

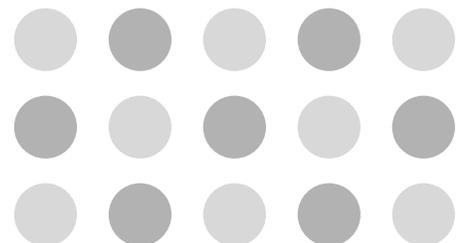
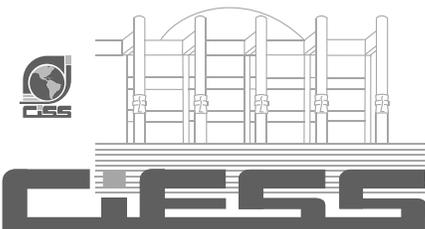
Inter-American Center for Social Security Studies (CIESS)

Research Coordination

Synopsis of the English-Speaking
Caribbean Social Security Systems

2013

Herando Perez Montas



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INTRODUCTION

Social security systems of the English-speaking Caribbean have been periodically evaluated¹, including, in some cases, neighboring countries such as: Aruba, Suriname and Guyana. Most of the analysis and works conducted have been of a sectoral nature (Forteza, 2008), international compilations (ILO/ISSA), or reports of actuarial valuations, with the exception of a comprehensive evaluation sponsored by the CARICOM² (Osborne, 2004), or the governance and performance (Henry 2004).

As a component of the research work conducted by the Inter-American Center for Social Security Studies, CIESS, the present report aims at providing a synopsis of all available information on trends, emerging challenges and available mechanisms to guarantee a healthy development and financial sustainability of social security systems in the region.

The basic objective is to provide the government and management bodies of the English-speaking Caribbean with a global vision of requirements in social security programs, in the medium term, so as to achieve adequate coverage and social protection levels in line with international parameters.

¹ Eighteen countries embody the English-speaking Caribbean: Anguilla, Antigua and Barbuda, Bahamas, Barbados, Belize, Bermudas, Cayman Islands, Dominica, South Georgia and the South Sandwich Islands, Grenada, Guyana, Jamaica, St. Kitts and Nevis, St. Vincent and the Grenadines, St. Lucia, Trinidad and Tobago, British Virgin Islands, U.S. Virgin Islands.

² CARICOM: Caribbean Community.

PRESENTATION

The research Coordination of the Inter-American Center for Social Security Studies (CIESS) has structured a work proposal based on the premise that one of its missions is to "generate knowledge, inputs and information that strengthens social security in all its dimensions" -social, cultural, economic and political-administrative. Therefore, CIESS decided to strengthen this work by structuring the economic, social and cultural complexity that influences the development of social security by describing and projecting it within this same complexity of linkages. We understand that this is necessary in order to avoid rhetoric proposal and diagnoses that are far from national contexts and social law and to contribute to the building knowledge on, and for, social security.

In between lines, the Coordination work aims at: "Motivating researchers to conduct analysis based on existing data, as well as, to generate new data from a social security approach".

By publishing the Synopsis on the social security systems in the English-speaking Caribbean elaborated by Hernando Perez Montas, we are taking steps towards the accomplishment of our mission. Perez Montas is one of the actuaries with greater knowledge on the English-speaking Caribbean, a member of the Actuarial Council for the United Nations Pensions Plan representing Latin America and the Caribbean, and a consultant of several multilateral organizations in social security, who has worked in the reforms of social security in several countries in the continent. Mr. Perez Montas is undoubtedly the best person to make a balance of the situation of the emerging pensions system in the Caribbean.

This publication presents an updated synthesis of the situation of social security in the English-speaking Caribbean from an actuarial perspective, based on the analysis of existing linkages between pensions, the labor market, demographics, the macro-economic equilibrium and the economic crisis. The result is a map of the socio-economic and demographic context in the Caribbean and its social security institutions; its implications and projections of income and expenditures, as well as, medium and long term scenarios, according to lifecycles faced by individuals in a speculative, volatile and changing economic context that pose a threat to the social possibilities for which it was created.

Based on the ideas of Ham Chand ³, it is always important to consider that in the case of demographic scenarios related to retirement pensions and health for the aging, it is necessary to work on behavior hypothesis which can somehow be controlled (migration, fertility, mortality), and that may or may not be accomplished.

The idea behind this study was to compile data in collaboration with the Caribbean institutions so that the research work itself is a collaboration process between the CIESS and the institutions in that region affiliated to the CIESS. Also, and as part of a larger proposal, it aims at sensitizing said entities in terms of creating a basic information compendium on social security

³ Ham Chande R. "The need of long-term forecast scenarios in social security". In: *Crossroads, prospects and proposals for social security in Mexico*, Coordinators: Berenice P. Ramirez Lopez and Roberto Ham Chande, El Colegio de la Frontera Norte, Mexico, 2012, pp. 119-138.

institutions in the Americas. We understood that the Synopsis should be elaborated based on the information provided by social security institutions including the databases already available through other sources. In fact, although information from other sources predominated over that of member institutions, CIESS is interested in promoting a debate around the importance of systems in terms of information, follow-up and evaluation by insurance branches, through an adequate statistical and sectoral registry system.

We hope that the publication that we are now pleased to share with the social security community indeed accomplishes its goal: to provide further knowledge, understanding, analysis and collective solutions to social problems for which the social security institutions were created. This publication represents the first initiative of the Research Coordination of the CIESS towards the path outlined at the beginning of this presentation. This work presents highly complex issues that are hard to address in a unidirectional, univocal manner. Thus, we value that an international renowned expert signs it. We also appreciate having the opinions of our audience along with suggestions for future research lines, aspiring to promote the debate on the problems and challenges that may arise, as well as to consolidating policy options based on national contexts within a framework of social justice towards building well-being societies.

Raquel Abrantes Pêgo
Research Coordination

SUMMARY

This report presents a synopsis of trends in social security systems in the English-speaking Caribbean and neighboring countries, with emphasis on pensions. This analysis shows the prevailing impact of the recent economic crisis on the region economies and the labor market, as well as, perspectives of a demographic and financial maturity of national pension systems, brought about by the dual effect of the economic crisis and the population aging that appear more strongly than the demographic transition in industrialized economies. This scenario calls for an agenda of parametric reforms of the defined benefits model, with more emphasis on second level adjustments, such as the rising of contribution rates, adjustments to the retirement age and adaptation of the pension formula. It is also necessary to optimize the yield of the investment portfolio and to contribute to the economic recovery through the creation of sustainable employment, promoting a second level of complementary pensions and formalizing pre-financed social health insurances that operate more efficiently through the cost- benefit binomial than traditional models. In the labor field, the creation of sustainable employment and diversification of the labor market in the English-speaking Caribbean, concentrated in the tourism sector, is key to achieve a better improvement of the economy, in general, and the social security systems in particular.

CHAPTER I
GENERAL FOCUS ON SOCIAL SECURITY
SYSTEMS IN THE ENGLISH-SPEAKING
CARIBBEAN

1.1 Beginning of Programs in the Caribbean

The following table presents the beginning of the social security programs in the region. The oldest belong to Jamaica and Barbados, and the most recent to the Turks, Montserrat and St. Vincent islands.

Table 1: Social security programs in the Caribbean

Year/beginning	Country	Number
1966/70	Jamaica, Barbados, Guyana	3
1971/75	Trinidad, Antigua, Bahamas	3
1976/80	Dominica, St. Kitts, Grenada, St. Lucia	4
1981/85	Belize, BVI, Anguilla, Grenada	4
1986 onwards	Montserrat, St. Vincent, Turks & Caicos	3
Total		17

Source: Osborne (2004)

Five countries had complementary social welfare regimes funds, including general and occupational regimes in Grenada and Jamaica for agricultural workers, paying compensation at retirement, but that were eliminated or reconverted during the establishment of the national social security programs. Osborne (2004) provides a description and in-depth analysis of the social security systems in the CARICOM countries, and the present report makes a synoptic evaluation of the impact of aging of the pension programs during the last eight years.

Social security systems provide monetary benefits defined by concepts as pensions, illness/maternity and work-related risks in an implicit manner when not expressed by the law, as in the case of Anguilla. Only one country has formally established a social security program in health (Turks and Caicos Islands, 2010). Antigua operates through a *Medical Benefits Scheme (MBS)* with operations and finances that depend on the social security system, which grant benefits for catastrophic risks, medicines and subsidies to the Ministry of Health. Since 2006, Belize has a pilot plan that covers two geographical regions, planned to be gradually extended to the national level in coordination with the Ministry of Health, initially financed by the Social Security of Belize (SSB) and currently by exclusive transferences of the Government and the Ministry of Health.

Other countries have developed analysis and projects for introducing national health insurance, such as the Bahamas, the British Virgin Islands (BVI) and Anguilla, but their implementation has not been feasible given the reluctance of those insured and their employers to make additional contributions to finance said programs, a process that may come to sharpen when it becomes necessary to rise the level of contributions for financing the pensions systems.

1.2 Pension Models in the English-speaking Caribbean

The pension systems in the English-speaking Caribbean are based on the defined benefit model. Adjustments to the financing bases according to actuarial recommendations and rates of investments return at a higher rhythm than the inflation and wages dynamics, would allow to have financial solvency of programs on the long term, along with parametric adjustments for the retirement age compatible with the increased life expectancy, eligibility conditions and the pension formula, to obtain replacement rates adapted to the requirements of a basic pillar of social protection, that, in developed economies, fluctuates between 30% and 70% of an average salary, according to the income level. It is not possible to foresee the feasibility of the English-speaking Caribbean countries to absorb the fiscal cost of a structural reform according to the defined contribution model, and the future trend seems to move towards promoting a complementary individual savings pillar, as in the case of Switzerland and its three pillars model, as opposed to imposing a structural reform that largely eliminates the principles of social solidarity from the social security systems.

These hypotheses presented by analysts are strengthened by the different approach on the reform by international organizations in relation to the virtues of the defined contribution model and the impact of the international crisis that had a more sever effect on said systems in comparison to the classic defined benefits systems.

1.3 Coverage for Independent Workers

Although most countries establish mandatory coverage for independent workers, in practice, the experience can be graded as rather deficient in several countries while partially acceptable in others. For the past ten years, Belize has had a voluntary affiliation program for coverage of independent workers that includes spouses that depend on the worker as eligible affiliates, as well as, an integral coverage of risks related to accidents in the workplace.

Said process is currently under review, including the stricter qualifying requirements for immigrants from neighboring countries, namely El Salvador and

Guatemala, as well as, in terms of controlling adverse selection and correcting previously mentioned issues.

