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FINANCIAL SECTOR STABILITY ASSESSMENT

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This Financial System Stability Assessment paper on Jamaica was prepared by a staff team of the International Monetary Fund [as background documentation for the periodic consultation with the member country. It is based on the information available at the time it was completed on October 18, 2018.

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FINANCIAL SYSTEM STABILITY ASSESSMENT

October 18, 2018

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This report is based on the work of the Financial Sector Assessment Program (FSAP) Stability Module mission that visited Jamaica in April and June 2018. The FSAP findings were discussed with the authorities during the Fourth Review of the SBA mission in September 2018.

- The FSAP team was led by Maria Oliva and comprised Dan Nyberg (Deputy), Qianying Chen, Luc Riedweg, Karim Youssef (all IMF staff); Antonia Menezes, William Price (both World Bank staff); Timo Broszeit, Richard Gresser, Keith Hall, Carlos Leon, Claire McGuire, Greg Tanzer (all IMF external experts). Uma Ramakrishnan (IMF staff) and Mr. Williams of the Executive Director's Office joined the concluding discussions. Greg McCoy assisted the mission from IMF Headquarters and Camille Ritchie coordinated logistics from the IMF Resident Representative's office in Kingston.

- FSAPs assess the stability of the financial system as a whole and not that of individual institutions. They are intended to help countries identify key sources of systemic risk in the financial sector and implement policies to enhance its resilience to shocks and contagion. Certain categories of risk affecting financial institutions, such as operational or legal risk, or risk related to fraud, are not covered in FSAPs.

- This report was prepared by Maria Oliva and Dan Nyberg, with contributions from the members of the FSAP team.

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Glossary

AML	Anti-Money Laundering
BCP	Basel Core Principles
BoJ	Bank of Jamaica
BoJA	Bank of Jamaica Act
BSA	Banking Services Act
CAR	Capital Adequacy Ratio
CFT	Combatting the Financing of Terrorism
CIF	Collective Investment Funds
COBS	Committee of Bank Supervisors
CPC	Chief Parliamentary Council
DBJ	Development Bank of Jamaica
DTI	Deposit Taking Institutions
FATF	Financial Action Task Force
FHC	Financial Holding Companies
FSAP	Financial Sector Assessment Program
FSC	Financial Services Commission
FX	Foreign Exchange
FSSC	Financial System Stability Committee
GOJ	Government of Jamaica
ICO	Initial Coin Offerings
JDIC	Jamaica Deposit Insurance Corporation
MiCAF	Ministry of Commerce, Agriculture and Fisheries
MOFPS	Ministry of Finance and Public Service
MSME	Micro Small- and Medium-sized Enterprises
NPL	Nonperforming Loans
NRA	National Risk Assessment
OTC	Over-the-Counter
RAM	Risk Assessment Matrix
SD	Securities Dealers
SRR	Special Resolution Regime
TA	Technical Assistance

EXECUTIVE SUMMARY AND KEY RECOMMENDATIONS

The macroeconomic environment has improved, reflecting the authorities' efforts, supported by an IMF arrangement. Previously, years of high fiscal deficits, public enterprise borrowing, and financial sector bailouts led to rapid government debt accumulation, crowded out private credit, increased financial dollarization, and stifled economic growth. Fiscal discipline has been essential to reduce public debt (to about 100 percent of GDP). With government debt accounting for a sizable share of financial institutions' assets, falling interest rates on government debt are leading to a search for yield. Also, entrenched structural obstacles, including high crime, bureaucratic processes, insufficient labor force skills, and poor access to finance still constrain economic growth.

The authorities have made good progress in implementing the 2006 FSAP recommendations. Work on the regulatory framework has significantly advanced in several areas such as securities dealers' activities, powers to the Bank of Jamaica (BoJ), payment systems, and the introduction of the centralized securities depository. However, the crisis management framework and risk-based supervision work has been lagging.

The financial sector has significantly expanded since the 2006 FSAP and is now highly interconnected and dependent on foreign funding. The sector is dominated by large, complex and highly interconnected groups that operate in several jurisdictions.

The stress tests suggest broad resilience to solvency shocks, but the interconnectedness analysis points to high risk of contagion. The main risks to the financial system arise from exposure to natural disasters, the tightening of global financial conditions, and the possible reversal of fiscal discipline driven by reform fatigue. Under an adverse scenario of temporary economic recession, banks would be able to recover due to high profits and large buffers. A natural disaster shock could require large recapitalization needs of 3.3 percent of GDP. Insurance companies would also be able to recover relatively fast with a global repricing of the risk premium due to high profitability. At the group level, the large and complex intra- and inter-group direct exposures puts the system at risk via contagion.

In this context, priority should be given to intensified oversight and group-wide risk-based supervision, especially of groups with systemic connections. Implementation of Basel's Pillar I on minimum capital requirements and Pillar II on the supervisory review process should help build enough buffers at the individual and group level based on inherent risk undertaken to ameliorate regulatory arbitrage. Active cooperation and coordination with other supervisors also in the region, and in particular, for those affecting systemic groups, should be strengthened; access to timely granular data, analyses, and monitoring is key. An effective macroprudential framework should build on strong micro-prudential foundations of supervisory oversight and go hand-in-hand with heightened commitment to transparency and accountability. Work reinforcing the resilience of securities dealers, the deepening of capital markets and broadening of instruments to manage credit, liquidity and market risks should continue.

Immediate efforts are needed to expand skilled supervisory resources. All supervisory agencies need to expand their capacity to fulfill their current mandate and new demands. Advances towards the adoption of international standards by 2020/21 will pose important challenges to the authorities and the industry and require further inter-agency coordination. The databases available also need to be strengthened to further facilitate the monitoring of risks of a complex group-based financial system, and to conduct informative and sound financial stability analyses and risk assessments.

Progress on the Special Resolution Regime for Financial Institutions and on the broader crisis management framework is welcome, but more needs to be done. The consultation paper issued last February 2017 addressed many complex issues requiring the attention of all safety net stakeholders in the economy. Ongoing engagement with the industry on this important effort will increase buy-in for the many changes that will result from adoption of a new resolution regime. Further work is ongoing for clarifying several key aspects (e.g., defining specific responsibilities in the new resolution framework, defining systemically important institutions, and funding) and properly sequencing the work on recovery planning, resolution plans, and resolvability assessments. System-wide preparation for a systemic crisis is also an area that requires attention.

TABLE OF MAIN RECOMMENDATIONS

	Recommendations, Responsible Authorities, and References to Main Text	Time[1]
	Financial Stability and Resources	
1	Increase supervisory resources (All)	I
2	Enhance data collection and technical skills needed for risk-based supervision, including frequency, granularity, and quality, with a focus on exposures data for analysis (All)	I
3	Strengthen the IT platform for supervisory data sharing and regulatory collaboration, including sharing costs (All)	I/NT
	Microprudential Oversight	
4	Provide greater delegation to the BoJ to enact legally enforceable rules and include the most important Standards of Sound Practices in the binding set of prudential rules (Government)	I
5	Fully deploy and implement risk-based supervision (BoJ, FSC)	I
6	Fully deploy and implement risk-based AML/CFT supervision for Deposit Taking Institutions (DTIs) and Cambios (BoJ)	NT
7	Implement consolidated supervision and intensify cross-agency cooperation (BoJ, FSC)	I
8	Strengthen the regulatory framework by implementing Basel III capital adequacy requirements and liquidity requirements at the solo and group levels (BoJ)	NT
9	Intensify dialogue with the industry (BoJ, FSC)	I
	Securities Dealers	
10	Complete the retail repo reforms through the staged introduction of the mismatch ratio (FSC)	I/NT
11	Securities dealers should be able to intermediate in a wider range of financial instruments, in particular, corporate debt and equity instruments (FSC)	MT
12	Introduce the revised large exposure regime to improve resilience against contagion (FSC)	NT
13	Introduce formal arrangements for group-wide supervision of conglomerates which include securities dealers, both within the FSC and between the FSC and BoJ (FSC and BoJ)	NT
	Insurance Sector	
14	Enact binding regulations for asset-liability management and introduce regular stress tests for general insurers (Government, FSC)	MT
15	Introduce a risk-based solvency regime, ideally at the time of adoption of IFRS 17 (Government, FSC)	NT
	Macroprudential Policy and Framework	
16	Develop a toolkit for macroprudential policy (BoJ)	MT
17	Develop a communication strategy to convey financial stability assessments and link them to policy actions (BoJ)	MT
	Crisis Preparedness, Recovery Planning, and Resolution	
18	Introduce a special resolution regime (SRR) closely aligned with international best practice for resolving systemic financial institutions (Government)	NT
19	Finalize an MoU between BoJ and the Jamaica Deposit Insurance Corporation (JDIC) to allow JDIC to better prepare for possible resolution action (BoJ, JDIC)	I
20	Develop a contingency plan for a systemic crisis (All)	MT
21	Develop guidance for FIs on recovery plans and begin a pilot project to request such plans from the most significant institutions on a rolling basis (BoJ, FSC, JDIC)	I
22	Develop strategy for funding of resolution, including whether to establish a resolution fund (All)	MT
	Capital Market Development	
23	Adopt a strategy for capital markets deepening, including developing the short end of the yield curve for benchmarking (Government)	NT

[1] I (immediate) = within one year; NT (near term) = 1–3 years; MT (medium term) = 3–5 years.

