


Financial Risk Assessment in an Integrating Financial System



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Issues for the Caribbean

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Agenda

1. Stylised Facts about Structure of Caribbean Financial System
2. Elements of the Financial Risk Architecture
3. Macro-Prudential Indicators - State of Play
4. Key Financial Stability Matters for Policy Focus
5. Conclusion

1.0 Structure of Caribbean Financial System



- Domestic On-shore Financial Sector is quite large relative to the size of the regional economy.
 - Total financial assets amount to around 131% of regional GDP (IMF estimate, WP/13/175)(p.7)
 - Banking System Assets (95% of regional GDP)
 - Non-Banking System Assets (36% of regional GDP)
 - Insurance Companies (20% of regional GDP)
 - Security Firms (9% of regional GDP)
 - Credit Unions (7% of regional GDP)

1.1 Structure of Caribbean Financial System




- Onshore Banking is important in several jurisdictions
 - The Bahamas (150% of National GDP)
 - ECCU (176% of Union's GDP)
 - Jamaica (50% of National GDP)

- Significant Offshore Banking Sector (as measured by offshore banking assets) in some regional jurisdictions
 - The Bahamas (7,220% of National GDP)
 - Barbados (1,082% of National GDP)


- Regional On-shore Banking Sector is relatively concentrated with four banks accounting for 75% of total regional Onshore banking assets:
 - RBC (22%) - (Canadian Bank)
 - Scotia Bank (20%) - (Canadian Bank)
 - First Caribbean International Bank (FCIB) (19%) - (Canadian Bank)
 - Republic (14%) - (Trinidad and Tobago Bank)

1.2 Structure of Caribbean Financial System

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- Credit Union Sector has grown in several Caribbean countries:

Financial Assets to GDP

- Dominica (39% of national GDP)
- Belize (21% of national GDP)
- Barbados (17% of national GDP)
- Grenada, St. Vincent and St. Lucia range between 13% and 19% of GDP of these respective countries.



1.3 Structure of Caribbean Financial System

- Share of Indigenous institutions in the Caribbean on-shore financial sector in decline.
- Foreign Banks dominate landscape of Caribbean Financial Sector
 - 60% of regional banking assets held by Canadian-based banks.

2.0 Elements of Financial Stability Risk Architecture



- Global financial crisis along with the reverberations from the collapse of a key regional financial conglomerate (CL Financial) has brought to the fore the importance of systemic risks in the Caribbean region.
- Systemic Risks: The risk that an event could trigger a loss of value or confidence in a substantial portion of the financial system resulting in adverse “nation-wide” and region-wide” effects.
- No fully agreed upon risk assessment framework for financial stability exists globally although several elements for a unified framework are being elaborated and developed by international bodies (IMF, BIS, ECB, FSI) and academic institutions.

2.1 Financial Stability Risk Assessment Framework: Key Components

Financial Components

Financial Institutions

Financial Markets

Financial
Infrastructure

Relationships

- How the components operate on an individual basis.
- How the components are interlinked and how they interact (Connectedness).
- How the components enhance investment, growth, macroeconomic stability and real economic development.



2.2 Financial Risk Architecture for the Caribbean: Main Elements

- Risk Assessment of Financial system requires:
 - **Identification of major sources of risks**
 - Endogeneous (shocks generated and amplified within financial system)
 - Exogeneous (shocks arising from outside the system)
 - **Assessment of Nature of the Risk**
 - Macro-prudential (driven by common exposures, interconnectedness, interdependence from Endog. Shocks).
 - Micro-prudential (addresses risks in individual financial institutions arising from Exog. Shocks).