The problem with the coverage of independent workers in the English-speaking Caribbean includes factors associated to the non-structured informal sub-sector with low income, and season work in economies that largely depend on tourism, increased informality and governance programs due to the general reticence of undertaking legal actions against workers that belong to reduced income strata, including the agricultural and fishing sectors, as well as, street vendors. A high proportion of said workers do not have a contributive capacity in terms of social security, including the bipartite quota employee/employer, although with smaller sums than those of the general scheme.

Osborne (2004) mentions effective coverage rates of 25% in Barbados and of 15% in Bahamas and St. Kitts. Recent analyses show coverage under 3% in Anguilla and Belize, with contributions from the independent sector of only 1% out of the total, including sub-valuation of taxing profits, irregular unjustified contributions among professional sectors. In some fishing countries they also express the impossibility of monetary quotas when an elevated proportion of their income is in-kind rather than money.

The problem of "profits" instead of "salaries" of independent workers still prevails, therefore assimilating profits to salaries. However, the establishment of a general health regime in the Turks Islands contributed to increasing the number of contributors.

Table 2: Independent Workers - Restriction of coverage

- | |
|--|
| <ul style="list-style-type: none">• Includes permanent and seasonal workers• Reticence to elevated quotas in the structured sector (professionals, formal business, etc.)• Lack of payment capacity of the non-structured sector (agriculture sector/fishing)• Possible adverse selection• Subsidized costs by the salary-earning sector• Very reduced effective coverage |
|--|

Source: Elaborated by author

1.4 Disability and survival insurance

The regional experience shows very reduced incidence of pensions for disability, associated to a labor force concentrated in the services sectors. Regarding pensions for survival, and given the incipient maturity of the pensions schemes, the volume of prevailing pensions is still very reduced in most countries, but the proportion will tend to increase in time. Both pensions categories are integrated into the branch of long-term pensions, which operates under the partial capitalization method.

The follow-up processes to determine the persistence of disability or incapacity, initially based on a decision of physicians appointed by the entity, are infrequent, as given the reduced population coverage, it is easy to determine if the pensioner has entered the formal labor market. Some countries as Anguilla are updating their eligibility criteria. Regional comparisons can be found in Peres-Montas (ISSA, 2003), and other ISSA publications.

1.5 Voluntary Contribution

Most regional legislations still contemplate the option of voluntary contributions when mandatory coverage ceases. By establishing mandatory coverage of independent workers, said disposition no longer has practical effectiveness, up to a point where in some schemes the number of volunteer contributors is practically non-existent. It has been recommended to eliminate said disposition from the legislation.

1.6 Actuarial Valuations

Most of the legislations establish actuarial valuations every three years or more frequently when authorities deem it pertinent. Belize has introduced the annual valuations modality, complemented with the evaluation of the investment portfolio, the health pilot plan, the volunteer regime for independent workers, and the non-contributory scheme transferred to the SSB. Anguilla also conducts "performance" analysis on a yearly basis, so as to verify the demographic, economic and financial trends. Annual evaluations of the actuarial financial performance must be formally applied to the remaining countries given the impact of the economic crisis in social security systems and the increased longevity of pensioners.

Annual valuations of "expected" expectations with those "conducted" has permitted to quantify the impact of the crisis on employment levels, and subsidiarily, on social security contributions, accelerating the financial and demographic maturity of programs.

The CISS (2004b) conducted a comparative study of actuarial studies in the American region, identifying weak areas such as alternative sensitivity estimators.

More recently, accounting-actuarial norms are requiring scaled and average premiums, besides from projections, the financing state between the present value of accumulated benefits and the available net assets as an appendix of the general report. This constitutes a controversial issue as, under the prevailing model of partial capitalization of the English-speaking Caribbean, there will always be considerable actuarial deficit, an issue that the social interlocutors tend to misunderstand, thus reinforcing the impression of program insolvency and further contributing to the efforts of the private financial sector towards a structural reform, adopting the defined contribution model.

1.7 Unemployment Insurance

In the English-speaking Caribbean, only Barbados has formalized a permanent national unemployment insurance scheme, co-financed by employers and employees since 1981, including public employees. Bahamas implemented a temporary unemployment insurance in 2009, through a public fund of \$20 millions during its first stage, designed to fight the impact of the financial crisis at the employment level, with a second stage of bipartite contributions of employers and insurers, in evaluation. Anguilla is evaluating the establishment of a "sectoral unemployment" fund for seasonal workers, but in the remaining countries the insurance for unemployment is still to be created, basically due to the aversion of employers and workers to generalized contribution rates in a labor structure of seasonal employment related to tourism, which would require a subsidy from the economic sectors with less cyclic employment levels.

Aguilera (CISS, Chapter VI, 2007) presents employment patterns in Latin America, the Caribbean and North America, including the Chilean model of individual accounts, although the employment rates and actuarial costs have tended to deteriorate since 2008, due to the economic crisis.

For the English-speaking Caribbean countries, the problem resides in the temporality of employments in the tourism sector, with high levels of temporary and sequential unemployment during the months of summer and autumn, that call for the design of specific mechanisms for unemployment insurance at an actuarial cost accessible for governments, employers and workers. This poses a specific regional challenge, not only due to the unemployment problem among young people but also among older workers in the pre-retirement stage.

1.8 Administrative overhead

Administrative overhead in the region remains at relatively elevated levels, except in Barbados, that presents one digit costs. The rest of the countries present two-digit rates with elevated levels influenced by maintaining financing rates and static contribution ceilings for long periods. When these parameters increase, the flux of income would rise to a rate that is much higher than the administrative overhead, generating a sharp decrease in the proportion of administrative overhead. The high level of administrative overhead is related to the geographic dimension and dispersion of contributors, and thus, the differential of rates between countries does not provide a direct indicator of the efficiency in program management. All the same, the high overhead expenditures in several countries weigh heavily on the financing of social security programs that are expected to decrease in the future when the institutions financial bases are updated.

Table 3: Percentage of Expenses in Taxable Wages

	2003/04	2010/11
Anguilla	23%	24%
Bahamas	20	24
Barbados	6	8
Belize (2011) ^{a/}	29	31
Turks Islands	21	24

Source: Osbourne (2004), National Reports (2010/11)

^{a/}Other countries in the region show rates from 10% to 16% of salaries.

1.9 Impact of Demographic Aging and Health Protection

As dependency rates increase rapidly in the English-speaking Caribbean, the requirements of health services and involved costs will also increase in a correlative manner. The problem consists in the absence of formal social benefits in health by the social security entities, as well as, in the reticence of private insurers to offer collective health coverage for pensioners.

The analysis conducted by Scheil – Adlung and Bonan (ILO, 2012) illustrates the impact in Western Europe countries. The analysis shows a growth rate of the population over 85 years of age that is three times superior to those of the general population, the need of sustained increase in public expenditures in health, and a growing trend of out-of-pocket expenditures by the aging population. They also show estimates of the OECD⁴ of public health expenditures of 5% of the GDP by the age of 50 and of 15% by 75 years of age approximately, and of public health expenditures that

⁴ OCDE/OECD: Organización para la Cooperación y el Desarrollo Económico.

are basically non-existent by the age of 60, with an exponential increase 40 times above than those by the age of 80. Aguilera noted similar trends for countries in Latin America and the Caribbean (CISS⁵, Chapter II, 2007), with estimates of 25% to 20% of the population over 60 years of age requiring health services due to chronic diseases.

These data shows the challenges faced by the English-speaking Caribbean countries in terms of social health protection, with trends of aging populations that accelerate faster than those of developed economies, and the lack of public finances to afford emerging costs. They also present the need to formalize social health insurance, co-financed by employers and active employees, and of Governments and passive pensioners.

1.10 Impact of the AIDS Epidemic

The perspectives at the beginning of the last decade in relation to the incidence of AIDS in the Caribbean region have been more favorable than initially foreseen. Bipartite scenarios for a developing country with an elevated incidence (Plamondon and Cichon, ISSA) 2001, showed significant impact in the GDP, in the finances and costs of pension and in health insurance. The intense prevention and information campaign of international organizations has been able to contain the incidence rates in the Caribbean region, with infection rates, by 2010, of a third in comparison to 2001 rates, (WHO⁶/UNAIDS, Progress Report 2011).

The following table, summarized from the WHO publications, shows the diversity of rates in the English-speaking Caribbean:

Table 4: Prevalence of AIDS (Adults 15/49 years), in percentage

Bahamas	3.1
Barbados	1.4
Jamaica	1.7
Trinidad	1.5
Cuba	0.1
Average	0.9

Source: WHO/UNAIDS (2010)

The following graphs show the development of the AIDS incidence in the region, with a notable decrease in the number of infected people and mortality related to AIDS. In global terms, Jamaica and the Dominican Republic experimented decreases in the range of 25%.

⁵ CISS: Conferencia Interamericana de Seguridad Social.

⁶ WHO: World Health Organization

Incidence in the Bahamas and the Dominican Republic is higher among the immigrant population in Haiti. In this last country the incidence rates within the sugar plantations are four times higher than the national average. However the antiretroviral treatments will have a significant impact on health expenditures.

1.11 Feasible Reform Models

In the English-speaking Caribbean, the debate on the defined benefit pension model, with a high level of inter-generational solidarity, or on the adoption of the defined contribution model has had little relevance. Neither the pension schemes financed under the model of scaled premiums have reached the actuarial maturity level of several schemes in Latin America or Eastern Europe, with a sustained increase of actuarial reserves and flux of positive cash in the medium term, nor are the public finances able to assimilate the actuarial liabilities resulting from a structural reform.

Some reports in favor of structural reforms consider the accumulated actuarial liabilities (present value of existing and in course of acquisition pensions computed bases on the imposable salary to the date of valuation, minus the program reserves under the closed fund criteria), as a deficit of public pensions. In fact, according to the scaled premiums model, said deficit is a joint responsibility of employers and employees, to be partially repaired by periodic adjustments in contribution rates. Only in case of program insolvency, would the State be responsible of the pensions coverage, an unforeseeable issue in the medium term for English-speaking Caribbean programs, with a liquidity goal of over two decades for most countries, and with two-digits reserves in relation to the GDP. On the other hand, it would be necessary to substantially increase the bipartite contributions from employers and employees in the defined contribution model would be necessary, with a negative incidence in the level of employment and inflation.

Previously mentioned parametric reforms will guarantee the continuation of a defined benefit model in the long term as in North America and Europe. This model does require a process of optimizing the product of investments, as will be mentioned further on.

