2061	2,416	191	78	-	156	25	30.3%	11.0%
2071	3,294	230	100	-	192	30	33.0%	11.8%

Note: Figures for Old Age Non-contributory pensions are amounts for which NIS is financially obligated.

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

Year	# of Contributors	# of Pensioners					Total # of Pensioners	Ratio of Contributors to Pensioners
		Old Age Cont.	Invalidity	Survivors	Old Age Non-Cont.	Death & Disablement		
2011	121,088	23,169	3,656	2,732	4,108	339	**34,004**	**3.6**
2012	119,381	23,973	3,415	2,878	3,758	331	**34,356**	**3.5**
2013	116,490	24,834	3,568	3,010	3,419	346	**35,176**	**3.3**
2014	115,453	25,530	3,722	3,105	3,093	360	**35,811**	**3.2**
2015	116,312	26,283	3,882	3,191	2,782	374	**36,513**	**3.2**
2016	117,065	27,225	4,032	3,257	2,487	388	**37,389**	**3.1**
2017	117,718	28,124	4,163	3,306	2,208	399	**38,201**	**3.1**
2021	119,146	31,415	4,567	3,289	1,263	431	**40,965**	**2.9**
2031	116,722	39,482	4,811	3,379	96	452	**48,220**	**2.4**
2041	115,912	47,202	4,751	3,650	0	453	**56,056**	**2.1**
2051	116,344	51,047	4,804	3,645	-	457	**59,954**	**1.9**
2061	111,803	51,753	4,859	3,511	-	459	**60,582**	**1.8**
2071	102,020	52,839	4,371	3,346	-	417	**60,973**	**1.7**

Note: The number of Old Age Non-contributory pensioners shown are those for whom NIS is financially obligated.

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

Year	Cash Inflows				Cash Outflows			Surplus/ (Deficit)	Reserves	
	Contribution Income	Investment Income	Other Income	Total	Benefits	Admin & Other Expenses	Total		End of Year	# of Times Current yrs Expenditure
2009	523.3	193.6	6.1	**723.0**	398.9	28.2	**427.1**	**295.9**	**3,267**	7.6
2010	564.7	179.5	6.1	**750.2**	461.8	28.6	**490.4**	**259.8**	**3,525**	7.2
2011	541.6	239.1	6.1	**786.8**	463.1	28.0	**491.1**	**295.7**	**3,819**	7.8
2012	529.3	250.1	6.1	**785.5**	540.3	27.8	**568.1**	**217.3**	**4,036**	7.1
2013	514.1	251.1	4.6	**769.9**	496.7	28.5	**525.2**	**244.6**	**4,297**	8.2
2014	528.3	257.4	4.8	**790.5**	521.7	29.2	**551.0**	**239.5**	**4,537**	8.2
2015	563.7	267.4	5.1	**836.2**	548.8	30.1	**578.9**	**257.3**	**4,794**	8.3
2016	624.8	278.6	5.6	**909.1**	580.8	32.4	**613.2**	**295.8**	**5,090**	8.3
2017	651.7	290.4	5.9	**947.9**	617.8	33.9	**651.7**	**296.2**	**5,386**	8.3
2021	760.1	345.5	6.8	**1,112.5**	757.1	39.6	**796.8**	**315.7**	**6,611**	8.3
2031	1,072.9	545.2	9.7	**1,627.8**	1,159.9	56.5	**1,216.4**	**411.4**	**10,388**	8.5
2041	1,489.2	782.3	13.4	**2,284.9**	1,724.4	79.1	**1,803.5**	**481.4**	**14,850**	8.2
2051	2,035.5	1,067.9	18.3	**3,12.7**	2,414.5	109.0	**2,523.5**	**598.2**	**20,242**	8.0
2061	2,791.3	1,436.2	25.1	**4,252.7**	3,334.1	150.7	**3,484.8**	**767.9**	**27,207**	7.8
2071	3,784.5	1,849.0	34.1	**5,667.5**	4736.7	206.1	**4,942.8**	**724.7**	**34,914**	7.1

Investment income includes change in Revaluation Reserve & figures for 2012 are actual.

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

Year	Pensions, Grants & Benefits						Benefits as a % of:	
	Old Age Cont.	Invalidity	Survivors	Non-Cont. Old Age	Short-term	Emp. Injury	Insurable Wages	GDP
2011	319	50	20	19	39	6	15.4%	6.4%
2012	383	61	23	17	49	7	18.4%	6.4%
2013	356	49	23	14	48	6	17.0%	5.8%
2014	377	52	24	13	49	7	17.4%	5.9%
2015	398	55	25	11	52	7	17.3%	5.9%
2016	423	58	26	10	56	8	17.1%	6.0%
2017	454	61	27	9	59	8	17.4%	6.1%
2021	570	73	31	5	68	10	18.3%	6.4%
2031	910	97	43	0	96	13	19.8%	7.1%
2041	1,386	130	58	0	134	17	21.3%	7.8%
2051	1,950	181	76	-	183	24	21.8%	8.0%
2061	2,690	258	101	-	251	34	21.9%	8.0%
2071	3,872	342	138	-	340	45	23.0%	8.4%

Note: Figures for Old Age Non-contributory pensions are amounts for which NIS is financially obligated.

