DEVELOPING FINANCIAL HEALTH AND STABILITY INDICATORS FOR THE PENSION FUND SECTORS IN CARIBBEAN COUNTRIES

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E Philip Davis

IMF/CARTAC, Brunel University, NIESR

e_philip_davis@msn.com

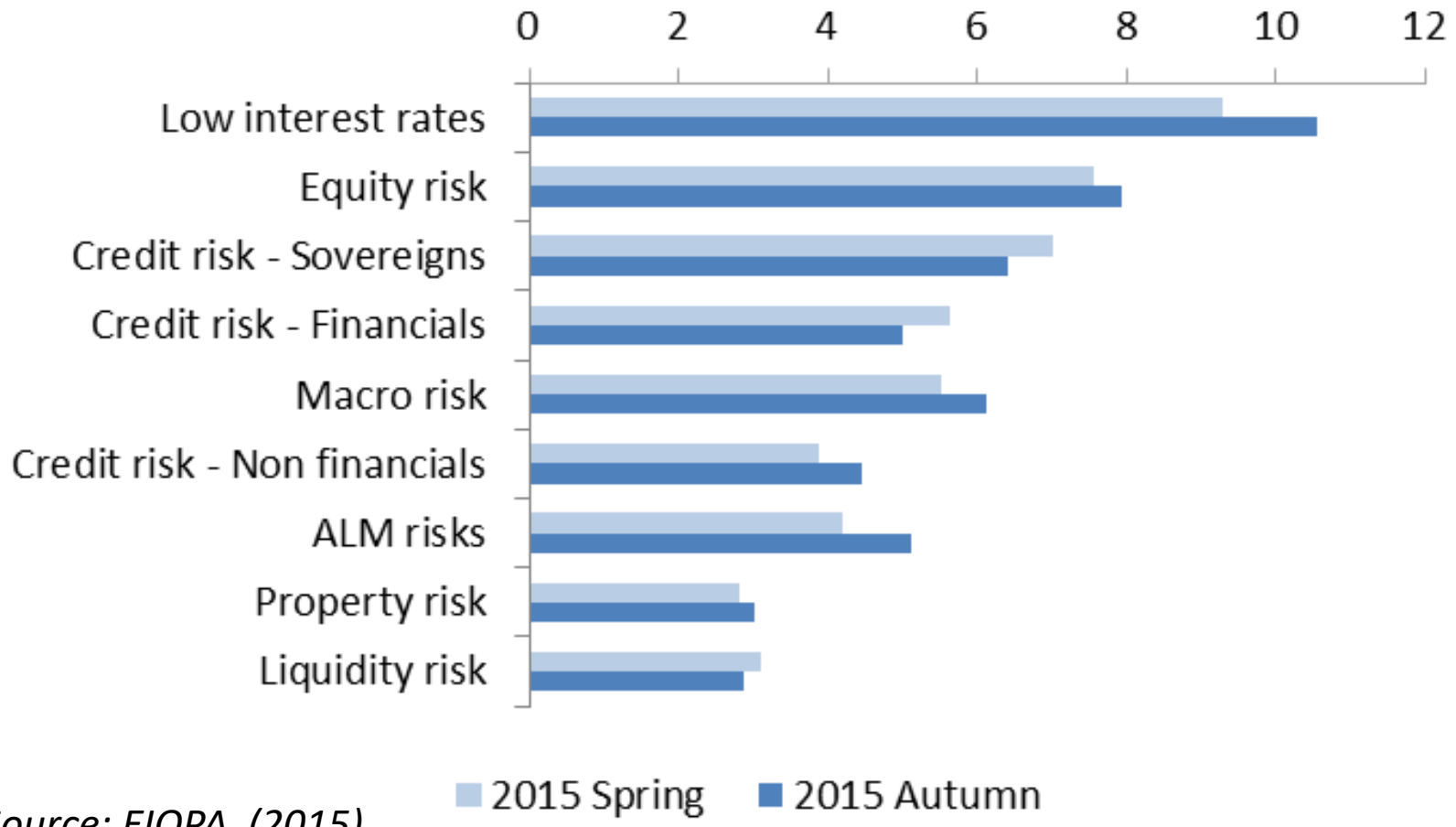
Introduction

- Pension funds are among the largest financial institutions in many economies, including some Caribbean countries
- Traditionally little supervised, even at the microprudential level, but most Caribbean countries now have statutory regulation
- Oversight should not focus solely on individual funds but sector wide trends indicating stability and health
- Key is consideration of risks to pension funds and appropriate indicators (these include IMF and CCMF/CARTAC Financial Soundness Indicators for pension funds)
- Caribbean countries share global risks such as those arising from financial market developments (notably low long rates) and demography (longevity risk), also regulatory issues and organisational challenges, as well as some local ones (such as potential impact of portfolio regulations and features of the labour market)