MACROFINANCIAL SETTING

1. **The authorities have made considerable progress on the macroeconomic stabilization front, supported by IMF arrangements.** Previously, years of high fiscal deficits, borrowing, and financial sector bailouts led to an unsustainable stock of sovereign debt (restructured in 2010 and 2013), crowded out private credit, financial dollarization,[1] and stifled economic growth. Since then, fiscal discipline has helped reduce sovereign debt to about 100 percent of GDP (Figure 1 and Table 1) and interest rates on sovereign debt have fallen, resulting in a search for yield. With economic growth continuing to disappoint, reform fatigue could emerge as a risk. Structural obstacles include high crime, bureaucratic processes, insufficient labor force skills, poor access to finance, and exposure to weather shocks.

2. **In recent years, the authorities have implemented important financial sector reforms, but strengthening the capacity to oversee risks in financial groups is crucial** (Appendix II)**.** The 2006 FSAP recommended strengthening the prudential framework for securities dealers, enhancing the oversight of conglomerates, the development and testing of crisis management systems, and improving the insolvency and creditor rights regime. Since then, progress has included the Insolvency Act in 2014, Bank of Jamaica Act (BoJA) in 2015, Banking Services Act (BSA) in 2014, the operationalization of the Financial System Stability Committee (FSSC) in 2016, and the production of the Financial Stability Report (FSR). Fund TA has supported efforts to enhance financial sector resilience.

3. **The financial sector has grown rapidly and become more complex and interconnected.** Over the past decade, Jamaica's financial sector has tripled in assets, and the number of institutions has grown eight-fold (Table 2). Total assets now amount to about 180 percent of GDP. Nonbank financial institutions play a key role in financial intermediation. Conglomerate groups have financial sector activities that span banking, insurance, pensions fund management, collective investment fund (CIF) management, and securities dealers (Table 3). These groups often operate in multiple jurisdictions, especially in the Caribbean, searching for economies of scale and regulatory arbitrage opportunities in relatively dispersed and small markets.

4. **Commercial banks appear to be well capitalized and profitable** (Tables 4a and 4b)**.** Banks' business model is largely traditional, with large retail deposit funding and some wholesale funding structures, excess reserves at the BoJ, sovereign long-term securities, and a conservative lending policy, with the loan-to-deposit ratio at about 70 percent in 2017 (Figure 2). Banks' profitability is healthy, with non-interest income (e.g., fees) accounting for almost a third of total revenue.

5. **The nonbank financial sector is large and multi-layered.** Gross assets were over 100 percent of GDP in 2017, including insurers, pension funds, securities dealers, asset managers,

[1] Dollarization accounts for over 45 percent of assets and liabilities in banks, limiting monetary policy transmission (Jamaica April 2018 Art IV Report).

and collective investment schemes. Private pension funds have been growing fast (Table 2). Jamaica's insurance sector is large and highly concentrated (four life insurances hold 99 percent market share). Securities dealers manage an asset portfolio of 33 percent of GDP and have significant retail rolling investment schemes ("retail repos") (Figure 3). "Retail repo" means the offer of 1-2 month repurchase agreements to households or nonfinancial corporates, backed by long-maturity government bonds (implying a significant maturity mismatch). CIFs and pooled funds have been growing (Figure 4) on average 30 percent in the last two years, partly with injections from small retail investments that have been prohibited from being reinvested in repos.

6. **The financial sector is dominated by complex financial conglomerates that operate in multiple jurisdictions.** Some large groups' headquarters are based in jurisdictions with different oversight practices; cross-border linkages are concentrated in a few entities, and there is no consolidated supervision. Even with proper separation between bank and nonbank group members, reputational risks and direct and indirect exposures could be a source of contagion (Table 5). Common exposures to sizable public debt holdings by all segments of the groups and across financial institutions means that the stability of the financial system is closely bound to the discipline in public finances, sustainability of the macroeconomic outlook, and debt market dynamics.

7. **The secured money market in Jamaica is small.** There is a primary market for government securities and a deep market for rolling investment contracts. A secondary bond market and a foreign exchange (FX) market are being developed.

8. **The authorities have an ambitious financial inclusion agenda** that was covered in the World Bank (2015) FSAP Development Module (see Box 1 and Appendix II). Financial inclusion policies should take into consideration the financial stability risks.

RISKS AND VULNERABILITIES

9. **The main risks to the financial system arise from exposure to natural disasters, tightening global financial conditions, and reform fatigue** (see the Risk Assessment Matrix (RAM) in Appendix I). Delays in the reform agenda would erode confidence and fuel FX outflows. A tightening of global financial conditions could reduce foreign inflows including remittance inflows, which would dampen economic growth (through consumption and investment) and lead to rising nonperforming loans (NPLs). A natural disaster would cause protracted negative growth and large losses for banks and other financial institutions.

10. **The large, complex, and highly interconnected structures make the financial sector particularly vulnerable to contagion.** Risks arise from their concentrated ownership, related party and large group exposures, and off-balance sheet positions. Against this background, the Financial Sector Stability Assessment focused on resilience to solvency and liquidity shocks, direct and indirect exposures and interconnectedness.

A. Financial Conglomerates and Interconnectedness

11. The interconnectedness assessment found important links in the repo market and the large value payment system, significant counterparty exposures, and notable similarities in business models (Figures 5&6)**.** The analysis used data on (i) direct exposures. (ii) indirect exposures via financial institutions' balance sheet similarities and hierarchical clustering, and (iii) large-value payment system liquidity. (Appendix V).

12. The direct exposure network analysis showed a highly interconnected financial system with concentrated dependence on foreign funding (Table 5). The system displays significant interconnectivity across financial entities in the system, also by international standards, and with complex and sparse links. Foreign institutions play a central lender role, with links to about 33 percent of the participants in the network, and high intensity vis-à-vis a few systemically important DTIs. Failure to roll over borrowing from abroad would significantly impact the domestic exposure network.

13. Jamaica's financial institutions show large overall indirect common exposures, especially across banks' balance sheets. Balance sheet correlations are substantial among financial institutions pertaining to the same financial segment. The strongest correlation is in the DTIs segment (about 0.9 on average). DTIs balance sheets account for about 62 percent of assets and 64 percent of liabilities of the financial system—hence, common exposures to the financial system's balance sheet are significant.

14. Four groups are systemic to the large-value payment system (see Figure 5). Over 80 percent of the large payments system network is accounted for by 18 financial institutions; four (DTIs in particular) account for about half of the transactions, with systemic implications for the financial sector. If any of these four institutions were to fail to participate in the large-value payment system, liquidity and asset exchanges among financial institutions as well as operations in the real sector could be extensively affected.

15. The authorities should further strengthen the resources and skills devoted to the assessment of risks arising from interconnectedness. Existing data limits a full assessment on cross-exposures. The authorities are building data sets to help strengthen their analyses along several dimensions, including (i) adopt mechanisms to comprehensively measure and understand financial stability risks associated to the large-value payments system; (ii) take advantage of the informational content of real-time gross settlement (RTGS) data for supplementing traditional analysis based on low-frequency data reported by financial institutions; (iii) develop tools to comprehensively measure, understand, and manage the risks that arise from DTIs' and non-DTIs' common exposures (e.g., sovereign exposures) amid different idiosyncratic and systemic shocks; (iv) expand and enhance the existing datasets and models that allows periodic measurement and analysis of direct and indirect exposures in the financial system; and (v) measure and monitor the extent to which events involving major global participants in the exposure network may impact the solvency and liquidity of financial institutions.

B. Deposit-Taking Institutions

16. Banks are broadly resilient on a solo-basis (Figures 7a and 7b and Appendix III)**.** Under the adverse scenario with GDP growth declining to 0 percent,[2] the banking sector's aggregate capital adequacy ratio (CAR) would remain above the regulatory minima (about 13 percent) despite a sharp increase in NPL ratios across all sectoral loan balances and lower profitability. However, some banks' CARs would fall below the 10 percent CAR regulatory minimum. Restoring it across all banks would require 0.7 percent of GDP.

17. The severely adverse scenario causes several banks' CARs to fall well below regulatory minima (Figure 7c).[3] the declines in capital are due to the negative impact on interest rates (and profitability) and on NPLs as a second factor. For the system, the aggregate CAR would fall to 5.1 percent. The required recapitalization injection would amount to about 3.3 percent of GDP.

18. Sensitivity analyses suggest that the banking system is vulnerable to counterparty risk, interest rate risk, and concentration risk.

- *Counterparty risk:* Assuming each bank's top three borrowers default with zero recovery, the system's aggregate CAR would decrease to 0.7 percent one period ahead, with a recapitalization need of 4.8 percent of GDP.
- *Interest rate risk:* The high share of banks' holdings of long-dated government bonds results in significant vulnerabilities to interest rate volatility. A 300-basis point interest rate shock would reduce the systemwide CAR by 4.4 percentage points.