Regarding the risks faced by both models before future financial crises, it is evident that the reduction of assets resulting from loss of investment portfolio has a smaller incidence in those insured by the defined benefit scheme, as the pension formula is independent of the reserve total, while in the defined contribution model, the pension depends on the individual account total. Loss of assets and the rapid decrease of interest rates, a process that has affected most of the English-speaking Caribbean

countries, also have a negative impact in the individual account total and the pension of cohorts of new pensioners in the immediate post-crisis stage.

In this sense, the report of the Independent Evaluation Group of the World Bank has drastically modified its initial positions in relation to the structural reform, by ruling (World Bank, 2005):

- “...there is small evidence that the private capitalization pillars have been successful in the increase of national savings or the development of capital markets”.
- “...the concern of the Bank regarding fiscal sustainability would tend to overshadow the wider objective of the pensions policy, that is, to reduce poverty and to improve the adaptation of income by pensions to a scenario of fiscal restriction”.

Reports of ILO also show elevated transition costs, high administrative overhead due to commissions, and low expected substitution rates, especially for women or people with brief or interrupted careers, a prevailing situation in the English-speaking Caribbean (ILO, 2009).

Table 5: AIDS trend in the Caribbean

2.5 Caribbean

2.5.1 Fewer people newly infected and fewer people dying from AIDS-related causes

Fig. 2.25 Number of people living with HIV, Caribbean, 1990-2010

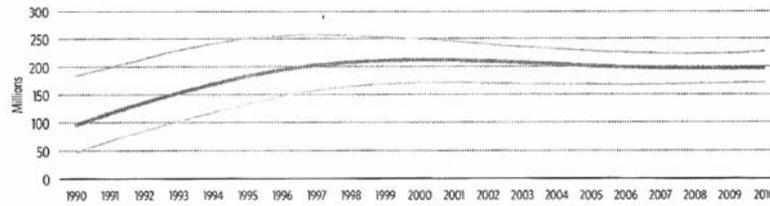


Fig. 2.26 Number of people newly infected with HIV, Caribbean, 1990-2010

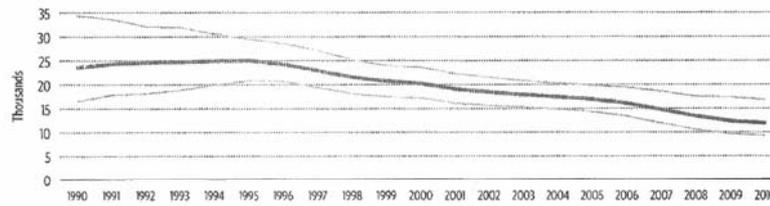


Fig. 2.27 Number of people dying from AIDS-related causes, Caribbean, 1990-2010

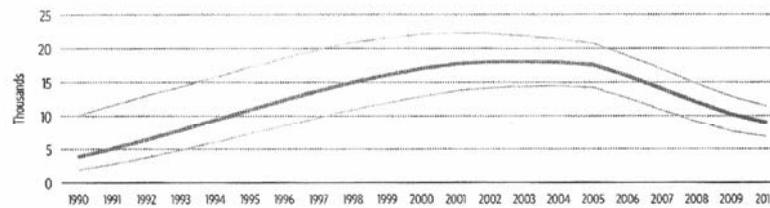
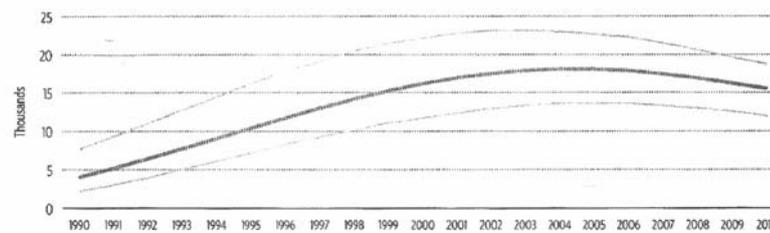


Fig. 2.28 Number of children 0-14 years old living with HIV, Caribbean, 1990-2010



Source: Ex-treaty of WHO/UNAIDS

1.12 Levels of informality and Poverty

There are no recent indicators on the trends of informality and poverty in the region, which have been affected by the economic crisis at the employment level. However, Trinidad and Tobago, in response to the CIESS survey, shows as part of the actuarial valuation, by June 30, 21010, a total of 130,890 independent employees, 27% of contributing insured employees, although the number of seasonal workers and those with vulnerable employment could rise said proportion.

Regarding the distribution of income, there are no recent Gini index indicators, although it is possible to deduce that the levels of equity and income distribution are more progressive than those of most Central American countries, but inferior to those of industrialized economies.

1.13 Right to Social Security

The Committee of Experts on the Application of Conventions and Recommendations of ILO has recommended updating the Minimum Standards 102 (1954) and subsequent conventions and recommendations (No. 67/1944, No. 69/1944, and No. 168/1988). To said effect, the ILO Conference, during session No. 100 of 2011, formulated an extensive series of analysis and recommendations (Social Security and the Rule of Law, 2011), updating the basic principles of social security and legal norms to extend coverage. In relation to financial issues, the Committee places emphasis on the subsidiary responsibility of the State to guarantee adequate financial bases, the protection of cyclic fluctuations and the maintenance of the acquisitive power of pensions. The ILO Conference of 2012 ratified the right to universal coverage through a "basic social protection floor".

1.14 Towards a Culture in Social Security and the Right to Social Security

The Declaration of Guatemala, approved by the directive staff from CISS, CIESS, ISSA and ILO in 2009, places emphasis on the importance of promoting a social security culture, as means to mitigate the effects of the economic crisis and sustainability in the long term of the social protection criteria, in support of the education and cultural pillars of social security. It also highlights the role of social security in the fight against poverty and as a shock absorber of the economic crisis, while also boosting economic development.

CHAPTER II
ANALYSIS OF THE DEMOGRAPHIC AND
ECONOMIC IMPACT

2.1 Sequence and Prevalence of Global Crisis

The financial crisis had a severe impact on national pension systems both in industrialized countries, as well as, in emerging economies. The crisis that began on September 2007 has been the most severe in the last 50 years. It started as a **financial crisis** of the banking sector associated to foreclosure "trash outs", and went on to become an **economic crisis** with high recession levels that brought about a severe **social crisis**, strong consequences on the **unemployment levels**, standards of living and, in particular, the pensions systems. Although several English-speaking Caribbean countries show signs of sustained recovery, in others, the high levels of unemployment, suspension of investment projects, and the deterioration of public finances continue to have a negative influence on the pensions schemes. If recovery will be a **V type (fast/V-shaped recovery)**, **U (delayed/U-shaped recovery)**, **L (largely delayed/L-shaped recovery)**, or **W (recurring/W-shaped recovery)**, is still incalculable, although experiences from Europe and some English-speaking Caribbean countries show that the effects of the recent crisis have not ceased.

Along with the demographic impact due to population aging, the impact of the reserves accumulation is having a negative impact on the partial capitalization systems in the "period of actuarial equilibrium"⁷, but without affecting the sum of existing pensions and marginally influencing the richness of pensions to be conceded in the short term, as long as the contribution density, unemployment and pensionable salary previous to retirement age decreases in the defined benefits schemes of the English-speaking Caribbean.

2.2 Impact of Demographic Aging

The process of demographic aging will be one of the variables with larger impact on the regional pension schemes in the next decades. As opposed to the gradual aging of populations in industrialized countries, projections for the next 20 years in developing countries show increases superior to the dependency rates (populations over 60 or 65 years of age divided by the population of 15 years of age). The impact of the financial situation will reflect on sustained increases of the distribution premiums at a higher rate than the one experienced by pensions schemes in industrialized economies.

⁷ Number of projected years when equivalence is reached between income by contributions and that resulting from investment, and expenditures by benefits and administration. Without financial adjustments, reserves will begin to decrease as of said period.

The aging of population is not the only reason to explain the reform of social security systems. Other elements emerge from the existing maturing process of systems, or from the concern of the inadequate anticipated financing of future obligations and the conception problems of current systems, that sometimes create perverse incentives that influence the declaration of income and the compliance with contributions payment according to Daykin (ISSA, 2000).

Data compiled for Canada (Menard, ISSA 2013) show increased life expectancy at age 65 at a rate of 1 year per every 10 years, during the period of 1961/1996. While in India the increase of life expectancy at age 60 has been more spectacular, of only 9 years in 1970 to 20 years by 2010, that is 2.75 years per every ten years (Blumenthal, ISSA, 2010).

Although life expectancy at Age 60 in some industrialized countries and the English-speaking Caribbean show differences of three years in average, the projections show increased dependency rates in the English-speaking Caribbean at a higher rate than that experienced in the past, and the one projected for industrialized countries. International compilations estimate an increase in dependency rates of the aging population in the region, from 13% in 2010, 21% in 2030 to 30% by 2050. Some authors have also elaborated "dependency indexes of formality" that allow to more precisely measure the process of development of the pensions systems (Uthoff and Conte-Grand, CIESS, 2011).

The analysis also shows that in industrialized countries, where the demographic transition process is far more advanced, the progression of dependency rates tends to notably reduce by 2030, but continue being intense in the English-speaking Caribbean, although at a slower rhythm for the next 18 years (2013/30).

Reduced rates in Belize result from the intense migratory process of neighboring countries in the last decade, while the prevalence of fertility rates are more elevated than those of the rest of the CARICOM. However, the migratory process has tended to decrease in recent years, with a possible acceleration of the dependency rates in the future at a faster rhythm than international estimates. Japan has the largest life expectancy in the world, along with Macao, and is also the country with dependency rates of more than one pensioner per two active workers by 2030, and a higher rate by 2050.

Although life expectancy at age 60 of some industrialized and developing countries shows marginal differences, the analysis of the dependency rates presents a superior picture of financial-actuarial maturity for the English-speaking Caribbean.

The following charts and tables summarized from ILO's social security report (2010/11), show differences between industrialized countries and the Caribbean, trends in dependency rates in the region and geometric growth rates.