Global issues for pension funds

- Low nominal and real long term interest rates
- Widespread underfunding of defined benefit plans
- A search for yield, balanced by pressures to invest in low-risk assets
- Rising longevity
- An ongoing switch from defined benefit (DB) to defined contribution (DC) plans
- Regulatory challenges
- For more detail see Davis (2016)

Risk assessment for EU pension funds



Source: EIOPA (2015)

Note: Risks are ranked according to probability of materialisation (from 1 indicating low probability to 4 indicating high probability) and the impact (1 indicating low impact and 4 indicating high impact). The figure shows the aggregation (i.e. probability times impact) of the average scores assigned to each risk.

Caribbean pension issues 1

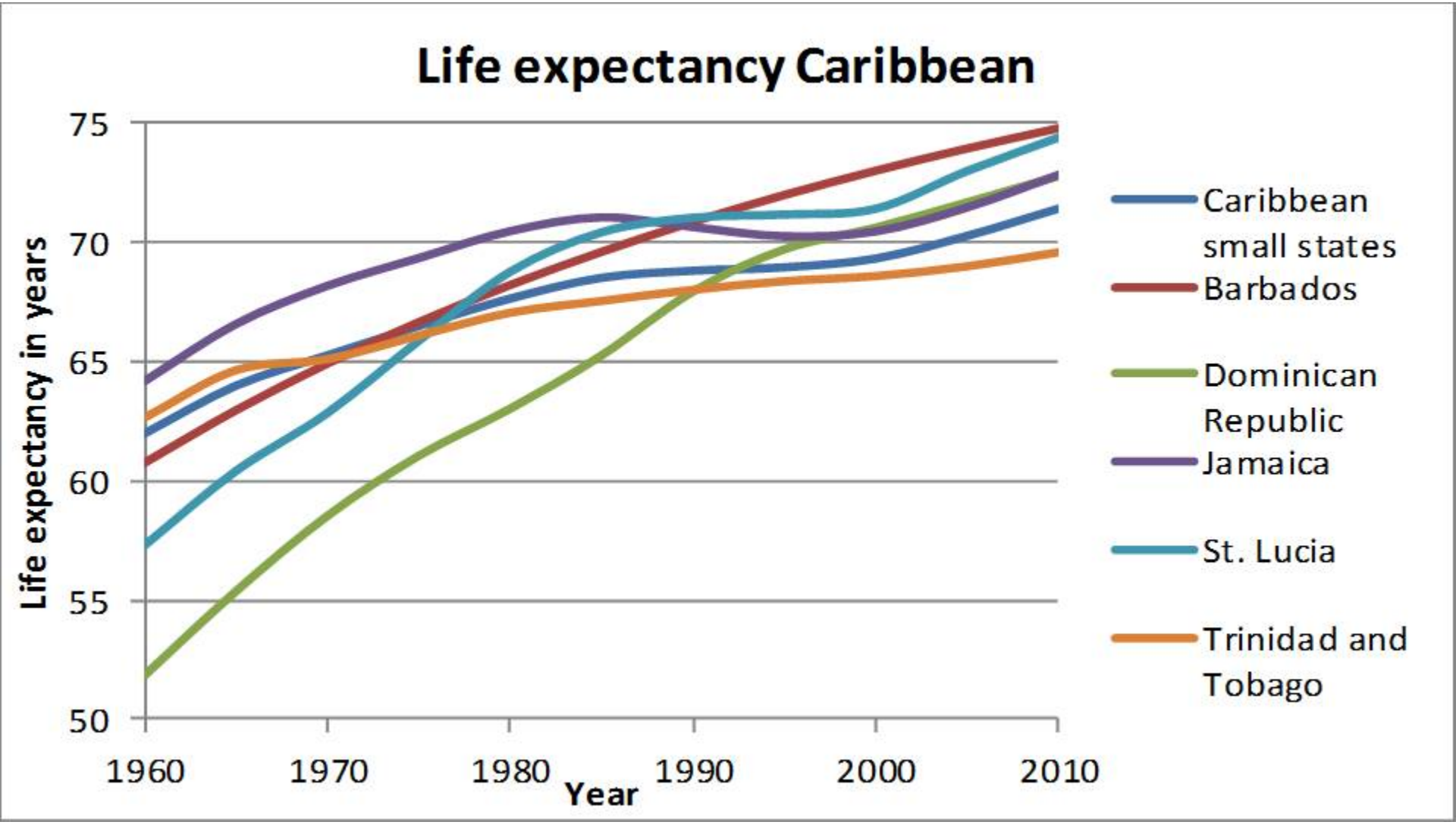
- Global issue of declining interest rates affecting pension funds
- Lack of long maturity bonds in local markets to match pension liabilities
- Mainly DB which implies solvency risk, although recent data show Trinidad and Tobago declining to 122% funding ratio in 2011-3 and Guyana rising to 137% in 2013 (CCMF 2015)
- Trend to DC as elsewhere; some DC plans have guaranteed returns on contributions