19. Asset-class concentration risk is high. Banks' holdings of sovereign government bonds and of personal loans are significant. Under the adverse scenario, for some banks, concentration risk is large due to loan book concentration in tourism and financial services. For some other banks, large exposures to manufacturing, construction, and trade drive NPL growth.

20. The large exchange rate shocks considered in the assessment have negligible effects. This is due to the banks' relatively covered position between FX assets and liabilities and significant financial dollarization. However, a significant rise in FX non-performing loans associated with currency movements would require increasing provisioning.

21. Banks' reserves at BoJ are sizable and would allow them to withstand shocks to their funding. Banks hold large liquid assets both in JM$ and FX, at the BoJ. BoJ's liquid asset ratio

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[2] Cumulative three-year growth would be 5 percentage points lower than the baseline. Important reforms would stall and confidence in the reform program would begin to erode. Investors would begin demanding higher yields from the government. Demand for FX would ramp up, and the currency would begin to depreciate by up to 15 percent per year. Inflation volatility would increase materially and repeated breaches of the central bank inflation target band would prompt interest rates increases of up to 300 basis points.

[3] Real GDP growth would drop by 1-2 percentage points in the first year (i.e. almost 3 percentage points lower than the baseline) and be permanently lower by 2 percentage points thereafter. Interest rates would spike by 600 basis points, led by a flight to safety. The exchange rate would depreciate significantly.

requirement in respect to domestic currency liabilities is 26 percent and 29 percent for FX liabilities; these could be readily available if needed. In the adverse scenario, over a five-day horizon, most banks would be able to withstand a proportional withdrawal run on banks' liabilities for at least 2 consecutive days. After 4 consecutive days, most DTIs would need access to their liquidity balances at the BoJ and potentially to the BoJ's liquidity facilities. Highly liquid banks would likely initially benefit from a "flight to safety" and reputation effects, which would delay any initial liquidity squeeze impact to their balance sheet.

C. Non-Bank Financial Institutions

Institutional Investors: Insurance and Pensions

22. Life insurers face challenges of declining interest rates on domestic sovereign bonds, while non-life insurers are exposed to catastrophe risks (Appendix IV).

- With strict investment limits in place for insurers and other institutional investors, ***life insurers*** are holding 59 percent of their assets in Jamaican sovereign debt. Even though life insurance products do not typically feature interest rate guarantees, the sector's profitability is declining albeit from rather high levels—the average return on equity during 2012–17 was 26 percent.
- ***Non-life insurers*** are exposed to tail risks stemming from natural catastrophes as the country faces risk from hurricanes and earthquakes. However, in particular, for property insurance, retention levels are low, and more than 90 percent of the business is ceded to reinsurers abroad.
- ***Both the life and the non-life sector*** are challenged by potential FX mismatches: While only few insurers offer products denominated in or linked to foreign currencies, many more companies hold non-JM$ investments, mainly in US$, exposing them to JM$ appreciation.

23. All insurers proved to be resilient in the assumed repricing of global risk premia (Figure 8, Appendix IV)**.** While all companies stayed above the regulatory minimum thresholds of 150 and 250 percent for life and non-life insurers, respectively, within the current solvency regime the impact of the modelled sovereign shock is likely to be underestimated. The assumed shock to domestic sovereign spreads which reduces the value of bond holdings is compensated by a decrease in liabilities as the discount rate increases in line with higher expected investment returns—under a fully market-consistent valuation, the discount rate would need to be corrected for higher expected default rates in such a scenario.

24. General insurers face a substantial decline in their solvency ratios if a major hurricane strike the country (adverse scenario 2). From a median pre-stress solvency ratio of 261 percent and therefore barely above the regulatory minimum, the sector falls to 231 percent, but with large dispersion across companies. However, most companies stay profitable and is therefore expected to recover rather quickly after such an event.

25. Pension funds appear to have a relatively sound funding model. Pension funds are typically well-funded on current estimates. This is driven by high rates of member exit and long vesting rules which both leads to employer contributions being left in the plan when a member exits and takes only their own contributions. Solvency is also enhanced because there is no requirement typically to increase pensions each year by even price inflation.

26. While the sector is sustainable, many pension fund members risk receiving inadequate pensions. The flip side of good sustainability in Jamaica is poor adequacy—as many pension members who were at one time contributing receive little or nothing at retirement because they withdrew their benefits too early and others see the real value of their pension fall if funding is not adequate. This is a particularly critical issue in Jamaica given fears over the level of income provided by the National Insurance System.

Securities Dealers

27. The securities dealers sector can withstand significant shocks. Top-down stress tests conducted by the authorities using a range of adverse but plausible shock scenarios (e.g., equity prices dropping 20 percent, domestic interest rates changing by 3 percent) suggest that, while some brokers would fail, the significant majority of the industry is sufficiently capitalized to withstand adverse shocks.

28. Legal and operational risks inherent in the securities dealers' "retail repo" business model have declined with recent reforms (e.g., the master repurchase agreement and underlying securities being held on trust). The introduction of a JM$1M minimum subscription threshold to reduce retail exposures has led to a 12 percent orderly reduction in aggregate repo holdings between end-2014 and 2017 but remain a very high proportion of dealers' liabilities (Figure 3).

29. Securities dealers' business models will need to evolve over the medium term to provide a wider range of intermediation services, especially with respect to corporate debt and equity products. In the immediate (1 year) and near term (1–2 years), from a financial stability angle, the focus should be on the implementation of the retail repo mismatch ratio to minimize maturity mismatch risk.[4] In addition, the Financial Services Commission (FSC) should collect and analyse data on securities dealers' over-the-counter (OTC) transactions.

30. The expansion of securities dealers' intermediation activities into corporate debt or equity instruments will require:

- A viable trade reporting or (preferably) secondary trading platform to aid price discovery;
- A risk-based supervision framework and a fixed timeline for implementation;

[4] The FSC is assessing the introduction of a retail repo mismatch ratio, which would require a dealer falling below the acceptable ratio to either increase its regulatory capital, reduce the duration of the assets underlying retail repos, and/or reduce the size of its retail repo portfolio.

- Focus on developing liquid markets in these instruments, while ensuring that securities dealers enhance their liquidity management;
- Implementation of effective group-wide supervision by the BoJ and FSC;
- Review of the existing foreign exchange requirements to determine whether they place unreasonable impediments on the development of financial products which provide hedging capacity against the US$, especially for Jamaican corporates;
- Review of the existing risk weightings for corporate debt and equity instruments;
- If repurchase agreements are used to offer short term fixed interest products backed by long-term corporate debt securities to non-accredited investors, the same trust, standard master repurchase agreement, and mismatch ratio infrastructure should apply to manage the risks of that business.

OVERSIGHT FRAMEWORK

A. Macroprudential Policy Framework

31. Jamaica has established a macroprudential policy framework. A high level inter-agency FSSC has been established by way of an amendment to the BoJA. The FSSC is tasked with producing regular financial stability assessments and providing recommendations to the BoJ on potential macroprudential policy actions. Final responsibility for the actions resides with the BoJ.

32. The BoJ has made good progress in establishing a system for monitoring of systemic risk. Important information gaps remain. In tandem with this work on indicators, the BoJ is also considering instruments to include in a "macroprudential policy toolkit" for mitigating and containing systemic risks across time and structural dimensions, including those found within Basel III. Finally, there is much work to be done to broaden and deepen financial markets so that institutions are better provided with the financial instruments that they need for managing their credit, liquidity and foreign exchange risks on a day-to-day basis.

33. To support the development of the macroprudential policy framework, the BoJ should develop a communication strategy. A macroprudential policy framework allows the BoJ to correct the mispricing of risks and associated misalocation of bank credit to the household and corporate sectors. The legitimacy of such powers requires that the public can understand what powers are being exercised in support of financial stability and why. A communication strategy should be developed to help convey the BoJ's stability assessments clearly, link them to any policy action and manage public expectations about what these policies can achieve.

B. Microprudential Supervision

34. The BoJ is fully empowered under the BSA to supervise financial groups with a DTI but does not yet impose prudential standards on a consolidated basis. The dominant role played by large financial conglomerates underscores the importance of effective consolidated and group supervision. Preparatory work is underway. As contemplated by the BoJ, further action is now needed to license Financial Holding Companies (FHCs), impose prudential standards on a consolidated basis (solvency, liquidity, large exposures, and related parties), collect prudential data on a group-wide basis, establish and enforce fit-and-proper standards for owners and senior management of parent companies, and strengthen regulations on internal control and risk management while ensuring compliance with these provisions on a consolidated basis compulsory.

35. In addressing financial groups risks, consolidated risk-based supervision remains a critical priority. The BoJ has taken first steps towards the implementation of a risk-based supervision methodology (Annex I)**.** These recent steps applied to one DTI are in the right direction, and should be extended to FHCs and to all its business entities (including all DTIs) as well as intensified to manage interconnectedness and contagion risks (see Risk and Vulnerabilities Section). Yielding the benefits of the risk-based approach to FHCs will hinge on (i) the availability of adequate skills and resources in all regulatory agencies, and (ii) the time needed to adjust resources and practices beyond the solo institution approach currently applied.