2.2a Financial Risk Architecture for the Caribbean: Main Elements

➤ Measurement of Risk (Risk Metrics)

- Micro-Prudential Measures (**CAMEL, CAMEL**
, PEARLS for individual financial institutions)
- Macro-Prudential Measures
 - FSIs, EWS
 - Macro-Stress Tests
 - Network and Interconnection Maps
 - Macro-econometric Link Models, DSGE Models
 - Financial Contagion Matrices



2.2b Financial Risk Architecture for the Caribbean: Main Elements


➤ Effective Risk Mitigation through:

- Complementary macro-prudential and micro-prudential regulation (a major blindspot).
- Crisis Management Plan and Strategy.
- Robust Information, Communication and Technology platform (including robust computer networks and flexible databases).
- Business Continuity framework and Plan for the financial sector.

2.2c Financial Risk Architecture for the Caribbean: Main Elements


Financial Sector Components	Sources of Risk	Risk Assessment	Major Risks	Risk Metrics	Risk Mitigation
Financial Institutions <ul style="list-style-type: none"> • Banks • Ins. Comp/Pens. Funds • Credit Unions • Securities Firms 	Endogeneous Risks Exogeneous Risks	Micro-Prudential Macro-Prudential	<ul style="list-style-type: none"> •Credit •Liquidity •Reputational 	<ul style="list-style-type: none"> •FSIs •EWIs •Stress Tests •Flow of Funds 	<ul style="list-style-type: none"> •Crisis Management •Regulatory System (Single, Multiple)
Financial Markets <ul style="list-style-type: none"> • Interbank Mkt • Forex Mkt. • Capital Mkts (Equity, Debt) 	Endogeneous Risks Exogeneous Risks	Micro-Prudential Macro-Prudential	<ul style="list-style-type: none"> •Counterparty •Asset Price Misalignment •Market •Reputational 	<ul style="list-style-type: none"> •Contagion Matrices •Financial Model (Macro, DSGE) •Network Analysis 	
Financial Infra Structure <ul style="list-style-type: none"> • Legal/Regulatory Systems • Payments Systems • Clearance Systems • Deposit Insurance 	Endogeneous Risks Exogeneous Risks	Micro-Prudential Macro-Prudential	<ul style="list-style-type: none"> •Payment •Operational •Regulatory •Reputational 		

Source: Prepared by Shelton Nicholls.



3.0 Macro-Prudential Indicators: State of Play

- Region is making some progress with putting in place FSI indicators (both core and enhanced) for the Banking sector.
- Significant effort is however required in developing and compiling FSIs and EWIs for non-banks, life and non-life insurance companies, credit unions and pension funds.
- Systemic risk and macro-prudential regulation of the system as a whole remains a potential Achilles heel unless more rapid progress is made with macro-prudential surveillance.



3.1 Macro-Prudential Indicators: State of Play

- Stress Tests have been conducted in the banking systems of Trinidad and Tobago, Barbados and Jamaica .
- Most of the Stress Tests have been directed at single factor shocks with an emphasis on one component of the financial system (banking). [Exception: **Jamaica has conducted a stress test of the impact of the credit union sector**].
- No combined stress tests have been developed that examine the impact of Endog. Shocks (e.g. interest rate declines) on the banking, insurance, pension funds and credit union sectors in national financial systems and across the region.



3.2 Macro-Prudential Indicators: State of Play (Banking Sector)

Banking Sector:

- Economic stagnation has led to a sharp rise in the Non-Performing Loans to Total Loans (NPL/TL) ratio which hovered at just under 10.0% in 2012. But Banks maintained sufficient liquidity and had robust capital adequacy provisions.
- High NPL/TL ratios in Belize, Barbados, ECCB and the Bahamas.












3.2a Macro-Prudential Indicators: State of Play (Banking Sector)

Banking Risk Analysis (Regional Summary 2012)

BANKING RISKS	Metric	Peer Avg	Reg Avg	Risk Rating
Credit Risk	(NPL/TL)	5.6	9.2	Medium (M)
Liquidity Risk	(LA/TA)	29.9	25.5	Low (L)
Cap. Adq. Risk	(RCap/RWA)	18.4	19.9	Low (L)
Peer - Selected Developing Countries				

Banking Sector Risk Analysis (Regional 2012)