Caribbean pension issues 2

- Widespread concentration of investment in individual countries, raising risk levels, due to country-specific risk but also illiquidity of markets, short maturity of government debt
- Often the result also of portfolio regulations such as the following: “between 50 and 70 per cent of the asset portfolio must be in fixed income securities so as to reduce price related risk; and between 80 and 100 per cent must be in locally issued securities so that local assets could fairly match local liabilities” (CCMF 2015)
- Possible benefit to local capital markets….
- ….but cost is that funds incur unsystematic risk relative to a “global portfolio”. Economic volatility of the region affects asset returns – and contributions

Caribbean pension issues 3

- Ageing populations as elsewhere due to lower fertility and rises in longevity (see Chart)
- Low coverage, especially for self employed in informal sector, younger workers often emigrate and high unemployment thus weakening pension funds/systems
- Hence low ratio of contributors to recipients in private (and public) pension schemes, mismatch forecast to increase in 2030-50



Source: Houben (2015)

Caribbean pension issues 4

- Lack of personnel trained in finance for pension funds and also regulators
- Issues arise associated with the proper supervision of pension funds, such as the need for better governance in pension funds and improved risk management, availability of training for supervisory staff and developing a supervisory framework for which an international guide is available. (summary of Ewart Williams 2012)

Caribbean pension issues 5

- The changes in the demographic population and global environment may lead to consideration being given to raising contribution rates, increasing the retirement age and increasing the insurable age. However, consequences of these measures could be increases in substitution of capital for labour, resulting in decreasing employment and increasing the use of machinery and automation to maintain and/or increase production. (summary of Ewart Williams 2012)
- High administrative costs also need to be addressed, often arising from lack of economies of scale in small funds

Generic risks to pension funds

- In light of the above, we set out an approach to monitoring pension fund risks across the sector
- A starting point for considering financial health and stability of pension funds and thus devising indicators and a reporting regime is to consider the generic risks to which they are subject.
- We outline the risks one by one, followed by suggested indicators, an approach to gathering relevant data and brief suggestions for analysis.
- The indicators can provide a benchmark to supervisors as well as being of use in published documents for informing the public

Liquidity risk

- Assets usually illiquid and difficult to convert to cash rapidly if payments required (especially for mature funds)
- But not a risk of runs unlike banks as liabilities illiquid – nor of direct contagion
- Markets can become illiquid also – especially small country markets – but also globally at times of stress
- *Indicators: liquid assets/assets, liquid assets/expected payments, total income/total expenses , bonds/assets, current assets/current liabilities, maturity (pensioners/workers)*

Market risk

- Funds hold capital-uncertain assets such as equities and long term bonds as well as real estate and hedge funds to back their liabilities
- Market risk may be enhanced when diversification inadequate
- Affects sponsor in DB and member in DC
- Most important for mature funds needing to make direct payments – may be imprudent for immature fund to invest solely in low risk assets
- *Indicators: real estate/assets, equities/assets, foreign assets/assets, (Real estate + Equities + Bonds + Foreign Assets)/assets, Sharpe ratio of excess return of the fund over risk free/volatility*

Credit risk

- Insolvency of firms issuing equities or corporate bonds as well as default on loans the fund invests in gives rise to credit risk.
- Need to bear in mind governments are not risk free.
- Subprime crisis showed that securitised bonds can be high risk.
- *Indicators: private bonds/total bonds, average rating of bonds, mortgage delinquency rate, mortgage loan-to-value ratio*