36. Also, coordination among supervisors will prove critical in the implemetation of group-wide risk-based supervision. Areas of further work will need to cover timely and enhanced granular data sharing mechanisms, regular collaboration and information exchanges between different agencies at the technical level, consistency of regulations (including interpretations), and cooperation between the BoJ and FSC through joint rule-makings and intensified oversight, notably through joint onsite inspections. Efforts on cross-border supervision should be intensified with more MoUs signed between the domestic and foreign supervisors.

Banking Supervision

37. Considerable progress has been made since the last FSAP in 2006 (Appendix II). Owing to the BSA passed in June 2014, the architecture of the supervisory framework has been substantially improved, with critical supervisory functions being transferred from the Ministry of Finance and Public Service (MoFPS) to the Governor of the BoJ. The current legal framework gives the BoJ powers to license DTIs and FHC, conduct ongoing supervision and undertake timely corrective action. The BSA gives the BoJ a broad range of powers to address individual situations where DTIs do not comply with laws and regulations or where DTIs engage in unsound practices. Permissible activities for DTIs, licensing, transfers of ownership, and mergers and acquisitions are appropriately defined and controlled. The BoJ carefully assesses compliance with prudential regulations. Valuable information is shared among banking regulators in the Caribbean region.

38. The BoJ's inability to issue binding prudential regulations constitutes a limitation. The BoJ has over the years introduced several standards of sound practices which are intended to guide DTIs' practices. While these standards do not by themselves have the force of law, they cover key aspects of supervision (e.g., corporate governance, internal control, fit and proper assessments, credit risk management, liquidity management). Including more streamlined standards of sound practices in the binding set of rules would enhance the BoJ's ability to use preventative measures to address risk management issues. The BoJ should be empowered to leagally enact legally enforceable prudential rules.

39. The BoJ needs to intensify oversight. Adopting a more intrusive approach to DTIs' risk management processes, corporate governance, and internal control will be important. Shortening the timelines for providing recommendations to DTIs and performing a thorough follow-up on remediation progress will further enhance the effectiveness of its supervisory approach.

40. Capital and liquidity requirements are no longer aligned with international widely observed regulations. Several elements of the framework are prudent (minimum level of the ratio, composition of Tier I), but the calculation of capital requirements still reflects the analytical methodology of the Basel I framework. Current methodology focuses exclusively on credit and FX risks and leaves aside other market and operational risks that are likely to be significant under a consolidated basis approach. Introducing a broader comprehensive Pillar I approach capturing all risks, a thorough Pillar II methodology, a surcharge reflecting the systemic importance of DTIs, as well as a minimum quantitative prudential liquidity standard would enhance the risk coverage of the prudential framework and complement BoJ's efforts to foster convergence with international standards.

41. While related party and large exposures are well defined and controlled through statutory requirements, large exposure limits need to be changed to meet current and prospective international standards. The BSA provides a comprehensive and transparent definition of exposure, and counterparties to capping credit risk concentration and limiting exposure to related parties. International standards for large exposure to a group of connected accounts are stricter (25 percent rather than 40 percent of capital base), but the BoJ in cooperation with the FSC is already consulting on proposals to bring the regime in line with international standards. Further action is also required in implementing prudential standards on a consolidated basis.

42. Loan loss provisions are currently calculated using a conservative rules-based approach imposed by the BoJ (i.e., automatic triggers for loan classification, minimum provisioning percentages for each category). The forthcoming implementation of IFRS 9 raises new challenges. A better alignment with international accounting standards is desirable, and defining a transition period, as intended by the BoJ, would be prudent considering the complexities associated with the calculation of expected credit losses and the limitations on historical information that may be needed. The BoJ should, however, be transparent to the DTIs about how it will use the current regulatory provisions regime in an IFRS 9 environment. The BoJ should also develop its technical capabilities and provide a clear set of definitions (non-performing exposures, forebearance, and restructured loans).

Insurance Supervision

43. There has been significant progress in the area of insurance supervision. Strengths of the supervisory framework for the insurance sector encompasses surveillance, inspection and enforcement powers, information sharing and cooperation powers, a rather comprehensive supervisory reporting, and strong corporate governance framework (e.g., fit and proper), as well as the regular dialogue with the Insurance Association of Jamaica.

44. However, there are still significant weaknesses to be addressed, These include aspects of FSC's independence from the government (balanced against accountability); the need to have formal mechanisms to support group-wide risk assessment and supervision; a supervisory approach that is rather compliance-based and less proactive, and that instead should move towards risk-based and forward looking assessments; as well as the need to modernize life insurance liabilities as well as solvency regime. The shortage of skilled staff is a major challenge.

45. The current regulatory framework needs to be modernized to keep up with the risks and challenges the insurance sector is facing. The framework for the valuation of long-term liabilities as well as the solvency regime were originally adopted based on the Canadian regime. Life insurers have some discretion in valuing their liabilities, and the parameters used to calculate required capital underestimate the volatility observed in the Jamaican financial market. The adoption of IFRS 17, planned for 2021, should be introduced in combination with a modernized risk-based solvency regime, allowing for consistency between valuation and capital adequacy and supporting consistency of the prudential framework. In the meantime, binding regulations for asset-liability management should be introduced and the regular stress testing framework should be extended also to general insurers. Additionally, establishing consolidated supervision, including for cross-sectoral groups, is a priority.

Pension Supervision

46. The regulatory framework for pension funds is relatively comprehensive, but gaps in resources, enforcement, and coverage remain. Jamaica has the foundations for a sound pension system with clear legislation and regulation, a functioning court system, and the required industry and professional support. But the FSC's capacity to adequately regulate and supervise 399 active pension plans, many very small, and with 27 licensed pension administrators and 28 licensed investment managers is limited. Chances of fraud and errors—a key consideration ahead of any investment liberalization—could be large. Also, there are some parts of a Risk-Based Model in place, but resources for pension regulation need to be strengthened. Breaches of important rules, such as self-investment of a pension plan in the sponsor seems to persist for many years without resolution, suggesting lack of adequate supervisory focus.

47. Reform of the investment regulations is perhaps the most pressing pension policy issue (Box 3). A number of regulations constrain pension funds' investment opportunities: (i) permitted locations of foreign assets (currently constrained to the U.S.A., Canada, and the U.K.); (ii) total foreign asset allocation limits; (iii) domestic asset allocation limits (allow new investment categories). Two additional restrictions on concentration limits and related party limits, however, broadly follow international best practice, and support the soundness of the sector.

48. From a financial stability perspective, FX investment opportunities should be gradually broadened to enhance diversification and returns. The phase-in should be aligned with strengthened risk management, regulatory capacity and cooperation, and the deepening of capital markets.

- Foreign investment locations for pension plans to invest could be widened to add OECD countries and exposures to emerging markets and frontier markets through well-known multi-country index funds.
- There is scope for a gradual increase in the FX investment limits. The process should be consistent with enhanced data collection, enforcement capacity, risk management frameworks in place, and cooperation among supervisors. Recent FSC stress testing work does not find significant impact of FX investment liberalization. However, changes to investment limits for nonbank institutions, including insurance and pension funds to avoid regulatory arbitrage, should be gradually designed along with enhancements in the supervision capacity of the authorities. The gradual relaxation of investment limits would be preceded by full institution-by-institution assessments of FX and JM$ exposures, assuring micro- and macroprudential regulations are in place, and intra- and inter-group spillovers are assessed. This will require upgrading supervisory capacity, data reporting and collection, and assesments.
- Perceptions of regulatory forebearance should be avoided, with an appropriate sanctioning by the relevant authority. Data suggest that funds have been exceeding the regulatory limit for some time and a gradual raising of the limit (to, say, 10 percent) would entail a relatively minor impact on aggregate FX placements given any impact would have been already absorbed in the balance of payments. In any case, the capacity to monitor the implementation of the current regulatory limit and enforceability capacity needs to improve.

49. The consolidation of the pension sector would strengthen its capacity and alleviate existing challenges. Small funds face gaps in expertise, capacity (in a broader sense), and governance structures necessary for undertaking good investments and exploiting economies of scale in pension administration and investments. FSC faces challenges given the very small size of most plans. For example, in the U.K. (with thousands of small schemes) estimated administrative costs per member rise dramatically for small schemes.

50. The FSC should finalize the newly developed stress testing methodology and integrate it into its risk-based methodology. Significant efforts have been made to develop the stress testing methodology that has enhanced supervision in general and to assess the investment policy liberalization. The process should be completed—and embedded into the supervisory approach. The FSC should also finalize its guidelines for risk management with the enhancements implicit in the new investment regulation and stress testing methodology.

Securities Supervision

51. BoJ and FSC should focus on risk-based consolidated supervision and market conduct. Implementation plans have been drafted and a long-term TA project is about to commence. In this context, it is important to finalize the manuals for risk-based supervision. Training of staff on RBS need to be intensified to be more proactive, courageous to make judgements and able to defend their point of view. The FSC also needs to strengthen the horizontal analysis of the market (business models, building peer groups, identify outliers, dynamics within the market).