Table 6: Life expectancy at age 60 (2005/10)

	Years
Japan	25.1
United Kingdom	22.3
France	24.3
Bahamas	20.7
Barbados	20.9
Belize	21.9
St. Vincent	17.8

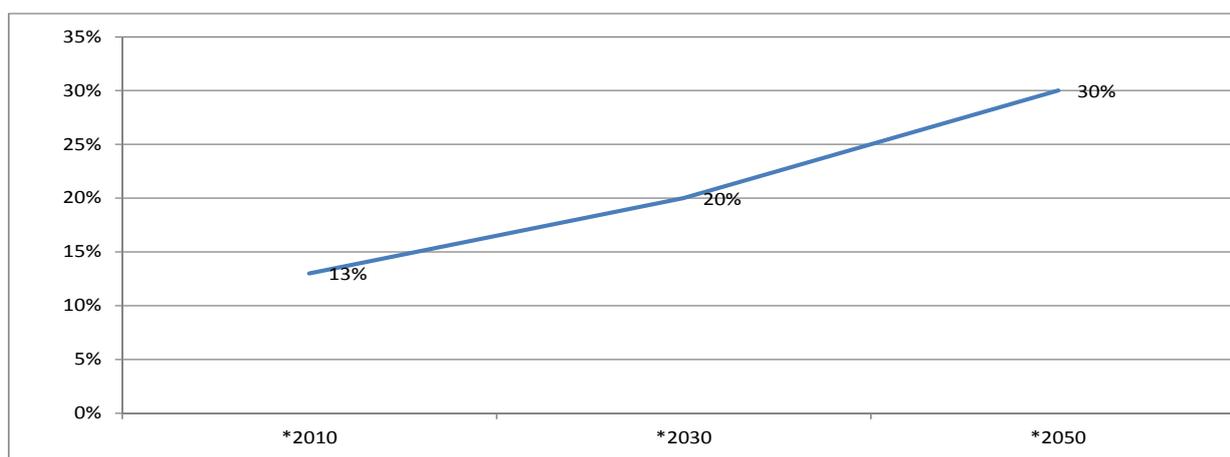
Source: ILO World Social Security Report 2010/11

Table 7: Dependency Rates of Aging Populations in the English-speaking Caribbean

	2010	2030	2050
Caribbean Region	13	21	30
Aruba	14	34	39
Bahamas	10	20	32
Barbados	14	36	51
Belize	7	11	21
Grenada	11	17	31
Jamaica	12	20	28
St. Lucia	10	16	29
St. Vincent	10	18	26
Trinidad & Tobago	10	21	36

Source: ILO World Social Security Report 2010/11.

Graph 1: Dependency rates in the English-speaking Caribbean



Source: ILO World Social Security Report 2010/11.

Table 8: Dynamic of Dependency Rates in the Aging Population

Countries	Year			Geometric rate of Annual Growth	
	2010	2030	2050	2010/30	2030/50
Japan	35.1	52.8	74.3	2.1	1.7
United Kingdom	25.1	33.6	37.7	1.5	0.6
France	26.2	40.9	47.3	2.3	0.7
Bahamas	10.3	20.4	32.4	3.5	2.3
Barbados	14.4	35.9	50.8	4.7	1.8
Belize	6.7	11.3	21.0	2.6	3.1
St. Vincent	10.0	18.3	25.7	3.1	1.7

Source: ILO World Social Security Report 2010/11.

2.3 Impact of the Financial Crisis

The financial crisis at the end of the last decade became a global economic crisis that generated high levels of unemployment and underemployment that affected and continue to have a negative impact on the social security schemes in the region. Many English-speaking Caribbean countries suffered material losses in their investment portfolios (completed and incomplete), affecting the levels of capitalization of programs although their capacity regarding contractual commitments with the uninsured remained unaffected, partially due to the personal model of defined benefits (DB) where the level of benefit is independent of portfolio losses as opposed to defined contribution models (DC), where the loss of actives is immediately reflected in individual accounts and new pensions of cohorts of pensioners in the years after the crisis. The multiple effect of the loss of actives, the decrease in contribution rates and new level of employment had an impact on all social security schemes in the region, many of which, by the end of 2012, had not been able to recover their financial-actuarial potential including the tourism sector, that is vital for countries in the region. Public finances have been indirectly affected, resulting in the adoption of fiscal and monetary measures that will affect some national pension schemes that should have eliminated the macro-economic situation through investments in the public sector.

The largest financial losses had place in those countries that had investments in foreign capital markets, and that settled liabilities in the stock markets incurring in a substantial loss of actuarial reserves. The stock markets, particularly in North America, have practically recovered, but internal guidelines in several nations show reticence in terms of investing funds in foreign countries. In other cases, internal or regional financial entities collapsed, resulting in additional losses. The same occurred with internal investments (commercial sectors linked to the tourism sector).

In spite of investment policies or guidelines, most regions in the English-speaking Caribbean still have draconian rules regarding investments, with discretionary use of public powers to influence the decision-making processes of directive councils and investment committees regarding investments. The crisis also affected budgets destined for the health sector at the national level.

Models of financial and economic crises may have several variations. The ideal variant is the V variant, with a fast recovery, but in countries such as Japan, they present an L model, with a prolonged recession through the years. Other model, type W, is reflected in consecutive recessions for short periods of time, fears that currently prevail in several Western European countries, that are indirectly reflected in the English-speaking Caribbean given a reduction in the activity levels of the tourism sector, the hotel infrastructure projects associated to tourism, and the capitalization levels of the external investment funds (offshore), recently affected by requirements from industrialized countries in relation to bank secrecy, which will have a direct impact on several countries in the English-speaking Caribbean.

ILO's report (2010/2011) regarding the response to the economic crisis, emphasizes protection policies for the unemployed and the creation of sustainable employments, an area of basic social benefits that is very limited in the English-speaking Caribbean, besides Barbados and focal projects in the Bahamas. Anguilla is exploring sector-wide programs of unemployment subsidies to work associated to the tourism sector. Other countries are also evaluating policies in this sense, but the main obstacle, as in the social health insurance, is to materialize adequate and sustainable financial bases for tripartite sectors.

In any case, it is possible to perceive that the reform agenda in the sub-region must contemplate formalizing unemployment programs, as well as, social health insurance programs, that imply high levels of "out-of-pocket expenditures" that have a larger impact on the low income population strata, most affected by the economic crisis.

2.4 Impact of Aging in the Actuarial Costs of Retirement Pensions

In order to quantify the impact of distribution costs, the expectations regarding growth trends were calculated so as to quantify the impact of distribution costs, by considering an average replacement rate of 50% of the pensionable salary. Given the partial coverage of several national pension schemes in the region, the distribution costs could have material variations in relation to those assumed by the universal coverage, in particular when non-contributory pension programs exclude important segments of the population.

Data shows existing expectations of a substantial increase of distribution costs that would, on the medium term, exceed the financing rates of the pensions schemes, a process that has already taken place in some countries given the freezing of the contributory ceiling along with the contribution rates for over a decade.

Anguilla's economy has been severely affected by the economic recession and has the highest increase of distribution costs on the long term, although high contribution rates for the pensions branch in a young scheme still generate financial surplus between significant contributions and expenditures for more than 15 years, a similar situation to that of the Turks and Caicos Islands, where the pensions system has had a negative impact as a result of inflation, and reduced employment levels. On the other hand, Belize has less than a decade to face adjustments in financing rates and the contributory ceiling, a situation related to financing rates that are much more inferior to those in other countries in the region, the cost of non-contributory pensions.

Table 9: Distribution Costs with Average Pensions of 50% of the Final Salary ^{a/}

Countries	2030	2050	Annual Growth Rate (2010/30)
Aruba	17	20	0.6
Bahamas	10	16	1.5
Anguilla	12	38	32
Barbados	18	26	4.8
Belize	6	11	3.0
St. Lucia	8	15	2.4
St. Vincent	9	13	3.0%

Source: Elaborated by author

*Assuming a demographic dependency rate of the general population equal to that of the insured by the national pensions regime. It excludes overhead expenses.

2.5 Impact in Reserves

The reduction of reserves or the financial assets reduce the "equilibrium period" of the DB but only marginally affecting the total of accumulated pensions, transferring the actuarial deficit to future generations. The same occurs with a potential decrease of the real return rates of portfolios, in case inflation levels come back, **due to the implementation of monetary policies destined to promote the solvency levels of the economic agents, the credits demand and the employment levels.**

Table 10: Synoptic scheme of the crisis impact

Reduction of	Scheme in DB	Scheme in DC
Actuarial Reserves	<PE / marginal effect in the total of future pensions	<CI / Negative impact on replacement rates
Real Future Yield	<PE / Efecto marginal en el monto de las pensiones futuras	< CI / Negative impact on replacement rates
Employment Levels	< DENS / Negative impact on future replacement rates	< CI / Negative impact on replacement rates
PE: Actuarial period of equilibrium DENS: Density of contributions < Reduction		

Source: Elaborated by author

2.6 Impact of Demographic and Economic Trends

Table 11: Demographic and economic trends

<ul style="list-style-type: none"> • Economic growth: Increases employment and contributions. Extends actuarial maturity. Inverse effect on recession scenarios. • Elevated fertility or immigration: Reduces the actuarial maturity process and the dependency rates. • Decrease of mortality: Increases the duration and cost of pensions and of elevating the actuarial maturity process. • Seasonal work: Increases multiple employment, informality and tax evasion. • Unemployment: Increases the cost of non-contributory pensions and reduces contributions. • Delay of retirement age: Reduces the actuarial cost and the duration of the pensions payment. • Tax evasion and under-declaration of salaries: increases the cost of program by adverse selection with a slanted pension formula instead of a linear formula.

Source: Elaborated by author

2.7 Maturity Level of Pensions Schemes

Two or three decades since the establishment of the pension schemes, the demographic relation between pensions and contributors is highly influenced by the demographic structure and the population dependency rates, as the eligibility requirements, heavier during the first ten years of the work activity, are rather shapeless. To a larger operation period corresponds a larger "demographic relation" of the scheme, also affecting the distribution cost. It is important to note that the

demographic relation between pensioners and active contributors differs from the conceptual "dependency rates" that can be applied to the general population.

The capitalization rate, measured by the multiple of reserves in relation to the annual expenditures, is influenced by other factors, such as: the level of contributions, the normal retirement age, the operation period, pension adjustment policies, and the real yield of the investment portfolio.

The following are useful indicators to measure the maturity of pensions schemes in the region: i) the "inflexion point" between contributions and expenditures, which would derive in "current deficit", ii) the number of missing years for the contributions and the investment product to become equivalent to expenditures (equilibrium period), iii) and the capitalization rate or quotient of reserves value in relation to expenditures.

The following table presents indicators for countries selected in the region during the past eight years. The distribution costs (expenditures in percentage of taxable salaries) has tended to gradually increase in the analyzed period, and exceed the statutory contribution rates (current deficit) in some schemes. The capitalization rates, in exchange, continue to increase in several countries particularly in those more recently established or in those that have more frequently adjusted their contribution rates or taxable ceilings.