Solvency risk

- Applies particularly to DB funds as assets can fall short of liabilities and then insolvency of the sponsor would threaten the provision of pensions
- No insolvency risk in the case of pure DC schemes as risk is borne by members. But DC funds can be in solvency difficulty due to interest earned not matching interest credited, or expenses not paid by the sponsor but taken by the fund.
- *Indicators: assets/liabilities (accumulated or projected benefit obligation), solvency of sponsor (debt/assets ratio), credit rating of sponsor, capital of sponsor/capital of pension fund, measures of risk concentration (self investment, large exposures).*

Inflation risk

- Relevant where domestic inflation is volatile and the liabilities of pension funds are indexed
- Gives need to invest in real assets that provide protection against inflation rather than nominal assets whose return is eroded by (unexpected) inflation.
- Real returns are relevant rather than nominal ones when there is inflation, if the real value of the fund and pensioner incomes are to be protected
- *Indicators: nominal assets (domestic bonds, treasury bills, cash and bank deposits all in Local Currency) /assets; real gross and net return, whether price indexation of pensions is mandatory or discretionary for the fund*.

Asset and liability mismatch risk

- Issue whether the assets held are too volatile for the time profile of payments, thus generating excessive risk especially for members about to retire
- Or alternatively the fund may have shorter maturity assets than liabilities, giving rise to reinvestment risk.
- Fair value accounting has made for greater volatility of balance sheets as a result of mismatch.
- In DB funds, deficits might give rise to a search for excessive yield to make up losses due to mismatch, leading to credit risk also, and/or investment in untested financial innovations (OECD 2015)
- *Indicators: average age of members/share of equities, real estate and foreign assets, maturity or duration of bond portfolio*

Longevity risk

- Risk that the population covered lives much longer than expected and so the assets accumulated are inadequate for the guaranteed pension (for DB) or the expected pension (for DC).
- One-year error in longevity can boost liabilities by as much as 5% (OECD 2014)
- Essential to use up to date mortality tables suitable for the population which allow for rising life expectancy.
- Since liabilities are discounted by a market rate, the surplus may also be affected by market risk (lower rates boost liabilities).
- *Indicators: "age" of demographic data used, whether it takes into account ongoing rises in life expectancy, AA corporate bond rate used in IFRS accounting rules*

Actuarial risks

- May also arise when long term asset returns fall short of those expected when setting contribution rates.
- Actuarial risks may be accentuated when management costs are high, thus reducing the net return that benefits the members
- Other actuarial risks of a similar nature may arise when contributions that are mandated are not actually made.
- Actuarial assumptions out of line with local practice are also a cause for concern. The possible influence of a prolonged period of low rates is also relevant (OECD 2015).
- *Indicators, gross return, net return (deducting management, transaction, etc. costs), cost ratio (gross less net return), actual/required contributions, key actuarial assumptions on salary increase, pension increase and asset returns/interest rate before and after retirement*

Governance risks

- Governance risks arise when the fund is vulnerable to conflicts of interest or even fraud due to inadequate governance structures.
- The UK example of Mirror Group was an example
- Status as a mutual or for-profit may impact on the quality of management, operational risk etc.
- Contracting out of pension administration or asset management may give rise to principal-agent problems
- *Indicators; independent board members/total board members, contracting out of pension administration or asset management*

Political or regulatory risk

- Important background to monitoring pension funds.
- Government or regulators may change the parameters of pension funds in a way that is difficult for the funds to resolve.
- In the UK there was a recent proposal for example to tax contributions rather than pensions which could have caused a major disincentive to invest in pension funds (Armstrong, Davis and Ebell 2015).
- *Indicator: degree of political consensus on the parameters of the pension system.*

Systemic risks

- There may be a need to look at procyclicality patterns of pension fund investments and their link to regulation, which is a potential externality from pension funds to the stability of the financial system (Bank of England 2014) and may link inter alia to risk–based regulation plus fair value accounting (Beetsma and Vos 2014).
- There could also be externalities in the pension system linked to loss of reputation of all funds from major losses in one fund
- *Indicators: size of pension funds/financial assets or GDP, time required for returning to solvency following a deficit*

Structural indicators of the health of the pension system

- See World Bank OBA (outcomes based assessment) framework (2014); the framework seeks to cover six aspects, namely Efficiency, Asset allocation, Sustainability, Coverage, Adequacy, and Security.
- These aspects tend to be more long term and structural than those highlighted for financial stability above.