52. The FSC enforcement of regulations needs to be stepped up. The FSC relies in part on complaints from the public to identify potential enforcement cases, but the complaint numbers are relatively low, suggesting that the public does not know where to complain. Enforcement based on complaints is inevitably reactive. Enforcement activity is often directed to prudential rather than conduct issues. There is, therefore, a need for the enforcement activities to be more proactively targeted at emerging risks. In this context, transparency and communication are important to give the public and industry confidence in the system.

53. In the near term, there is a need to strengthen the regulatory framework for securities dealers in three ways:

(i) Continue and complete the retail repo reforms through the staged introduction of the mismatch ratio—the proposed liquidity-based ratio should be used as a monitoring tool while the impact of the mismatch ratio on liquidity works through the system;

(ii) Introduce the revised large exposure regime to improve resilience against contagion;

(iii) Introduce formal arrangements for group-wide supervision of conglomerates which include securities dealers, both within the FSC and between the BoJ and FSC.

54. In the medium term, once pre-conditions are met, to serve economic development and investor needs, and as sovereign debt issues reduce, securities dealers should be able to intermediate in a wider range of financial instruments, in particular corporate debt and equity instruments, commencing with JM$ and then US$.

55. However, because of the risk of poor liquidity with new financial instruments, there are three pre-conditions to be met in the near term before previous medium-term recommendations can be fully applicable: (i) the development of the risk-based supervision framework and firm timeframe for introduction; (ii) FSC collects data on securities dealers' OTC trading as part of normal data collection; and (iii) a trade reporting mechanism is put in place to assist price discovery and systemic risk monitoring.

56. Fintech, crowd funding and, cryptocurrencies are currently at an embryonic level, but the authorities should develop guidance to the industry. The authorities seem to be following Fintech developments, especially crowd funding and initial coin offerings (ICOs) but have not yet developed a regulatory framework. The FSC has also begun to examine the regulatory changes that may be required in this context. While the current developments in this area are not a major financial stability concern, the authorities need to issue guidance to the industry and assess risk-based supervision on a case-by-case basis. Before considering new digital asset trading platforms for crypto assets trading the authorities should first address gaps in the current infrastructure, including the secondary trading infrastructure and reporting platform of sovereign bonds, as well as risks and benefits of new proposals in a context of resource scarcity.

Cooperative and Credit Union Supervision

57. The authorities are in the process of bringing credit unions under BoJ supervision. The bank licensing process for credit unions should be carefully sequenced and managed with a properly designed communication strategy. Before granting access to the deposit insurance scheme the BoJ will need to assess licensing criteria are met by each institution and conduct a rigorous asset quality review of all credit unions to diagnose potential capital needs (Annex II). Agreement will be needed on incorporating the current credit union stabilization fund to the deposit insurance fund.

C. Financial Integrity

58. Jamaica was assessed against the 2012 Financial Action Task Force (FATF) standard in 2015. The mutual assessment report (MER) concluded that Jamaica had taken many steps since the 2005 assessment to strengthen its AML/CFT framework, but that important shortcomings remained both in terms of technical compliance with the standard and effectiveness of the AML/CFT regime.[5] The MER also identified deficiencies with respect to, inter alia, understanding of ML/CFT risks, combatting terrorism financing framework, AML/CFT preventive measures framework, transparency and beneficial ownership of legal persons and arrangements, and supervisory activities.

59. Jamaica has since taken important steps to address some deficiencies and should continue its efforts to establish an effective AML/CFT regime. Since the 2015 MER, the 2014 BSA has entered into force establishing strengthened supervisory powers, the International Trusts and Corporate Services Act was adopted, and amendments related to transparency of beneficial ownership were brought to the Companies Acts. Proposed amendments to the Terrorism Prevention Act and the Proceeds of Crimes Act are expected to further strengthen the legal framework. Building on the 2016 ML/CFT National Risk Assessment (NRA), the authorities are carrying out with the assistance of the World Bank, a comprehensive NRA expected to be completed in 2019. The authorities are also in the process of establishing a risk-based approach to AML/CFT supervision of DTIs and cambios with IMF technical assistance. Sustained efforts are required to address pending shortcomings with the FATF standard, including to strengthen AML/CFT preventive measures obligations and ensure their enforceability, enable consolidated supervision of financial conglomerates, ensure the transparency of legal entities and support efforts to fight organized crime.

60. Pressure on correspondent banking relationships (CBRs) have stabilized, albeit with remaining fragilities, in particular, for money services businesses and micro-finance entities. Domestic banks continue to experience pressures and restrictions imposed on CBRs, in particular

[5] The AML/CFT mutual evaluation report is based on information provide to assessor in the context of the onsite visit conducted on June 1-12, 2015. The final report was adopted by the Caribbean Financial Action Task Force in November 2016 and published in January 2017. The report is available online.

with respect to the handling of cash and clearing of checks. These restrictions on local banks affect their ability to service cash-intensive businesses such as money services businesses and micro-finance entities. Despite those challenges, growth in remittances and foreign direct investments has not been impacted. The authorities have engaged with foreign regulators to communicate efforts to address perceived risks and are in the process of implementing the recommendations resulting from the 2015 AML/CFT MER.

CRISIS READINESS, MANAGEMENT, AND RESOLUTION

61. **MOFPS is the resolution authority for DTIs under the BSA.** The FSC does not have any significant resolution powers (as opposed to the power to initiate a winding up proceeding under the Companies Act) for those entities it supervises. DTIs and insurance companies are specifically excluded from the 2014 Insolvency Act unless the appropriate regulator gives written consent for the application of the Act.

62. **The BoJ has enforcement powers for entities licensed under the BSA (DTIs and FHCs) that include the power to appoint a temporary manager and to revoke an institution's license.** In addition to these powers the BoJ may recommend to the MOFPS that it make an order vesting a licensee's shares and subordinated debt in the Accountant General under Section 114 of the BSA (a vesting order). The BSA specifies the effects of the entry of such an order including providing MOFPS with the power to carry out transactions to sell to or merge the licensee with a buyer. Certain time limits apply to these actions after which MOFPS must apply to the court for a winding up order.

63. **Work is underway to modernize the resolution framework for financial institutions.** The bank resolution regime in Jamaica is the subject of significant reforms. A consultation paper was jointly published by the members of the Financial Regulatory Committee (FRC) in February 2017. It is an ambitious initiative that will require substantial resources and close cooperation by all safety net regulators to implement its provisions. After receiving public comment, a proposal was submitted to the Cabinet in July 2017 and in October approval was given for drafting instructions to be prepared and issued to the Chief Parliamentary Counsel to prepare legislation to establish a Special Resolution Regime (SRR) for FIs. The proposal is to be submitted to Parliament in 2019.

64. **The new framework proposes a hybrid approach to resolution.** There are two separate parts to the new framework being proposed for the resolution of financial institutions (currently including DTIs, insurers and securities firms).[6] The first part, the special Resolution Regime (SRR), will apply to all DTIs and certain other FIs deemed systemically important. The SRR will be an administrative resolution mechanism. The second part, the Modified Insolvency Framework, will apply to other nonviable/insolvent FIs and any residual portions of an entity subject to the SRR.

[6] It is anticipated that any new resolution regime will also apply to credit unions once they come under the supervision of BOJ.

65. The independence of the resolution authority will be addressed. BoJ's function as resolution authority (RA) will be operationally separate from its regulatory and supervisory functions under the BoJA and the BSA. The RA will be given the power to appoint one or more entities to assist in the performance of its functions under the statute with certain specified legal capacities and competencies (for example, the ability to secure financing and hold and deal with shares of FIs and other companies).

66. The specific responsibilities in the new resolution framework are not yet finalized. While the roles of the authorities in resolution will be strengthened as a result of the proposed changes, the specific responsibilities of the various authorities will only become clear once the new resolution regime is drafted, adopted, and operationalized. The proposed new framework establishes BoJ as the resolution authority for DTIs/FHCs and any non-DTI deemed systemically important; the FSC will continue to have powers to deal with non-DTIs that are either insolvent, facing imminent insolvency, or is being wound up. The new framework will also allow for the appointment of a Resolution Administrator (RAdmin) which could be the JDIC or the FSC. In this context:

- The resolution framework reforms need to be properly sequenced. Detailed standards to classify systemic/non-systemic institutions, the applicable priority scheme for claims under the SRR and how a bridge institution would be established and under what rules need to be adopted.
- Recovery planning is not underway and BoJ should develop guidance for financial institutions to assist them in preparing such plans, including for financial groups.
- JDIC's access to funds for its operations as a resolution administrator is not clear; this is being addressed at the SRR drafting stage. There is a deposit insurance fund (i.e., a pay box) with reserves at about 5.5 percent of insured deposits. However, there are no formal arrangements in place for a dedicated back-up funding system.

67. The authorities have not prepared formal contingency plans for dealing with a systemic crisis such as was experienced in the mid-1990s. No systemic simulation exercises to assess the authorities' ability to deal with a systemic crisis have been undertaken. A systemic crisis contingency planning and simulation exercise agenda should be pursued as part of normal business practice in due course. Also, the draft 2014 Emergency Liquidity Facility Policy should be reviewed and finalized; it has not yet been used.