FLAG	COUNTRIES	NPL/TL (%)	LA/TA (%)	RegCAP/RWA (%)	Credit Risk (NPL/TL)	LIQUIDITY RISK (LA/TA)	Cap. Adq. Risk (RegCAP/RWA)
	BAH	13.0	20.2	26.9	VH	L	L
	BDS	10.6	13.0	25.5	VH	M	L
	BEL	17.2	29.7	22.4	VH	L	L
	ECCB	15.3	22.5	19.8	VH	L	L
	GUY	5.6	21.9	18.9	L	L	L
	HAT	2.4	45.5	15.7	VL	VL	M
	JAM	6.8	22.6	14.1	M	L	M
	SUR	6.2	28.5	11.3	M	L	M
	T&T	5.4	25.2	24.6	L	L	L
	PEER AVG	5.6	29.9	18.4			
	REG. AVG	9.2	25.5	19.9			

Peer - Selected Developing Countries

Sources: Central Bank Reports, CCMF.



3.3 Macro-Prudential Indicators: State of Play (Credit Union Sector)

Credit Union Sector:

- FSIs collected for the credit union sector remain quite sparse although this sector is quite important in some regional jurisdictions such as Barbados and the ECCU.
- Even sparse data show that credit risk in this sector is above the PEARLS target.












3.3a Macro-Prudential Indicators: State of Play (Credit Union Sector)

Credit Union Risk Analysis (Regional Summary) (2011/12)

CREDIT UNION RISKS	Metric	Pearls Target (%)	Reg Avg (%)	Risk Rating
Credit Risk	(NPL/TL)	≤5.0	6.6	Medium (M)
Liquidity Risk	(LA/TA)	15 - 20	?	?
Cap. Adq. Risk	(CapRes/RWA)	≥10	12.5	Low (L)
PEARLS Target from WOCCU				

Credit Union Sector Risk Analysis (Regional, 2012)

FLAG	COUNTRIES	NPL/TL (%)	LA/TA (%)	CAPRES/RWA (%)	Credit Risk (NPL/TL)	LIQUIDITY RISK (LA/TA)	Cap. Adq. Risk (CAPRES/RWA)
	BAH	NA	NA	NA	?	?	?
	BDS	8.5	NA	NA	M	?	?
	BEL	8.5	NA	23.7	M	?	L
	ECCB	NA	NA	NA	?	?	?
	GUY	NA	NA	NA	?	?	?
	HAT	NA	NA	NA	?	?	?
	JAM	2.7	NA	4.0	L	?	M
	SUR	NA	NA	9.7	?	?	M
	T&T	NA	NA	NA	?	?	?
	PEARLS Target	≤5.0	15.0-20.0	≥10.0			
	REG. AVG	6.6	NA	12.5			

PEARLS Target from WOCCU



3.4 Macro-Prudential Indicators: State of Play (Insurance Sector)

Life Insurance Segment:

- Medium underwriting and asset quality risks for the life insurance sector. Data remain sparse and difficult to compare meaningfully across the region.

Non-Life Segment:

- High combined ratios (loss ratio and expense ratio) may be signaling some difficulty in an environment of low investment yields.

3.4a Macro-Prudential Indicators: State of Play (Life Insurance Sector)












Life Insurance Risk Analysis (Regional Summary) (2011/12)

LIFE INSURANCE RISKS	Metric	Peer Avg (%)	Reg Avg (%)	Risk Rating
Underwriting Risk	(EXP/NP)	NA	39.9	Medium (M)
Asset Risk	[RE/UE/D]/TA	NA	31.8	Medium (M)
Cap. Adq. Risk	(Cap/TR)	NA	22.7	Low (L)

Peer - Selected Developing Countries

Sources: Central Bank Reports, CCMF.