- Structural aspects: efficiency
  - *Maximising net returns by better investment and cost performance*
- Structural aspects: sustainability
  - *Ensuring promised retirement income will be provided without an excessive financial burden on providers*
- Structural aspects: coverage
  - *Maximising the proportion of the working population accumulating retirement income and the proportion of retired people receiving pensions*
- Structural aspects: adequacy
  - *Ensuring retirees in the pension system have sufficient benefit entitlements to ensure adequate retirement income*
- Structural aspects: security
  - *Ensuring accumulated assets are suitably protected from loss*

OECD factors underlying retirement income

- Apply directly to DC but also for the most part to DB.
- Two sets of variables,
  - those chosen and controllable (contribution rate, length of time paying in, time they retire, investment strategy, and the way assets are paid out after retirement
  - those that are inherently uncertain (spells of unemployment (or childbearing) which restrict contributions, real wage growth, return on investments, inflation, interest rates and longevity
- These are risk factors that can have a major influence on retirement income and its adequacy. OECD (2012) suggests that the pension funds should plan so that the probability of achieving the target is within 5%.

Risks for DC funds

- While DC funds are not vulnerable to deficits, there may be features that lead to risks for the sponsor or members
- *Indicators: Interest rate credited on contributions, Expected rate of return, Are pension payments made direct from the plan?, Is there life cycle investment advice?*

Data required for risk assessment NEI

- *Distribution of contributing workers by age, Accumulated contributions, Rate of employer contributions (recommended and actual), Contributions outstanding, Contributions receivable, Maximum percent voting shares in one entity*

A list of indicators

Those marked * are CCMF Financial Soundness Indicators (FSI's) and those marked ** are IMF FSI's

	Topic	Indicator
1	Liquidity risk	Liquid assets (1 year and under) /assets *
2		Liquid assets/estimated pension payments in the coming year *, **
3		Total income/total expenses
4		Bonds/assets
5		Current assets/current liabilities *
6		Maturity (pensioners/working age members)
7	Market risk	Real estate/assets
8		Equities/assets
9		Foreign assets/assets *
10		(Real estate + Equities + Bonds + Foreign Assets)/assets *
11		Sharpe ratio of excess return over risk free/volatility
12	Credit risk	Private bonds/total bonds
13		Average rating of bond portfolio
14		Delinquency rate on mortgage portfolio
15		LTV of mortgage portfolio
16	Solvency risk	Assets/liabilities (accumulated and projected benefit obligation) *
17		Solvency of sponsor (Debt/assets ratio)
18		Credit rating of sponsor
19		Capital of sponsor (assets less debt)/Capital of pension fund (assets-liabilities) *
20		Self-investment in sponsor (including bonds, shares and loans)/assets
21		Largest total investment in a given entity excluding sponsor (including bonds, shares and loans)/assets
22	Inflation risk	(Domestic bonds in LC + Domestic Treasury Bills in LC + Domestic Bank Deposits in LC + Domestic cash in LC)/ Assets
23		Real gross return (nominal return less inflation rate), current year and average over last 5 or 10 years
24		Real net return (also deducting professional services and other operating fees), current year and average over last 5 or 10 years

25		Whether indexation of liabilities is legally mandatory or voluntary
26	Asset-liability mismatch	Average age of members/share of equities, real estate and foreign assets
27		Maturity or duration of bond portfolio
28	Longevity risk	"Age" of demographic data used, whether it takes into account ongoing rises in life expectancy
29		AA corporate bond rate used in accounting rules (if IFRS)
30	Actuarial risk	Nominal gross return, current year and average over last 5 or 10 years **
31		Nominal net return (deducting professional services and other operating fees), current year and average over last 5 or 10 years *
32		Cost ratio (gross less net return)
33		Actual/actuarially required contributions
34		Actuarial assumption: interest rate pre retirement
35		Actuarial assumption: salary increase
36		Actuarial assumption: interest rate post retirement
37		Actuarial assumption: pension indexation
38	Governance risks	Participant board members/total board members
39		Is asset management contracted out?
40		Is pension administration contracted out?
41	Systemic risk	Pension assets/GDP or total financial sector assets *, **
42		Time required for returning to solvency following a deficit
43	Structural aspects: efficiency	Pension fund assets/number of members *
44		Contributions/number of members *
45		Number of providers
46		Members in 5 largest funds
47		Assets of 5 largest funds
48		Interest rate on bank deposits (large deposits)