CREDITOR INFRASTRUCTURE

68. The credit-to-GDP ratio is relatively low and credit to the economy is not effectively intermediated (Figure 9a). Though credit has recently recovered to its trend level, the credit-to-GDP ratio is still low compared to Jamaica's peers in the Caribbean and many other emerging markets, which are typically in the range of 40–60 percent.

69. Overall, the formal credit environment in Jamaica appears to support access to credit for consumers and corporates, but not micro, small and medium enterprises (MSMEs).

Although bank lending to consumers is expanding (Figure 9b), this appears to be primarily secured with traditional types of collateral, such as motor vehicles. Unsecured lending is typically issued to prime customers known to the financial institution or to public servants. Most lending to the MSME sector is taking place via still unregulated micro-finance institutions (MFIs) and credit unions, which lend to medium sized corporates, also not fully regulated. The credit reporting system built recently should facilitate creditor risk management, but financial institutions are not fully utilizing it, partly because of informational gaps. In addition, the effectiveness of the secured transactions law can be enhanced together with an effective communication and public awareness strategy on the opportunities opened by the Insolvency Act and related insolvency regime to the industry. Given the rapid growth of lending by unregulated financial institutions, strengthening the monitoring of such entities would be important.

70. The 2015 World Bank FSAP Development Module covered capital markets deepening. One of the key recommendation included the development of movable asset-based financing instruments (e.g., factoring, leasing, and venture capital). More recently IMF TA provided detailed recommendations on the primary dealer system, strengthening sovereign debt markets benchmarks, and developing the secondary market.

Box 1. The World Bank FSAP Development Module, 2015

The World Bank (2015) assessment noted that credit to the private sector by DTIs remains limited, despite a high proportion of formally banked households. This lack of access to credit and equity constrain MSMEs' operations and growth, and ultimately their contribution to the economy. The authorities have taken significant initiatives to improve the legal and regulatory environment and financial infrastructure that would contribute to enhancing financial inclusion, including the establishment of credit bureaus, the modernization of the secured transactions legal framework and establishment of the movable collateral registry, and improvements to the insolvency and creditor rights framework that would facilitate corporate rehabilitations. To further strengthen the framework, key findings and recommendations include:

(i) enhance the credit reporting oversight and financial consumer protection framework, and adopt measures to encourage credit bureaus to compete in services and not in data;

(ii) enhance the regulations of the movable collateral registry; and

(iii) develop regulations for the insolvency law along with training of judges and insolvency administrators.

Alternative sources of SME finance beyond credit lines or personal loans, such as factoring, leasing, and venture capital are limited. Specific instruments to facilitate access to finance for low income households and agriculture finance, should be designed, including micro-insurance and regular saving products.

High interest rates and low penetration of credit can be explained by high credit risk owing to information asymmetries, as well as limited competition in the banking sector. Financial institutions have not been able to accurately assess borrowers' level of indebtedness and repayment capacity and credit activity has been low and highly concentrated in existing customers. In this context, and despite the low cost of funding and high requirements for traditional collateral, interest rates are high. Policies that encourage competition in the banking sector should be considered, including promoting enhanced transparency and consumer disclosure that would enable consumers to compare products and quality of service amongst financial institutions, strengthening dispute resolution mechanisms, and expanding financial literacy.

Additional recommendations included enhancing housing policy strategy, retail payments innovation and consumer protection. The Development Module FSAP recommended that (i) a comprehensive national housing policy strategy be developed, (ii) policy reforms that encourage innovations in retail payments be a priority and the current regulatory framework reviewed to encourage competition amongst bank and nonbank providers; and (iii) the financial inclusion agenda also requires a comprehensive strategy on consumer protection regulation and supervision.

Source: World Bank – Jamaica Financial Sector Assessment, April 2015.

Box 2. Insurance and Pension Funds FX Investment Limit Regulation[1]

The 2006 investment regulations impose a range of quantitative limits at the level of asset classes, related parties, individuals and foreign exchange (FX) exposure with some differences depending on the vehicle through which the assets are invested. Plan assets can be invested directly, through a 'segregated fund' where an investment manager has the mandate for one fund only, or through a range of pooled funds. A Type I pooled fund can only manage assets of pension plans. They are bound by exactly the same rules as pension plans in terms of asset allocation limits—except that Type I plans are exempt from the concentration limits (5 percent) and related party limit (10 percent). These features were subject to confusion among several market participants and in previous reviews of the pension system. Next are Deposit Administration Contracts, run by insurers but following the 2006 regulations, which are also exempt from the concentration and related party limits like Type 1 funds. They are supervised by the insurance teams and subject by the BoJ 5 percent ceiling on foreign investments. Type II pooled funds—open-ended investment funds, mutual funds, collective investment schemes (CIS), unit trust, and any investment fund, other than a Type I Pooled Fund—are subject to the concentration and related partly limits. But for CIS's the BoJ has relaxed the original 5 percent FX restriction and can now have FX investments up to 25 percent.

Quantitative limits on FX investments were set in the 2006 regulations at 20 percent of the total portfolio; these were over-ridden by a BoJ intervention to reduce the exposure to 5 percent for all pension investments except via CISs, with a limit of 25 percent. The foreign exchange regulations also specify that only investments in the U.S., Canada and the U.K. are permitted. The BoJ issued a Discussion Paper in 2015 showing its support for removing restrictions on pension plans (so they could invest 20 percent of assets in foreign securities as originally envisaged) and insurance companies in the medium term (3 years) but noted a range of concerns about liberalizing. These included the impact on 'system stability' due to the impact on FX reserves, increasing yields on Government of Jamaica (GoJ) securities if demand from pension funds or insurance companies were to plummet and the impact of any volatility in the bond market on plans to reform the retail repo market. The Paper also noted that liberalization for pension plans and insurance companies would have to follow that for CIS for whom the BoJ had liberalized the 5 percent restriction on FX holdings to 25 percent. The Paper also highlighted the potential for regulatory arbitrage caused by the permission given to one investment manager to offer exposure to foreign currency returns more than 5 percent or even 20 percent of total assets in the pool because the pension plan investors were using Jamaican dollars to buy Jamaican dollar denominated units and receiving Jamaican dollar returns and hence were not judged by the BoJ to be breaching its 5 percent ceiling. However, the BoJ only gave this clarification to one investment manager—leaving the others subject by the 5 percent limit until they either receive a similar clarificatory letter from the BoJ, or the 5 percent limit is increased.

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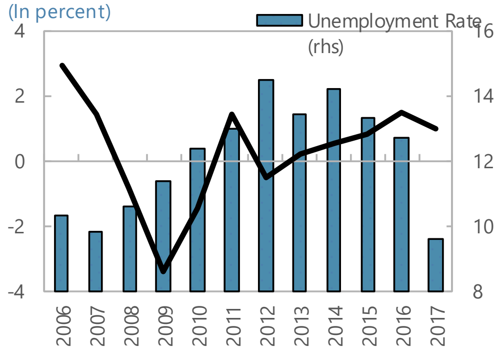
[1] The investment of pension plan assets DACs is subject to the investment regulations. Similar to Type I pooled funds, DACs are exempt from the general concentration and related party limits (regulations 17 and 34).

Figure 1. Jamaica: Macrofinancial Developments, 2006–17

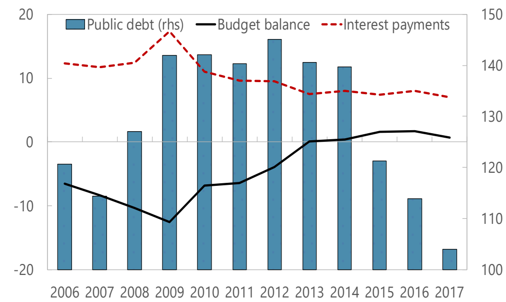
Low and volatile growth, with high structural unemployment…

Growth and unemployment
(In percent)



…Recent reforms have lowered public debt, but the debt burden remains high.

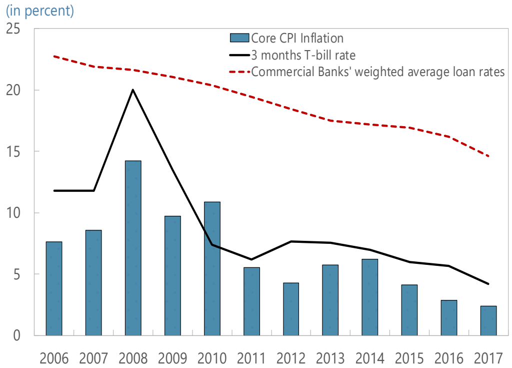
Restoring Fiscal Sustainability
(in percent of GDP)



Note: Public debt prior to 2016 uses the definition under the EFF. Starting in 2016 consolidated central government and public bodies' debt is consistent with Jamaica's Fiscal Responsibility Law.