Table 12: Indicators of pensions schemes in the region

	Capitalization rate ^{1/}		Cost or Pensions Distribution ^{2/}	
	2003/04	2010/11	2003/04 ^{a/}	2010/11
Anguilla ^{a/}	14.2	20.8	6.2%	7.6%
Barbados	5.5	7.4	14.1%	15.0%
Belize	6.0	7.0	7.7%	5.2%
Turks Islands	9.9	11.9	3.6%	4.4%

Source: Data of the Osborne study and results from the CIESS survey

^{1/}Reserve as a multiple of the annual expenditure

^{2/}Expenditure in percentage of taxable salaries (contribution premium or PAYG)

2.8 Replacement Rates and Richness of Pension

The analysis conducted by Miranda (CISS, 2012) shows the impact of contributory ceiling in the replacement rates in the English-speaking Caribbean pensions. The average gross rates fluctuate between 40% and 50%, averaging 43%, with inferior rates in Aruba, that has more extensive complementary social welfare regimes that in other countries. The replacement rates in relation to real salary are higher in 10% (average), mainly due to tax exemption in the region. However, the replacement rates in relation to real salary decrease for higher salary levels, given the contributory ceiling

effect. In countries with reduced contributory ceiling in relation to the average salary, the replacement rates for the segment with a multiple of five times the average income, decrease to a level below the one required by ILO for all countries in the region. This is evidence of the dual need to: i) more frequently adapt the contribution ceilings and, ii) formalize complementary pensions schemes.

The report also analyses the "richness of pension" a term applied to the number of times of the present actuarial value of annuities **in relation to the annual salary**. Calculation bases are based on regional mortality rates, inflation of annual 2.5%, annual 2% salary scale, discount rate post-retirement of annual 21% (0.5% lower than inflation), net rates of investment return at an annual 3.5%, and automatic pension adjustments. These assumptions generate real interest rates during the pre-retirement stage of only 1%, which tends to increase the present value, annuity, and to deflate the richness of pension. However, in developing and industrialized countries, the expectation range of real interest rates fluctuates within a range of 2 to 3.5% per year, and in relation to the assumptions of real interest rates in the post-retirement age is of 1.5%.

Simulations in the English-speaking Caribbean produce a present value of pension equivalent to an average 6.3 times the annual salary, according to unisex tables, with higher rates for the strata with income of up to two average salaries.

For average replacement rates from 40% to 50%, the richness of pension indexes translate into a present value of annuities at the retirement age of 60 to 65 years of 12.6 to 15.7, which is compatible with the life expectancy of the sub-regional population.

These research works, similar to the indicators for OECD countries, must represent an essential component, not only of the national research agenda of specialists in quantitative analysis, but also in training programs of international organizations, including monitoring and adaptations of real return rates used in said evaluations, a variable of determined incidence in the richness of pension value.

2.9 Parametric Reforms

Given the gradual actuarial maturity process of the national pension schemes in the English-speaking Caribbean, several of which have already crossed the "first level of inflexion", characterized by contributions below the benefits plus overhead expenditures, and that are gradually approaching the second level of "break-even point", with contributions plus the product of investments below the total expenditures, the required adjustment of the contribution rates can be mitigated by parametric

reforms to the benefits and qualification profiles. Among these, it is possible to highlight the following:

- Increase of the taxable ceiling, with an indirect effect on actuarial liabilities by elevating differed obligations of the insured with incomes higher than the prior contribution ceiling.
- Gradual increase of retirement age, a generalized process in industrialized economies given improvements in the life expectancy of the retired.
- Linear pension formula, as the most relevant original formula for the first contribution years is not justified after decades of operating the system, besides from providing an incentive to the contribution evasion.
- Extension of the period for calculating pensionable compensation to avoid induced adjustments in the years previous to retirement.
- Gradual increase qualification periods for pensions due to aging that still prevail after 10 years in most countries.
- Improved control of the evaluation of disability or incapability, although incidences in the English-speaking Caribbean show controlled pensions rates due to this cause.
- Adjustment in the pension formula to reduce replacement rates at maximum of 67%, a range of 50% to 60% of the pensionable compensation, simultaneously developing a second complementary pillar of defined benefit or contribution.

Table 13: Parametric reforms to the defined benefit model

Parametric reform to the defined benefit model <u>Existing in the Past:</u> Adjustment of the Contribution Ceiling (<i>ad hoc</i>) Adjustment of generalized pensions or to the minimum (<i>ad hoc</i>)	
<u>Future Trends</u>	
1st Level:	Continued adjustment trends (<i>ad hoc</i>)
2nd Level:	Contribution rate Retirement Age Pension Formula Pensionable salary Accumulation rate (linear / slanted)
Minimum qualification period	

Source: Elaborated by author

2.10 Need to Create Sustainable Employment

The impact of the economic crisis in the region brought about an increase in the global unemployment, partial or seasonable employment, and informality rates. The employment report of the World Bank shows a direct co-relation between the GDP per capita, the social security coverage and the medium salaries as expressed in attached tables. But recent indications show either freezing or even reduction of salaries in several countries of the English-speaking Caribbean, so as to mitigate the negative impact of the crisis on public finances, that represent a proportion of contributions to social security higher than those of more developed economies.

Even more concerning are ILO's revelations on the Global Employment Trends (ILO, 2013), on relevant issues that have a negative impact on the social security systems of the Caribbean, confirmed by the stagnation and reduction in real pensions of the contribution to social security in several countries of the region.

The global labor markets are again deteriorating: five years after the global financial crisis, the global growth has decelerated and unemployment has begun to increase again. Those regions that have been able to prevent an additional increase of unemployment have frequently experienced deterioration in the quality of employment, as vulnerable employment and the number of workers living below or near the poverty line have increased.

Young people are still specially affected by the crisis: The crisis has drastically reduced the perspectives of the labor market for young people, as many experience long-term unemployment since joining the labor market, a situation that has not occurred during the prior cyclic contractions.

The growth of productivity has considerably decreased, impeding new improvement in life standards: In this regard, there is a special concern in relation to the trend of deceleration in work productivity observed in certain regions in Latin America and the Caribbean.

Executive authorities need to adopt policies to recover from the second relapse of employment: The deterioration of macro-economic conditions and the labor market in many countries, along with the risk of a permanent employment crisis call for additional political actions that could include, intensifying the investments in domestic projects to intensively use the workforce.

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employment quality, as the vulnerable employment and the number of workers living beneath or near the poverty line have increased.

Table 14: Reasonable expectations of replacement rates in defined contribution schemes

- With real return rates of an annual 2% to 3% (pre and post-retirement)
- A relation "contributory period/pension period" of 30/20 years
- The accumulation rates for pension with contribution of 10% of the salary to an individual account, vary from 0.80% to 1.1% per year, and 1.4% with real return rate of an annual 3%.
- Life annuities of 25% to 42% of the salary (ex-commissions), and even lower with reversionary rents for surviving spouse after a life of work.
- These replacement rates do not guarantee economic security at retirement and are below the ILO's standards.
- Higher real return rates in larger periods of time are questionable in most countries, in particular in case of existing restrictions for investment policies.
- The financial, economic and social crisis is restricting the labor market and reducing the density of contributions, further deflating the future potential of replacement rates.

Source: Elaborated by author

2.11 Impact on the Financial Sector

Several countries in the region have developed important financial and insurance centers, with stable employment levels and high-income level. The financial crisis has had an impact on the financial sub-sector employment level, and also in the postponement of investment projects along with a decrease of passive interest rates of the banking sector. There has been a significant negative impact in countries such as Anguilla, Antigua and the Turks Islands, among others, as will be stated further on.

Escudero (ILO, 2009) identifies the four following challenges for the financial sector, one at the global level, and other three of a sectoral nature: i) The estimation of the global financial crisis currently happening in Europe, ii) the decrease of activity and employment levels after years of expansion, iii) the freezing or decrease of increases to income, and iv) a restructuring or fusion of financial entities, reducing the employment levels, issues being weighed by the Caribbean Development Bank and national banking entities.

The crisis has also resulted in the bankruptcy of several financial and insurance entities, where the social security programs had investments, thus creating numerous losses of the actuarial reserves of pensions programs. As a result, the investment policies of social security funds in the CARICOM area are undergoing an integral review, besides from debilitating the solvency levels of national banks.

CHAPTER III
PORTABILITY AND INVESTMENTS

3.1 Transfer of Rights (Portability)

The guarantee of accumulated rights to pensions by insured workers in case of change of employment or re-affiliation to the national pensions system of another country, is a major concern for international and regional organizations, originating bilateral or regional agreements that aim at guaranteeing the acquired rights, or by internal norms basically applied to complementary schemes.

Said agreements, besides from ensuring the "portability" of pension rights, facilitate migration movements and work mobility. For instance, ILO approved Convention No.157 for the maintenance of Social Security Rights, that has been ratified by very few developing countries.

Similar standards are in force in the OECD European region countries, that register an intense internal migration flow. For the English-speaking Caribbean, basic dispositions in this regard can be found in the Social Security Agreement of the CARICOM members (1996), complemented by the Social Security Convention of the Organization of Eastern Caribbean States (OECS) and by bilateral agreements with Canada and the United Kingdom.

Regardless of the time passed since the CARICOM agreement, only a limited number of insured workers have had their acquired rights validated, a process that has also been restricted by the recent economic crisis, resulting in increased unemployment and work informality, along with the return to their countries of origin of a significant group of workers that were unable to complete the basic qualification periods, a condition required by the CARICOM agreement for validating rights acquired in other countries. The differences in the benefits profiles among countries also require a process of legal harmonization.

The migration patterns in the region also contribute to restricting the validation of rights. For instance, several workers of the British Virgin Islands (BVI), Anguilla and St. Kitts, migrate to the United States of America, including the Virgin Islands, that did not sign the bilateral agreements with the CARICOM countries. The same occurs with workers from Jamaica, Bahamas and the Turks and Caicos Islands. The migratory flow between the CARICOM countries is less intense than that with the United States of America or Canada.

Data published by Forteza (2008) shows that over half of the migrants from the sub-region left for the United States of America, while only 1% remained in other states of the sub-region. The strongest migratory flow of the sub-region took place at the beginning of last decade between the CARICOM countries and the United States, in comparison to a limited flow experienced between the CARICOM countries.