49		Profitability of fund providers
50		Costs of supervision to funds
51		Holding period of equities
52	Structural aspects: sustainability	Total private Employee contributions/wages (firm level)
53		Total private Employer contributions/profits (firm level)
54	Structural aspects: coverage	Number of active members of private pension funds/firm workforce
55		Number of active members of private pension funds/national workforce *
56		Number of active members of private pension funds/working age population
57		Number of current recipients of private pensions/population of retirement age
58		Number of current recipients of public pensions /population of retirement age
59		Number of active members of public pensions/national workforce
60	Structural aspects: adequacy	Private employee contributions/wages (rate)
61		Private employer contributions/wages (rate)
62	Structural aspects: Security	Permitted maximum investment in a given company, including sponsor
63	Data required for risk assessment NEI	Distribution of contributing workers by age
64		Accumulated contributions
65		Rate of employer contributions (recommended and actual)
66		Contributions outstanding
67		Contributions receivable
68		Maximum percent voting shares in one entity
69	Risks for DC funds	Interest rate credited on contributions (DC)
70		Expected rate of return (DC)
71		Exposure of members near retirement to volatility (questions: are there any members near retirement, is there any guidance about life cycle investing?) (DC)
72		Are pension payments made direct from the plan? (DC)

Developing a statistical template

- Producing a set of indicators requires development or introduction of statistical data gathering, to an extent that depends on data already available
- We show in the following slides the framework of a template and the components required to produce the indicators, in the context of broader statistical data reporting
- Alternatives, depending on the initial state of pension data reporting:
  - Adapt existing reporting templates for equivalent data
  - Add additional items to existing reporting

BALANCE SHEET					Denominat	Denominated
					LC	In US$
						(LC equivalent)
Assets: liquid	**1.1.1**	Cash				
	1.1.2	Due from banks				
	1.1.3	Others				
	1.1	**Total liquid assets**				
Assets: investments	**1.2.1**	Treasury bills				
	1.2.2	Savings/Time deposits				
	1.2.2.1	o/w	Less than one year to maturity			
	1.2.3	Government securities (bonds)				
	1.2.3.1	o/w	Less than one year to maturity			
	1.2.4	Privately owned financial enterprise securities (bonds)				
	1.2.5	Privately owned non-financial enterprise securities (bond				
	1.2.6	Listed equities		Total		
	1.2.6.1	o/w	Commercial banks			
	1.2.6.1.1		o/w	Ordinary shares		
	1.2.6.1.2		o/w	Preference shares		
	1.2.6.2	o/w	Private Other Financial Institutions			
	1.2.6.2.1		o/w	Ordinary shares		
	1.2.6.2.2		o/w	Preference shares		
	1.2.6.3	o/w	Private non-financial enterprises			
	1.2.6.3.1		o/w	Ordinary shares		
	1.2.6.3.2		o/w	Preference shares		
	1.2.7	Unlisted equities				
	1.2.7.1		o/w	Ordinary shares		
	1.2.7.2		o/w	Preference shares		
	1.2.8	Mutual funds				
	1.2.8.1	o/w	Commercial banks			
	1.2.8.2	o/w	Private Other Financial Institutions			
	1.2.8.3	o/w	Other			
	1.2.9	Asset backed securities				
	1.2.10	Real estate				
	1.2.11	Deposit administration contract				
	1.2.12	Guaranteed pension funds				
	1.2.13	Unit linked investments				
	1.2.14	Other investments				
	1.2	**Total investments**				

Assets: Net loans	**1.3.1**	Real estate loans				
	1.3.1.1	o/w	Real estate mortgages			
	1.3.2	Other loans				
	1.3.3	Provision for loan losses				
	1.3	**Total loans**				
Assets: Accounts receivable	**1.4.1**	Accrued contributions				
	1.4.2	Interest				
	1.4.3	Dividends				
	1.4.4	Sundry receivables				
	1.4.5	Provisions				
	1.4.5.1	o/w	For loss of interest receivable on loans			
	1.4.5.2	o/w	Other			
	1.4	**Total accounts receivables**				
Assets: Prepaid expenses and other assets	**1.5.1**	Prepaid expenses				
	1.5.2	Other				
	1.5	**Total prepaid expenses and other assets**				
	1	**Pension fund assets at market value (Sum of the above)**				
Liabilities	2.1	Pension fund balance				
	2.2	Other liabilities				
	2.2.1		Pensions payable			
	2.2.2		Refunds payable			
	2.2.3		Transfer values payable			
	2.2.4		Sundry creditors			
	2.2.5		Amounts due to beneficiaries			
	2.2.6		Other			
	2	**Total liabilities**				