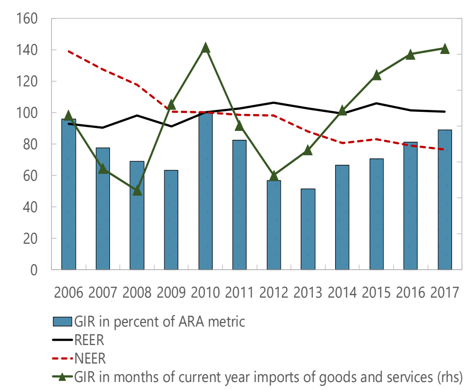
Inflation is well anchored and interest rates have declined…

Inflation and Interest Rates
(in percent)



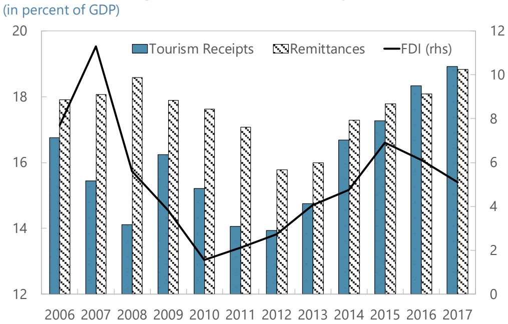
…trend nominal exchange rate depreciation and FX reserves have recovered but remain at the lower end of adequacy.

REER, NEER and Reserve Adequacy



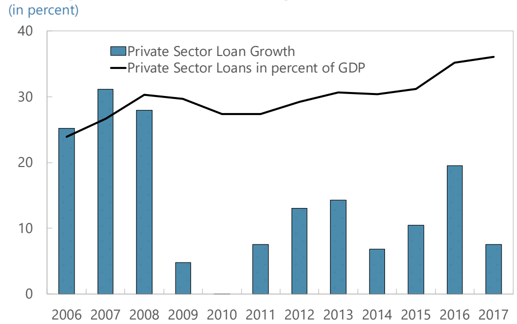
Tourism and remittance inflows are important for external sustainability…

Flows supporting external sustainability
(in percent of GDP)



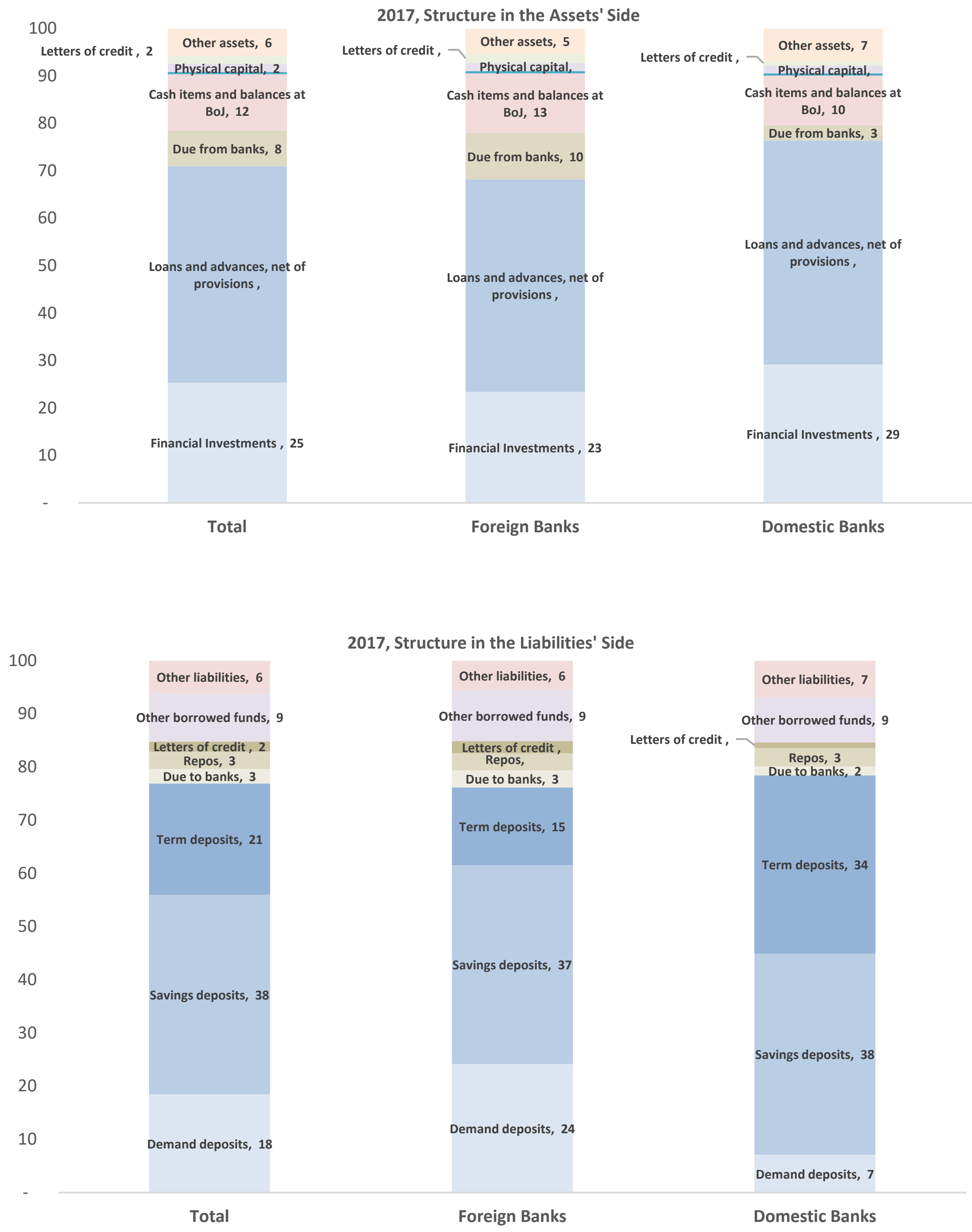
…credit growth is contributing to financial deepening, but credit-to-GDP remains relatively low.

Credit growth for deposit taking institutions
(in percent)



Source: Bank of Jamaica and Staff calculations.

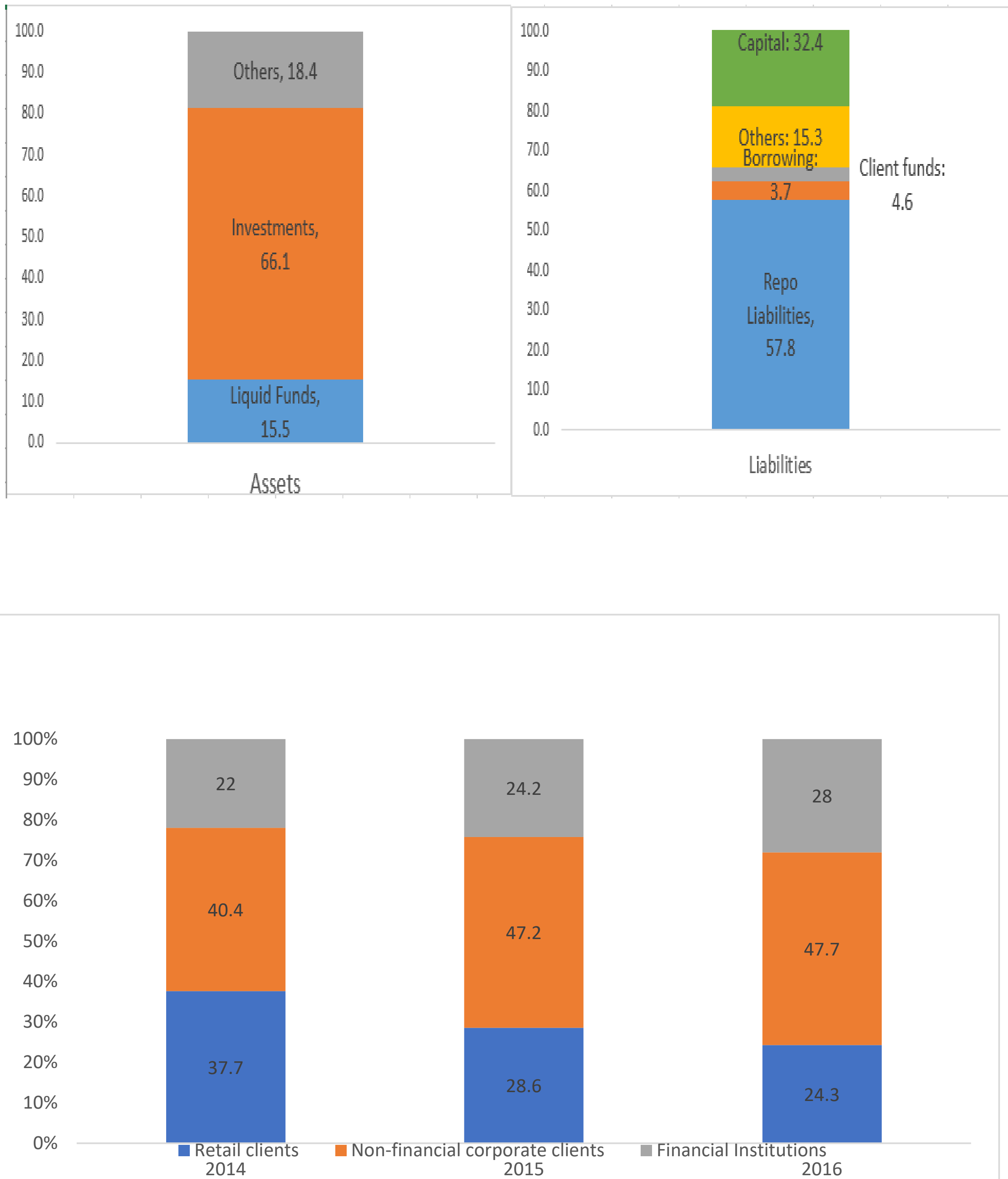
Figure 2. Jamaica: Deposit Taking Institutions' Balance Sheet Structure, December 2017



Source: Bank of Jamaica and IMF staff calculations.