Life Insurance Sector Risk Analysis (Regional 2011/2012)

FLAG	COUNTRIES	EXP/NP (%)	[RE/UE/D]/TA (%)	CAP/TR (%)	Underwrit Risk (EXP/NP)	Asset Risk ([RE/UE/D]/TA)	Cap. Adq. Risk (CAP/TR)
	BAH	NA	NA	NA	?	?	?
	BDS	NA	NA	NA	?	?	?
	BEL	42.3	7.3	38.9	M	L	L
	ECCB	NA	NA	NA	?	?	?
	GUY	NA	NA	NA	?	?	?
	HAT	NA	NA	NA	?	?	?
	JAM	58.1	78.5	21.1	M	H	L
	SUR	22.1	26.9	8.5	L	M	M
	T&T	37.1	14.4	22.1	M	L	L
	PEER AVG	NA	NA	NA			
	REG. AVG	39.9	31.8	22.7			

Peer - Selected Developing Countries



3.5a Macro-Prudential Indicators: State of Play (Non-Life Insurance Sector)










Non-Life Insurance Risk Analysis (Regional Summary) (2011/12)

NON-LIFE INSURANCE RISKS	Metric	Peer Avg (%)	Reg Avg (%)	Risk Rating
Underwriting Risk	(EXP+NC/NP)	100	128.8	H
Asset Risk	[RE/UE/D]/TA	NA	45.4	Medium (M)
Cap. Adq. Risk	(CP+SP/TA)	NA	44.3	Low (L)

Peer - Selected Developing Countries

Sources: Central Bank Reports, CCMF.

Non-Life Insurance Sector Risk Analysis (Regional 2011/2012)

FLAG	COUNTRIES	EXP+NC/NP (%)	[RE/UE/D]/TA (%)	CP+SP/TA (%)	Underwrit Risk (EXP+NC/NP)	Asset Risk ([RE/UE/D]/TA)	Cap. Adq. Risk (CP+SP/TA)
	BAH	NA	NA	NA	?	?	?
	BDS	NA	NA	NA	?	?	?
	BEL	172.6	43.6	49.0	H	H	L
	ECCB	NA	NA	NA	?	?	?
	GUY	88.0	55.0	54.0	M	H	L
	HAT	NA	NA	NA	?	?	?
	JAM	156.1	65.9	29.8	H	H	M
	SUR	NA	NA	NA	?	?	?
	T&T	98.5	17.0	NA	M	L	?
	PEER AVG	100.0	NA	NA			
	REG. AVG	128.8	45.4	44.3			

Peer - Selected Developing Countries

Sources: Central Bank Reports, CCMF.



4.0 Key Financial Stability Matters for Policy Focus

Short Term:

- Rapidly improve collaborative efforts in building FSIs for non-banks, insurance, credit unions and securities firms that operate in onshore national and regional economy.
- Build integrated database for regional financial conglomerates and SIFIs and develop consolidated FSI database for the Caribbean.
- Develop a financial contagion matrix to map interconnections of SIFIs at both a national and regional level.