INCOME AND EXPENDITURE ACCOUNT					Denominate	Denominated
					LC	In US$
						(LC equivalent)
Income	3.1	Interest income				
	3.1.1		On total investments			
	3.1.2		On loans			
	3.1.3		Other			
	3.2	Dividend income				
	3.3	Rental income				
	3.4	Other operating income				
	3.4.1		Market value appreciation of assets			
	3.4.2		Gain in sale or disposal of assets			
	3.4.3		Other			
	3.5	Contributions				
	3.5.1		Employee regular			
	3.5.2		Employee AVC			
	3.5.3		Employer regular			
	3.5.4		Employer special payments			
	3.5.5		Other employer contributions			
	3.6	Transfer values received				
	3.6.1		Employee contributions			
	3.6.2		Employer contributions			
	3	**Total income**				
Expenditure	**4.1**	Professional services				
	4.1.1		Administration fees			
	4.1.2		Investment fees			
	4.1.3		Actuarial fees			
	4.1.4		Legal fees			
	4.1.5		Audit fees			
	4.1.6		Other			
	4.2	Other operating expenses				
	4.3	Benefit payments				
	4.3.1		Payments to retired members			
	4.3.1.1		o/w	Commutation of pension		
	4.3.1.2		o/w	Pension payments		
	4.3.2		Purchase of annuities			
	4.3.3		Payments to beneficiaries			
	4.3.4		Death benefits			
	4.3.5		Return of contributions on withdrawal			
	4.3.6		Transfer values paid			
	4.3.7		Other			
	4	**Total expenditure**				
		Surplus of income over expenditure				

Additional items	**Income and expenditure**		
	5.1	What are your estimated pension payments in the coming year?	LC
	5.2	What are the actuarially required contributions for the year?	LC
	5.3	What is your accumulated contribution balance, with interest?	LC
	Balance sheet: assets		
	5.4	What is the maximum investment in any one entity other than the sponsor (including bonds, equities	LC
	5.5	What percentage of assets if any are invested in the sponsor (including bonds, equities and loans)?	Percent
	5.6	What is the percent maximum investment in voting shares for any one entity?	Percent of entity
	5.7	What the average maturity of the bonds you hold?	Years
	5.8	What percent of your equities did you sell in the last year?	Percent
	5.9	What is the average credit rating of your bond portfolio?	Moody's rating
	5.10	What is the value of your assets with a residual maturity of less than a year?	LC
	5.11	What is your ratio of current assets to current liabilities?	Percent
	5.12	What is the proportion of mortgages that are at least three months past due	Percent
	5.13	What is the current loan to value ratio on your mortgage portfolio	Percent
	Plan structure		
	5.14	What are the total wages of the members of the plan?	LC
	5.15	What is the average age of the members?	Years
	5.16	What percentage of the workforce are active members of the pension plan?	Percent
	5.17	What percentage of active members are over 55?	Percent
	Balance sheet: liabilities		
	5.18	What is the value of your liabilities on the basis of the accumulated benefit obligation?	LC
	5.19	What is the value of your liabilities on the basis of the projected benefit obligation?	LC
	5.20	What was the year of the valuation?	Year
	5.21	What mortality table was used?	Name
	5.22	What is the actuarial assumption regarding salary increases?	Percent
	5.23	What is the actuarial assumption regarding interest rate pre-retirement?	Percent
	5.24	What is the actuarial assumption regarding interest rate post retirement?	Percent
	5.25	What is the actuarial assumption regarding pension indexation?	Percent
	Organisation of the plan		
	5.26	How many trustees are there?	Number
	5.27	How many trustees are independent of the sponsor?	Number
	5.28	Is asset management contracted out?	Yes/no
	5.29	Is pension administration contracted out?	Yes/no