Besides the possible loss of acquired benefits of the insured workers in the CARICOM signatory countries due to non-compliance with the qualification periods, the design of the CARICOM agreement may generate distortions, due to pension formulas that generate a larger intensity of acquired rights during the first contribution years (slanted as opposed to linear contribution), at an annual 3% applied in various schemes during the first 10 contribution years, and 1% per year in following periods, resulting in higher replacement rates with validation of rights in several countries, in comparison to replacement rates when the contribution period had been accredited in only one country. Actuarial consultants have recommended not only the adoption of a linear formula for future services, but also an extension of the qualification periods. The original reduced qualification periods were justified when the social security programs were created, but not after 20 or 30 years of operation, with few contributors that will enter the workforce over 40 years of age. The dual effect of reduced qualification periods with a slanted formula that generate a basic pension of 30% of the salary after only 10 years of contribution, has promoted high levels of evasion in the sub-region, particularly among independent workers.

The practical applicability of the CARICOM agreement would be improved by eliminating the requirement of complying with qualification periods for validating the rights to pension in other country, by allowing the "totalization" of contributory periods. But said measure should be accompanied by complementary measures to decrease the adverse selection of those insured, as well as, to achieve a level of uniformity of replacement rates in line with contribution periods in the different schemes, including updating the retirement ages, and the actuarial reduction for anticipated retirements. Said amendments in the work agenda of countries in the sub-region are also advised by the reduction of the labor density, the consequent increase of unemployment and underemployment in the region resulting from the economic crisis.

Regarding the financial compensation between pensions schemes, that essentially operate under the distribution model through partial capitalization, the most explicit mechanism seems to be distribution of the pension cost according to the proportionality formula, instead of transferring reserves according to actuarial liabilities accumulates in each scheme. The latter would only be advisable in the case of complementary pension schemes on an immediate base at the time of cessation and re-affiliation to the new pension program.

In this last case, the number of years subject to validation and/or provision of pension to be recognized by the new plan, would depend on the value of the transferred actuarial reserve, instead of the numbers effectively worked in the original complementary pension plan, if both are defined benefit programs. In joint defined

contribution programs, this situation would not exist, as the transfer would equal the accumulated value in the individual capitalization account. Said rules would be adjusted in case of transfers between defined benefit and defined contribution plans.

The economic crisis has had a serious impact not only in the employment levels but also in terms of restricting migration flows and increasing labor informality. The impact created by this process has a direct incidence on the effectiveness of the CARICOM Agreement, thus being advisable to update the quantitative impact and desirable amends to said Agreement at the sub-regional level, so as to achieve the preservation of acquired rights in social security systems in the sub-region.

3.2 Duality of Social Security Pensions and Pensions for Public Employees

Most of the CARICOM countries have a national pensions scheme that date back to the colonial era. Said plans, designed as a component of the civil service, were of defined and non-contributory benefits (without contributions from the affiliates), financed on a current base of stable budgets. By establishing the national social security schemes, the benefits profiles of said plans were not adjusted or "integrated" to the social security schemes, resulting in joint replacement rates in some cases exceeding 100% of the salary of workers at retirement. Even more worrisome is that by increasing the demographic maturity of the public employees sector, the negative impact on public finances has sharpened, with current expenditures that represent an elevated proportion of the current expenditures of the state budget.

With maximum pensions of two thirds of the average salary at retirement without contributory ceiling, and social security pensions that may increase to 60% and 70% of the pensionable salary with contributory ceiling, the public employees have been able to access distribution pensions at a relatively young age (ages 50 to 55), subsequently qualifying for social security pensions, with joint pensions that, for up to middle-income employees, may represent joint replacement rates in excess of the total salary.

At least two countries in the region introduced parametric or structural reforms in the last years, while others are in the process of mitigating or correcting these design anomalies. Anguilla elevated the retirement age, reduced the pension formula and established a partial capitalization model with contribution of employees. The Turks and Caicos Islands chose a more radical reform, dissolving the state pensions scheme as part of a process for reducing the public payroll before a considerable fiscal crisis.

Whether it is under a structural or parametric reform, defined benefit or defined contribution, funded or under distribution, the English-speaking Caribbean economies cannot sustain pensions with levels exceeding 80% of the salary, tax-exempt in most

countries. Therefore, those countries that have not implemented these reforms, must integrate them as part of the agenda towards the reform of the legal bases of social security.

3.3 Investments

As the actuarial maturity process of pensions schemes moves forward, with current expenditures higher than contributions in some countries, the product of investments gains relevance in the actuarial equation of financial equilibrium of institutions. The present report does not intend to analyze the details regarding quantitative investment issues, and therefore, specific issues to redefine policies in this area are enumerated below.

The analyses conducted show that most systems experienced losses in their investment portfolios, due to the financial crisis, particularly those that had positions in the foreign capital markets. The economic crisis and its repercussion in the flow of tourists and employment levels will also have an impact on the decrease of passive interest rest of the banking sector and on the profitability of portfolios. The recession also affected some companies and institutions where the pension schemes had acquired obligations or conceded loans, several of which were unable to comply with their obligations, or even declared bankruptcy. The financial sector was affected by the control measures of fiscal paradises, and tourist infrastructure projects were postponed. Finally, several schemes proceeded to settle positions in the international stock markets, regarding fix and variable rent, with losses that could have been recovered with long term investments. This resulted in a poor performance of investments and a negative impact of reserves capitalization of the pension schemes.

It is also possible to perceive the need to improve the internal training requirements of institutions in investment matters, an issues that has lead CIESS to conduct seminars or courses in this field, as well as to update the Investment Policies, in particular, those related to the practical implementation in resource allocation. The ISSA guidelines are useful in the theoretical order and their application to specific pension schemes require complementary elements, such as investment horizons deriving from actuarial projections, quantifying the reserves share destined for internal investment and of socio-economic use to promote employment and economic development, as well as, the capacity to analyze the risk/return binomial of investment, and the yields adjusted to risk according to the particularities of each country.

In the area of governance it is also possible to perceive weaknesses in some countries, given the ministerial power to influence specific actions in investment

matters, besides from draconian investment rules, establishing limits that impede optimum yield.

These concepts, in face of a process of financial maturity of the pension schemes in the next years, show the pressing need to update investment policies to be sustained in the case of national projects, by feasibility studies that allow to optimize the basic principles of security, profitability, liquidity and socio-economic use of investments in terms of social security funds in the English-speaking Caribbean region.

3.4 Real Yield Rates

The real return rates of the pension funds portfolios in the region tended to decrease during the last years, in correlation with the decrease experienced in the capital markets and the reduction of inflationary pressures resulting from recession. Although it could be said that the nominal interest rates obtained by type DC pension funds have been larger than those obtained in equal conditions by a DB pension fund, according to comparisons made by some authors based on an equivalent governance environment and efficient management rules, should at least be equivalent or even superior to a DB scheme, given the absence of surcharges for commissions by private managers that need to generate profits and to establish security reserves.

Implementation and Evaluation of Performance

The following tables provide a synopsis of relevant issues to be considered in terms of investing the national pension funds reserves, that is: a) the basic process for the definition of policies, implementation and measurement of unemployment, b) policy options, c) description of portfolios and the classic formulas to measure return adjusted to risk.

Table(s) 15: Investment of the Social Security Reserves

- | |
|--|
| <ul style="list-style-type: none">• Policy and Objectives• Implementation• Measurement of Performance |
|--|

Policy and Objectives

A. Objectives

- | |
|--|
| <ul style="list-style-type: none">• Preservation of Capital in Real Terms• Optimum Return without Excessive Risk• Ability to comply with commitments (cash flow, compatible assets/liabilities).• Security, Profitability, Liquidity and Socio-Economic Profit. |
|--|

B. Legal and Regulatory Considerations

- Governability / Authority to Invest / Supervision: Council / Government / Committees.
- Regulatory Norms: Restrictive (Draconian) / Prudential.
- Obligations: Fix Rent / Variable / Actions / Real Estate / Others.
- Application of Policies
- Degree of Capitalization: (Equilibrium Period). Restrains policies options.

C. Importance of Integrating Capitalization Policies and Investments

- ♦ The Capitalization and Investment policies share the same objectives and interact for the achievement of said objectives.
- ♦ Changes in financing policy influence the efficient investment horizon.
- ♦ Changes in investment policy influence the optimum financing strategy.
- Ideally, both policies should be simultaneously optimized.

D. Description of the portfolio

Source: Elaborated by author

E. Return Indicators Adapted to Risk

- **Total Risk:** To evaluate total portfolio: Comparison of Strategies
Sharpe Indicator: $S = (R_p - r) / SD$
- **Market Risk:** To evaluate the performance of several portfolios.
Treyner Indicator: $T = (R_p - r) / \beta$
- **Risk according to Portfolio Comparator :**
Compares return (excess) to a performance indicator

Jensen indicator: $J = R_p - [r + \beta (R_m - r)]$.

R_p = return rate (portfolio) β = systematic portfolio risk (± 1)

r = return with no risk R_m = market return of average portfolio

SD = standard deviation

Sharpe Indicator (Example of comparison of return adjusted to risk).

$S = (R_p - r) / SD$

ROA (SP500)	12.5% (Stocks)
SDP	20.4%
ROA (Treasury bonds)	3.8%
SBb	6.0%
ROA (Bonds)	8.7%

SS	$12.5 - 3.8 / 20.4 = 0.426$
Sb	$6.0 - 3.8 / 8.7 = 0.253$

Inference: Performance of Actions better than Bonds, adjusted to Risk.

Source: Elaborated by author

CHAPTER IV
SUMMARY AND CONCLUSIONS

4.1 Scope of Social Protection

The analyses conducted show that the pension schemes in the English-speaking Caribbean offer an adequate level of economic security at retirement for formal sector workers whose salaries do not exceed the contributory ceiling. However, the growing proportion of insured workers with salaries above the contribution ceiling in several countries, and the absence of a second complementary pension pillar is creating insufficient pension levels so as to guarantee an adequate living standard in the post-retirement stage for significant groups of insured workers, except for those that have been able to capitalize enough resources to cover the basic pension of the social security scheme with voluntary individual savings.

The scenario is more concerning in terms of the growing segment of independent workers in the informal sector of the economy, most of which evade contributions to social security, mainly given the lack of economic means to afford contributions that also include the management contribution, a design that some consider to be imperfect in the work environment in Latin America and the Caribbean.

4.2 Impact of the Global Economic Crisis

The impact on the levels of employment and underemployment in the region, resulting from the economic crisis, has impeded the implementation of the required parametric reforms, as the increased social costs of companies would tend to discourage the creation of sustainable employments, a prevailing situation in several countries.