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

Year	# of Contributors	# of Pensioners					Total # of Pensioners	Ratio of Contributors to Pensioners
		Old Age Cont.	Invalidity	Survivors	Old Age Non-Cont.	Death & Disablement		
2011	121,088	23,169	3,656	2,732	4,108	339	**34,004**	**3.6**
2012	119,379	23,965	3,414	2,881	3,747	331	**34,339**	**3.5**
2013	117,352	24,808	3,566	3,017	3,398	346	**35,135**	**3.3**
2014	117,444	25,479	3,719	3,116	3,065	360	**35,740**	**3.3**
2015	119,445	26,197	3,878	3,209	2,748	374	**36,406**	**3.3**
2016	121,380	27,093	4,028	3,283	2,449	388	**37,240**	**3.3**
2017	123,189	27,939	4,159	3,341	2,167	400	**38,006**	**3.2**
2021	128,598	30,945	4,572	3,372	1,223	433	**40,544**	**3.2**
2031	130,930	38,051	4,910	3,569	90	464	**7,084**	**2.8**
2041	133,684	44,572	4,978	3,936	0	477	**53,963**	**2.5**
2051	132,528	47,812	5,156	4,039	-	493	**57,501**	**2.3**
2061	130,124	49,281	5,321	4,030	-	506	**59,138**	**2.2**
2071	125,585	51,785	5,062	4,027	-	485	**61,360**	**2.0**

Note: The number of Old Age Non-contributory pensioners shown are those for whom NIS is financially obligated.

Appendix D - Income, Expenditure & Reserves, 2009–2011

(Expressed in Millions of $'s)

	2009	2010	2011
Income			
Contribution Income	523.3	564.7	541.6
Investment Income	204.0	195.0	213.9
Other Income	4.1	4.9	3.8
Total Income	**731.4**	**764.6**	**759.3**
Expenditure			
Benefits			
Sickness Benefit	23.9	25.3	26.2
Maternity Benefit	9.4	10.1	9.8
Maternity Grant	0.3	0.2	0.3
Funeral Benefit	1.7	2.5	2.8
Old- Age Benefit	271.6	309.8	319.0
Invalidity Benefit	43.6	49.7	49.7
Survivors Benefit	15.5	21.0	20.2
Old- Age Non-Cont Benefit	22.0	22.7	19.4
Travelling Expenses	0.1	0.1	0.1
Medical Expenses	0.5	0.7	0.6
Injury Benefit	4.8	6.3	6.2
Disablement Benefit & Grant	5.3	13.2	8.4
Death Benefit	0.3	0.2	0.3
Total Benefit Expenditure	**398.9**	**461.8**	**463.1**
Administrative Expenditure	28.2	28.6	28.0
Total Expenditure	**427.1**	**490.4**	**491.1**
Excess of Income over Expenditure	**304.3**	**274.1**	**268.2**
Change in Revaluation Reserve	(10.4)	(15.6)	25.2
Reserves at End of Year	**3,266.7**	**3,525.3**	**3,818.8**

Appendix E - Benefit Experience & Analysis

Table E.1. Sickness Benefit Experience, 2009 – 2011

Year Ended	# Claims Awarded per 1,000 insureds	Average benefit Duration (days)	Average Weekly Benefit	Cost as a % of Insurable Wages
2009	382	8.7	401.1	0.82%
2010	419	8.8	391.0	0.81%
2011	389	8.3	469.1	0.87%

Table E.2. Maternity Allowance Experience, 2009 – 2011

Year Ended	# Claims Awarded per 1,000 insureds	Average Allowance Duration (days)	Average Weekly Allowance	Cost as a % of Insurable Wages
2009	13.3	67.5	581.9	0.33%
2010	13.8	65.9	632.8	0.33%
2011	13.3	65.6	653.6	0.34%

Table E.3. Maternity Grant & Funeral Grant Experience, 2009 – 2011

Year Ended	# Births	# Grants Awarded	Cost as a % of Insurable Wages	# Deaths	# Grants Awarded	Cost as a % of Insurable Wages
2009	3439	1,754	0.33%	2402	1613	0.06%
2010	3439	1,736	0.033%	2320	1489	0.08%
2011	3182	1,650	0.34%	2048	1586	0.09%

Table E.1 Pension Expenditure As % of Insurable Wages, 2009- 2011

Pension Type	2009	2010	2011
Old Age Contributory	9.34%	9.87%	10.60%
Invalidity	1.50%	1.58%	1.65%
Survivors	0.53%	0.67%	0.67%
Non-Contributory Old Age	0.08%	0.07%	0.06%
Disablement	0.14%	0.39%	0.20%
Death	0.01%	0.01%	0.01%
Total	**12.28**	**13.25**	**13.79**
Total Pensions (millions of $'s)	357.0	415.7	414.8

Table E.2. # Pensions Awarded, 2009 – 2011

Year	Old Age Contributory	Invalidity	Survivors	Non Cont Old Age	Disablement	Death
2009	1,742	562	391	-	198	3
2010	1256	448	348	-	213	-
2011	1705	485	342	-	353	3

THe National Insurance Scheme
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