	Miscellaneous features relevant to DC plans				
	5.30	Is there any guidance on life cycle investing?			Yes/No
	5.31	What is the interest rate credited on contributions?			Percent
	5.32	What is the expected rate of return?			Percent
	5.33	Are pension payments made direct from the plan?			Yes/no
	Sponsor				
	5.34	What year is the latest financial statement of the sponsor?			Year
	5.35	What accounting standard is adopted?			Name
	5.36	If IFRS is adopted, what is the bond yield used to discount pension liabilities			Percent
	5.37	What is the annual profit of the company that sponsors the pension plan?			LC
	5.38	What are the total wages of the members of the plan?			LC
	5.39	What is the debt of the sponsor in the latest financial statement?			LC
	5.40	What are the total assets of the sponsor in the latest financial statement?			LC
	5.41	What is the total number of employees (permanent and temporary) in the firm			Number
Member information	**6.1**	Active members at the end of the reporting period			Number
	6.2	Deferred pensioners at the end of the reporting period			Number
	6.3	Pensioners at the end of the reporting period			Number

Notes and definitions

- An extensive set of notes and definitions is needed to enable funds to fill in the template appropriately and accurately.
- An example from such a notes and definitions document is given on the next slide

4 – Fund Expenditure
Include those accounts which reflect ordinary and recurring financial costs and expenses incurred during the period.

4.1 – Professional services
Include all expenses for professional services incurred by the plan.

4.1.1 – Administration Fees
Include the amount of all expenses of an administrative nature. This would include any fees payable to the trustees and/or an insurance company for the administration of the plan.

4.1.2 – Investment Fees
Include the amount of all expenses of an investment management nature. Do not include investment management fees associated with unitized investment instruments where these amounts are reflected in the net investment returns from these investments.

4.1.3 – Actuarial Fees
Include the amount of all expenses incurred for actuarial services rendered. Do not include these amounts if they are paid directly by the employer or sponsoring company.

4.1.4 – Legal Fees
Include the amount of all expenses incurred for legal services provided. Do not include these amounts if they are paid directly by the employer or sponsoring company.

4.1.5 – Audit Fees
Include the amount of all expenses incurred for auditing services provided. Do not include these amounts if they are paid directly by the employer or sponsoring company.

4.1.6 – Other (Specify)
Include any other expenses incurred for professional services not mentioned above.

4.2 – Other operating expenses
Includes all operating expenses not included in other Accounts.

Additional data items

- The following aggregate data are required to complete the indicators:

Workforce economy wide (employees in employment plus unemployed plus self-employed)
Population of working age
Retired population economy wide
Members of public pension schemes, working age and retired
Interest rate on bank deposits (large deposits)
GDP and RPI
Profitability of fund providers

Caribbean issues

- Earlier on we highlighted a number of issues arising in Caribbean pension sectors, and note here some of the related indicators that enable monitoring:
  - Declining interest rates affecting liabilities (corporate bond rate used for discounting liabilities)
  - Lack of long maturity bonds (maturity of bond portfolio)
  - Deficits in some DB schemes (asset/liability ratio)
  - Guaranteed returns in some DC schemes (interest rate credited on contributions)
  - Ageing populations affecting pension funds (maturity of pension funds, mortality table used)
  - Degree of risk from local financial markets (foreign assets/assets)
  - Age distribution of contributors (average age of active members)
  - Pension fund governance (distribution of trustees, contracting out of administration or asset management)
  - Contribution rates (employer and employee contribution rates)
  - Administrative costs (small funds) (proportion of members and assets in small funds)

Policy analysis and publication

- Difficulty of no simple benchmark unlike for banks (historic averages of indicators)
- Presentation of core measures (solvency, return and portfolio)
- Link to macroeconomic developments and risks, global and local – focus indicators on basis of main risks highlighted
- Focus on underperforming subsectors by size, sector, maturity, DB/DC
- Link of underperformance to macroeconomy, directly for fund or via sponsors in sector
- Implications for funds of exogenous aspects such as legislation, accounting, demography
- Potential systemic risks from the sector (mainly market volatility)
- Sectoral stress tests can be employed to illustrate the analysis, also using the EIOPA toolkit if available
- Consider interconnectedness (e.g. holding of bank deposits)
- For regulators, the aggregate indicators will highlight the individual outliers in terms of fund behaviour that may warrant close attention

Conclusions

- In this presentation we have set out a basis for evaluating the stability and health of Caribbean pension fund sectors.
- We have developed a set of indicators based on the main risks to which pension funds are subject, and a template for gathering the underlying data.
- The indicators can provide a benchmark to supervisors as well as being of use in published documents for informing the public
- We note that the usefulness of such indicators should increase over time as trends in the data become apparent, as well as providing a useful comparison with other national pension systems across the Caribbean.

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