The tourism and infrastructure projects associated to the sector with an intensive use of the workforce, experienced negative impacts that still prevail in several countries. In a smaller degree, the regional financial sector was also affected, in particular, by international standards to control "fiscal paradises", although the impact on the employment levels was not significant. In relation to the public sector, restrictions in public finances resulted in the reduction or freezing policies of public pay slips, which had a negative impact on the collections of social security schemes.

The described scenario will reflect on an accelerated process of actuarial maturity in the pension schemes, including increased dependency rates of populations at a faster pace than that of industrialize economies, and the pressing need to strengthen financing bases, as well as, to optimize the investments yield of national pension funds.

Regarding short term economic benefits, due to disease and maternity, the replacement rates will be related to contributory salaries, with a growing proportion of workers with salaries that exceed the contributory ceiling that are subsidized and

represent an insufficient proportion of real income, thus creating the need of supplementary direct expenditures to cover for daily needs.

4.3 Vulnerability in face of Future Recessions

As a result of the last global economic crisis, with prevailing effects in several countries in the region, the social security programs of the English-speaking Caribbean are currently more vulnerable than in the past to recurring recessions, and with severe effects on critical economic sectors such as tourism and infrastructure projects associated to them. On top of this, the actuarial maturity process is accelerating and the parametric reforms on the financing side, aimed at maintaining a healthy actuarial development of pension systems, could collide with macro-economic and fiscal restrictions, and the need to create employment without a relevant increase of social burdens on the productive sectors. It can then be inferred that parametric reforms, on the field of expenditures, are more easily assimilated in the short term than the adjustments to financing bases, although these latter will inevitably have to be updated on the medium term.

The former concepts imply the need of national pension systems to optimize the yield of the investment portfolio without affecting the portfolio security; to apply more strict management processes, an area that deserves greater development in terms of the administrative structure of social security entities in the region; to continue with control policies for management costs, without affecting the efficiency of administrative processes; and to avoid the adverse selection regarding the coverage of independent workers and tax evasion induced by heavier pension formulas during the first contribution years.

4.4 Impact of Population Aging and Longevity

The accelerated process of population aging is resulting in a sustained increase of distribution costs, which in some pension schemes already exceed current contributions, and in the need of a growing proportion of the investment yield for financing the operational deficit. Increased longevity generates a reduction of the actuarial equilibrium period and the "richness of pension" accelerates the need for parametric reforms sooner than expected. Parametric reforms generally applied in the past have been limited to adjustments of the first level, focused on the contribution ceiling, adjustments to pensions and the benefits profile on the short term. As long as the dependency rates of the youngest pension schemes increase, said adjustments will not be enough to cover emerging costs, originating the undeniable need to make

second level parametric adjustments (contribution rates, retirement age, pension formula), that require more sensitive policy-based decisions, including the impact on social costs and on the creation of employment.

4.5 Employment Situation

As a result of the crisis, the formal employment has decreased, not only in the English-speaking Caribbean countries but also in industrialized countries, reaching unprecedented levels in countries such as Greece and Spain, with unemployment rates of over 25%. The impact on economies in general and the social security systems in particular, drove the World Bank to publish the annual development report "World Development Report 2013: Jobs", emphasizing that economic recovery requires an increase on employment rates, affected by the effect of the economic crisis on employment, underemployment and vulnerable employment.

4.6 Social Security in Health Programs

Most countries in the Caribbean lack national social security in health systems, mainly due to financial constraints, although it has been widely proven that these systems would operate more efficiently and effectively in terms of the cost/benefit binomial than the national salaries services inherited from the colonial era, with "out-of-pocket" expenditures that impact the socio-economic strata of families. The aging process in populations will tend to sharpen the morbidity rates, along with the demand of medical services, and if considering that an estimated 80% of expenditures in health occur after the age of 60 in a "life cycle" (from birth to death), the responsibility faced by governments in terms of satisfying the demand for adequate health services cannot fall exclusively on public finances. Examples presented in the report illustrate experiences in several English-speaking Caribbean countries.

4.7 Management expenditures

Adjustments to the contribution ceiling and the contribution rates generate an immediate increase of income flux that translates into a faster reserves capitalization pace. If the overhead-administrative expenditures proportion decreases -although in some schemes they still equal a quarter of the total contributions-, the largest the utility margins destined to capitalize actuarial reserves will be, thus contributing to the financial sustainability of pension programs.

4.8 Optimization of the Investment Portfolio

The process described will also reflect on the need to optimize the yield of investments that will gradually become the main component of the reserve capitalization, particularly in countries that are less financially mature. This is evident in some countries where the yield of investments exceeds bipartite contributions. They are limited regarding the investment strategy of domestic markets, thus being advisable to have a definition of the investment strategies, including possible investments in external markets, although monetary policies could restrict the foreign investment of reserves.

Very few countries of the English-speaking Caribbean have made a study of assets and liabilities management aiming at optimizing the investment processes. However, the limitations of markets and draconian rules of investment tend to limit the potential profit of said studies. In any case, actual reserve projections for the medium term represent a rather useful element to define the investment goal without affecting the liquidity level of portfolios.

4.9 Implementation of Actuarial Recommendations

Focal guidelines in relation to parametric reforms required by the social security systems in the region have been formulated in periodic actuarial valuations of said systems, although in practice it has not always been feasible or possible to implement said recommendations. However, the delay in updating the financing bases of systems will result in more severe future adjustments, a situation experienced by most pensions systems in Latin America and that in several instances gave way to structural reforms of the pension models.

4.10 Pension Models and Governance

Nowadays, available information indicates that the prevailing defined benefits models in the region are adequate in terms of the fiscal, economic and work environment in the region, but it seems advisable to improve the degree of training at the institutional level in investments matters, including the advisory role of the Investment Committees that exist in most legislations. In most schemes, the Ministries in charge of social security have a decisive power in investment matters. It would also be advisable to review the role of the investment advisers in charge of foreign portfolios, with discretionary authority in several instances for buying and selling titles without previously consulting the social security entity. In retrospective, the experience also shows the need of entities to strengthen the "management of investment risks" in the hands of employees who are somehow independent regarding the evaluation of investments process, tasks that

belong to the governance area of social security entities. Without discounting the role of investments in the national pensions funds regarding the socio-economic development of countries, the guidelines of international organizations place security, profitability and liquidity of investments in the forefront, with the social profit margins of the investment in a subsidiary position.

In conclusion, most of the pension schemes in the English-speaking Caribbean have either concluded or are in the process of finishing the initial maturity stage, characterized by ordinary contributions that vastly exceeded the expenditures in benefits and overhead, thus jointly generating considerable financial surplus in the yield of investments. In some countries, contributions are already below expenditures and are approaching the actuarial equilibrium period, with expenditures that will exceed contributions and the yield on investments. Before reaching said period, it will be necessary to raise the contribution rates so as to avoid the de-capitalization of national pension funds.

4.11 Parametric Reforms Agenda

Reforms in most countries in the region have prioritized what we can call "first level" parametric reforms: ad hoc adjustments to minimum or general pensions correlated to inflation; adjustment of compensations per death; elevation of the contributory salary ceilings. "Second level" parametric reforms have been applied in a more discontinuous manner: increase of financing rates, adjustment of the retirement age, amendments to the pension formula, including the extension of the eligibility requirements and the introduction of linear formulas for the accumulation of rights. On a "third level", the introduction of unemployment insurance and social security in health, the establishment of a second pensions pillar, and the integral restructuring of the complementary schemes of the public sector, a task successfully solved in at least two countries, aiming at achieving joint pension replacement rates compatible with the basic principle of providing basic economic security at retirement. Other aspects of the reform agenda are operational, including the need to expand the coverage of independent workers, achieving more effective coverage. In any case, the coverage levels in the region are above those of the rest of the developing countries in Latin America, but the growing cost of informality must be the object of attention in the English-speaking Caribbean, in particular due to the impact of the economic crisis.

4.12 Reports on Social Security in the Americas (CISS) and International Recommendations

The ten research reports on Social Security in the Americas published by the CISS (2002/2013) provide useful elements for the definition of policies and management in social security in the English-speaking Caribbean, including financing problems, evolution of reforms, labor markets, challenges of aging, globalization and social protection, pension models and richness of pension, with definition of more dynamic sectoral policies, including the English Caribbean.

Regarding the adaptation of legislation to present times, it would be convenient to have more dynamism in adjusting parametric reforms and qualification periods to access retirement pensions, new coverage modalities and financing of independent workers, formalization and rationalization of the social security in health, special modalities of unemployment insurance and improved profitability of the investments portfolio. Finally, it is necessary to ensure the financial sustainability of the pension programs that results from a symbiosis between the benefits profiles and the rates actuarially required by the scaled premium model with partial capitalization prevailing in the defined benefit systems in the region, as well as, to control the high levels of overhead, increasing the efficiency and control of the management processes.

The report of the ILO's 100th International Labour Conference also approved recommendations on the following issues: right and need of social security, challenges in relation to coverage, financial adjustment, response in policy matters, including social benefits in health, non-contributory pensions and unemployment; and the future of social security, in particular the cohesion of economic and social policies and financial feasibility, along with criteria on future policies with emphasis on the "social protection floor". The 101 Conference (2012) approved the recommendation of "social security for all" through a social protection floor aiming at the provision of essential health services and basic economic security for the population as a whole.

ANNEX A

SINOPSIS OF CIESS SURVEY

The following is a synoptic summary of financial trends in several countries in the region, in response to a survey sent by the CIESS:

Antigua: In process of integral review of the model. Advisable reforms must update the qualification requirements, contributory ceiling and contribution rates.

Trinidad: The former scaled income system is programmed to become an indexed system of profits during a career. It also intends to extend the coverage of independent workers in July 2013, estimated at 130,890, above the total number of active contributors, which shows the effect of the increase in the informal sector. This data is interesting for the rest of the region.

Existing multi-pillar model: Social security / Pensions for the aging financed by the Government (100%), and complementary bipartite financed plans, including the public sector.

Aruba: Social scheme established in 1960. In 2011, the pensions insurance was modified, increasing the contributory ceiling and the contribution rates. A flexible pension was introduced in 2012, with the improvement of pension at a 7% rate per year. Prevailing multi-pillar pension system, including voluntary savings.

Turks and Caicos Islands

Have proceeded to make adjustments to the qualification requirements for widowers, as in the case of widows, and the eligibility conditions to access benefits on the short term.

Actuarial valuations have recommended adjustments to the contribution ceiling, but these have been postponed due to the severe economic crisis. A contribution rate of 1.2% was applied to employers, for workers over the age of 65.