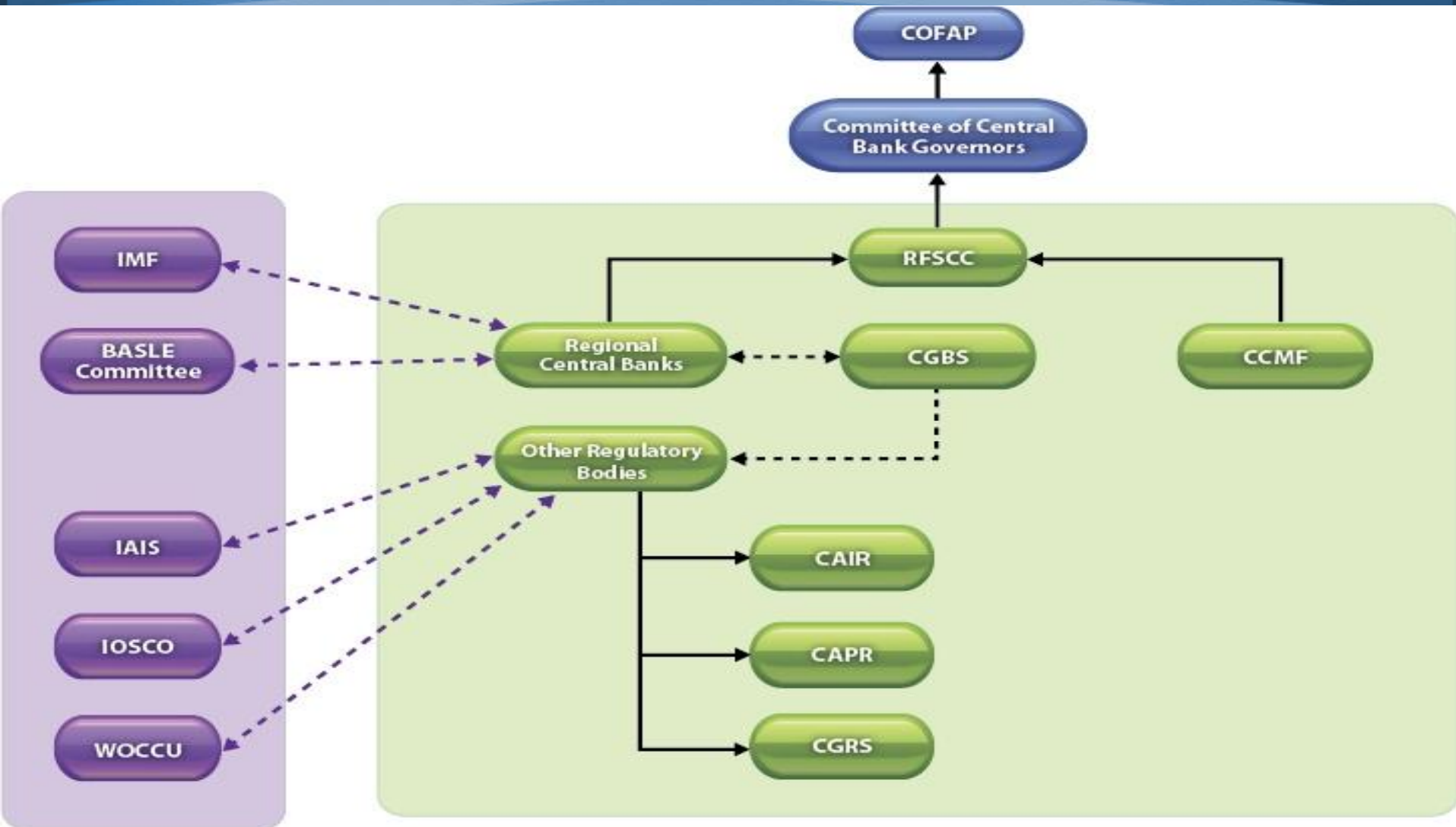


4.1 Key Financial Stability Matters for Policy Focus

Short Term (cont'd):

- Establish an appropriate institutional framework and support structure for macro-prudential surveillance, regulation and policy making (see **Proposed RFSCC Co-ordination Architecture Map on next slide**).
- Develop and extend macro stress tests beyond banking sector to other key areas, especially insurance and the securities market. Conduct at least one significant region-wide stress test for banking and insurance sectors.
- Develop appropriate Communication Strategy to report and warn of impending risks (FSRs, Conferences/Workshops, etc).

Regional Financial Stability Coordination Architecture





4.2 Key Financial Stability Matters for Policy Focus

Long Term:

- Re-establish national flow of funds matrices and build an integrated flow of funds matrix for the region.
- Develop a financial contagion matrix for the region.
- Build a quarterly regional link model (dynamic macro-econometric financial model) to detail linkages between the national and regional financial sectors and the regional economic system.



5.0 CONCLUSION

- Regulators may not be able to prevent the emergence of the next financial crisis, but we must place ourselves in a position to mitigate its destabilizing effect.
- Developing a Risk Assessment Framework for the Caribbean regional financial sector based on Macro-Prudential principles is the place to start and the way to go.

END OF PRESENTATION

QUESTIONS AND COMMENTS?