The retirement and disability pensions were adjusted in recent years on an "ad hoc" basis, and minimum pensions for survivors were also adjusted. Most of the reforms were applied in 2011, effective by January 1, 2012. The pensions scheme of public employees is also in a phase-out process. New adjustments to the contribution ceiling and pensions are contemplated for the period 2013/2015

Belize

Belize is evaluating an integral updating of the legal bases, including contribution ceilings, sectoral financing rates, the voluntary program of independent workers, qualification requirements, the pension formula and the financing of non-contributory pensions program expected to materialize by year 2013, including the contribution and benefits scales.

Non-contributory pensions for men were introduced in 2006, and recommendations were made so as to equalize the qualification age for women (age 65) and that of men (age 67).

Anguilla

Increased non-contributory pensions and contributory pension, as per actuarial recommendations, along with increasing the contribution ceiling and increasing benefits in the short term. Additional reforms are under evaluation for the period 2013/2015, including a seasonal unemployment insurance scheme.

Analysis of the Financial Maturity Process (Pensions Scheme)

In relation to data published by Osborne (2004) comparing the social security systems in the English-speaking Caribbean, the following table shows how certain financial indicators have evolved during the last 8 years.

Variations in Financial Indicators (2003/2011)
(Rounded-off Rates)

	Expenditures in % of contributions		Capitalization rate ^{a/}	
	2003	2011	2003	2011
Anguilla	62	61	14	13
Antigua	71	115	12	8
Belize	96	116	6	8
Turks Islands	45	62	10	12
Trinidad	53	117	20	9

^{a/} Terminal reserve as a multiple of the period expenditures.

Source: Derived from Osborne (2004) and the CIESS Survey (2012)

The expenditures already exceed the total of contributions in Antigua, Belize and Trinidad, by financing the deficit with a proportion of the investment yield.

The capitalization rate in Antigua decreased substantially (reserves of 7/8 times the expenditures in 2011, in comparison to 12 times in 2003), and in Trinidad, with a decrease of reserves of 20 to 9 times the expenditures of said period.

As for the remaining countries, the capitalization rate in the period being analyzed was practically static in Anguilla, given the systematic adjustment of the contribution ceiling, or marginally increased in the same period in Belize and the Turks Islands, given the young demographic structure and the dependency rates.

The former indicators show a sustained financial maturity process in selected countries, originated by a growing rhythm of expenditures at rates higher than the contributions. Besides, the real yield rates of reserves have an incidence in the capitalization rates. As a result of expectations of a rapid aging process of the population, at faster rates than in the past, all countries in the region would experience increased percentage expenditures of salaries more intensely than in the period 2003/2011, and a sustained reduction of capitalization rates. Therefore, "first level" parametric reforms (contribution ceilings, qualification period, etc.) should be complemented in the English-speaking Caribbean with "second level" adjustments (contribution rate, postponement of retirement age, pension formula). In this sense, the difficult situation faced by several countries in Latin America resulted, precisely, from the lack of compliance with actuarial recommendations, which gave way to structural reforms that, in practice, did not increase the coverage or efficiency of national pension programs, and did not improve the benefits levels of pensioners. In exchange, a significant fiscal burden was placed on public finances and a private management structure of reserves based on mercantile criteria was created.

ANNEX B
SINOPSIS OF SOCIAL SECURITY SYSTEMS IN HEALTH IN
THE ENGLISH- SPEAKING CARIBBEAN

Belize: A pilot plan of primary attention in two areas of the capital city and the inland has been operating for several years, focusing on low-income population segments. The program was initially financed by transfers of the social security, but since 2011, it has been exclusively financed by Government contribution, through the Ministry of Health. The benefits are limited to first-level basic services, and to private diagnostic services of the first and second levels. By law, the scheme is operated by the SSB, independent of the remaining economic benefits programs, through a Committee that includes members of the Social Security Council.

The Ministry of Health operates in most hospitals and clinics in the country, including services in areas not covered by the social security in health, with a budget equivalent to two thirds of the public sector expenditures in health. Although several plans have been designed to expand the social security in health coverage and to establish a bipartite financing mechanism that requires an integral reengineering of the public services structure, it is not possible to foresee a structural reform in the short term.

Actuarial valuations indicate that the program operates efficiently in the financial area, in spite of operating in geographical areas of low population density in the inland, with high poverty levels and few insured by the SSB, a coverage that should correspond to the Ministry of Health.

The expansion to areas of higher income could reduce unitary costs and improve the level of utilization, more elevated in the capital city, including private laboratories hired by the program.

Antigua: Has a long operating dual health services system, through the Ministry of Health and the Medical Benefit Scheme (MBS), that represent a quasi-program of health insurance focused on catastrophic diseases financed through bipartite contributions of 7% of salaries. It reimburses private health expenditures to providers according to pre-established fees, where the insured worker is responsible for out-of-pocket expenditures that exceed the established limits. They also provide medicines through a central pharmacy and regional pharmacies and reimburse the Ministry of Health public health expenditures incurred in.

A Council including representatives of the public and private sectors operates the program, but the Ministry of Health has the legal authority to dictate policy and operational regulations, including transfer of resources to the Ministry.

Some actuarial studies have recommended the transformation of the program into a formal social security in health system, but a solution in the short term requires redefining the role of the Ministry of Health and the MBS.

An expensive central hospital was incorporated two years ago, with high operational costs that could have negative impact on the MBS finances.

Turks & Caicos Islands

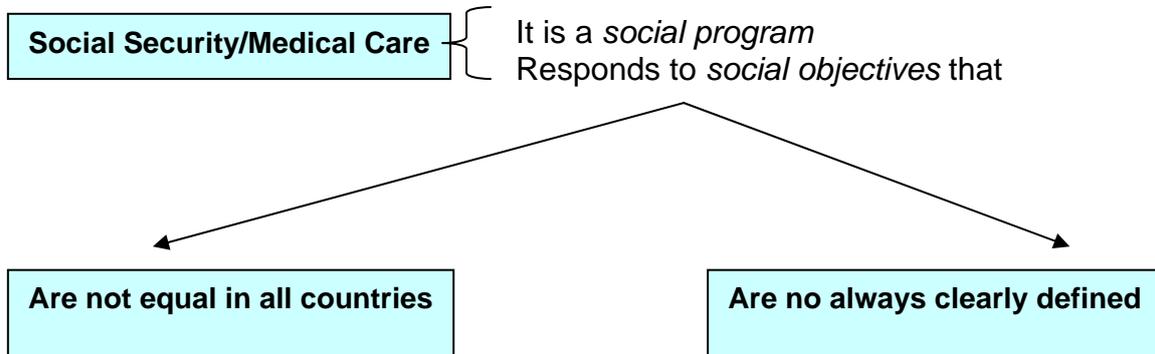
The National Health Insurance Plan (NHIP), the only formal social security in health formal scheme, is operated by a Council embodied by representatives from the public and private sectors along with two modern hospitals financed by Canadian entities, that represent the basic providers of first and second level services, through services hired outside the Islands for third level coverage. Local private providers also participate in the program.

The new model has reduced in over 60% referrals to other countries and the program is financed according to a dual model: payments to hospitals by the Government according to a unitary cost per capita scheme and payments by the NHIP to private providers, interior transportation, and referrals to other countries, through Government transfers of a proportion of expenditures previously allocated to the Ministry of Health, besides from employees and insured contributions of 5% of the initial salaries, adjusted to 6% of the salaries as of 2012, plus contributions per capita by independent insured workers.

Actuarial valuations show a more rational use of resources according to the new model and less out-of-pocket expenditures of families, which compensate, in average, a high proportion of the bipartite contributions, resulting in a model with cost neutrality in the macro-economic order, in spite of considerable supplementary expenditures in the depreciation of new hospitals under the responsibility of public finances. However, the dependency of the resource program previously allocated to the Ministry of Health could affect the future of the program liquidity, in case of insufficient funds or delay in budgetary allocations.

SOCIAL SECURITY IN HEALTH

-Situation in Developing Countries-



Due to:

- Ideology
- History
- Available resources (human/material), etcetera.

Even the *health* concept is a relative concept (example, roles related to therapeutic, preventive medicine)

BESIDES

It is a social program with significant economic implications and a strong political impact

THEREFORE

They must be responsibly designed, managed and financed

Source: Adapted from Abel Smith, Brian. Paying for health services (WHO-1963).

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INDEX OF INITIALS AND ACRONYMS

- **CARICOM:** Caribbean Community
- **ILO:** International Labour Organization
- **ISSA:** International Social Security Association
- **CIESS:** Inter-American Center for Social Security Studies
- **MBS:** Medical Benefits Scheme (Antigua)
- **OCDE/OECD:** Organisation for Economic Co-operation and Development
- **BD:** Defined Benefits
- **DC:** Defined Contribution
- **GDP:** Gross Development Product
- **BVI:** British Virgin Islands

GLOSSARY OF TERMS

- **Defined contribution Model:** Model of individual capitalization account with a pension at retirement based on the programmed or acquirable annuity with the account total at retirement.
- **Accumulated Actuarial Liability:** Present value of in-force and to be acquired pensions, computed on the basis of taxable salary at the date of valuation, minus the program reserves, under the closed fund criteria.
- **Gini Index:** Coefficient that measures inequality of population income.
- **Actuarial Period of Equilibrium:** Projected number of years when equivalence between income per contributions and investment yield is reached, and expenditures per benefits and overhead. Without adjusting the financing years, reserves would begin to decrease as of said period.
- **Defined Benefits (DB):** where the level of benefit is independent from the portfolio losses.
- **Defined Contribution (DC):** Where the loss of actives is immediately reflected in individual accounts and new pensions of pensioner cohorts during the years that followed the crisis
- **“Offshore” Funds:** Foreign funds deposited in certain countries that offer tax and regulatory advantages.
- **Dependency rate:** Relation between the population over ages 60 to 65 and the population from ages 15 to 60 or 65. It also considers the dependency rate of the aging.
- **Inflexion Point:** Periods where total income or income per contributions are lower than the overhead and pensions expenditures.
- **“Richness of pension”:** term applied to the number of times of the present actuarial value of annuities in relation to annual salary.
- **“First level of inflexion”:** characterized by contributions lower than the expenditures per benefits plus overhead, and that gradually approach the second level.
- **“Break-even point”:** with contributions plus yield of investments lower than total costs, the required adjustment in contribution rates may be mitigated by parametric reforms to the benefits and qualification profiles.
- **Sharpe Indicator:** An indicator to measure the return of the investment portfolio adjusted to risk.