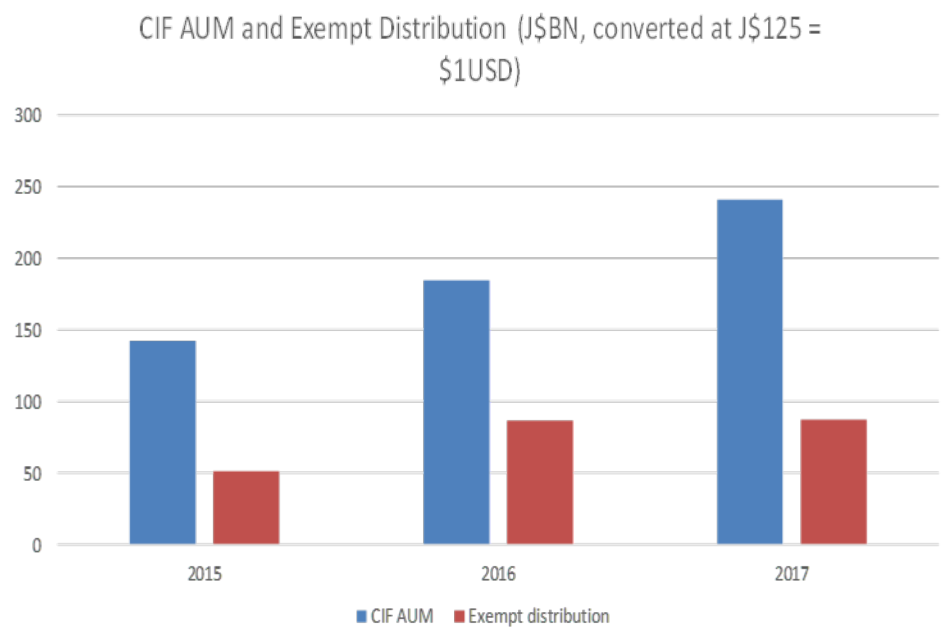
Figure 3. Jamaica: Securities Dealers' Activities Balance Sheet (2017) Rolling Investment Contracts ("Repo") by Client

(As percent of "repo" liabilities, 2015-17)



Source: Bank of Jamaica and IMF staff calculations

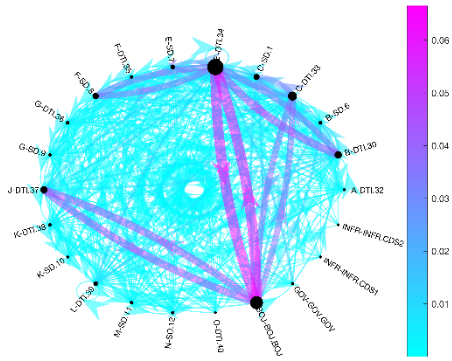
Figure 4. Jamaica: Strong Growth in CIFs and Exempt Distribution



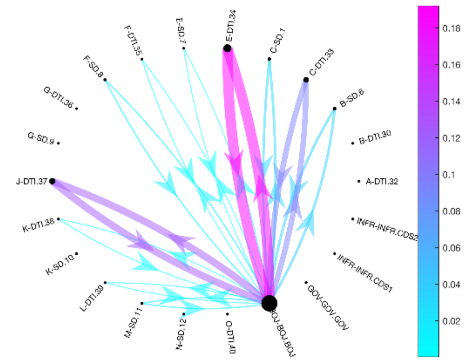
Sources: Authorities data and IMF staff calculations.

Figure 5. Jamaica: Large-value Payment System Network Analysis

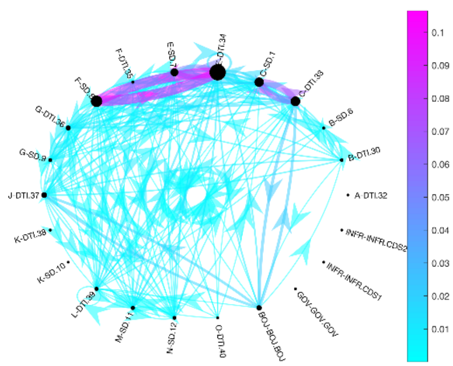
A. Four DTIs appear to be central in the large-value payment system network…



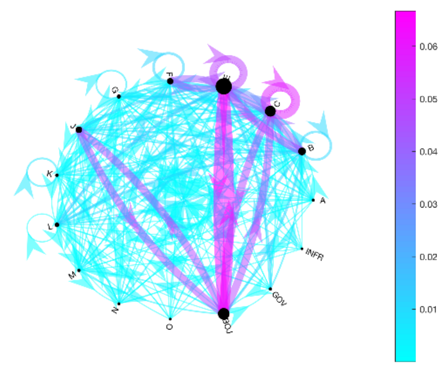
… B. three DTIs, actively borrow from BoJ's short-term repos.



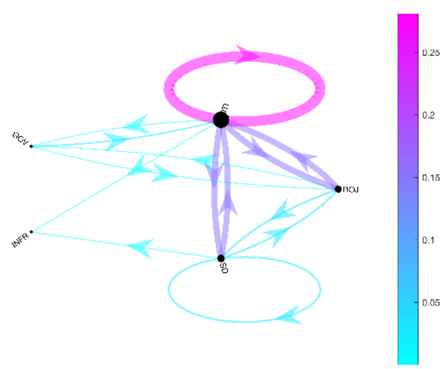
…C. two of them, belonging to groups, engage in long-term repos with their own securities dealers (SDs)…



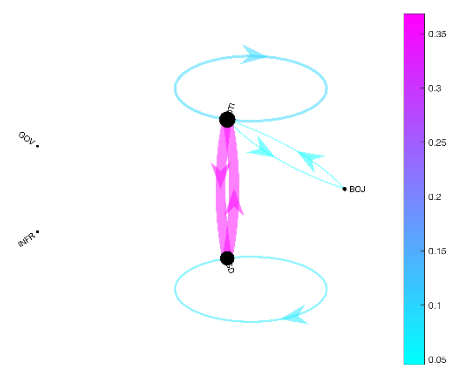
… D. in the large-value payment system network by groups show strong intra-linkages (i.e. self-connecting nodes).



… E. in the large-value payment system, transactions between DTIs and SDs account for 31 percent, and among DTIs for 28 percent …



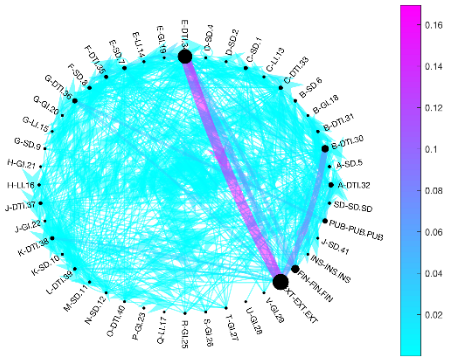
…F. in the long-term repo transactions network, about 73 percent of the transactions involve a DTI and a SD.



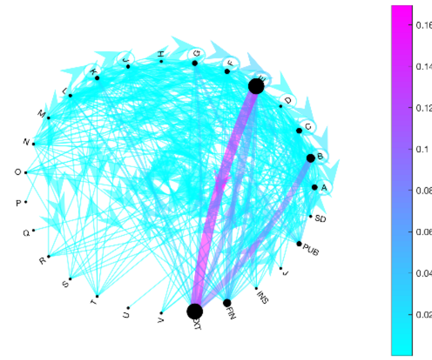
Source: Calculations based on Bank of Jamaica data.

Figure 6. Jamaica: Exposure Network Analysis

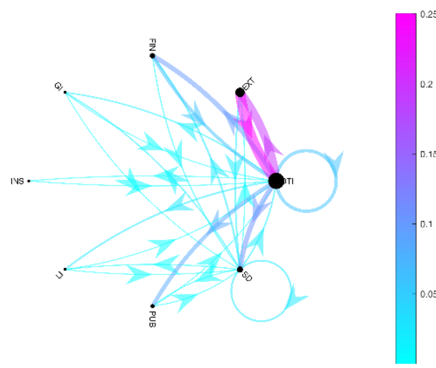
A. Two DTIs have intense interlinkages with foreign financial institutions …



…B. in the exposure network by groups and foreign financial institutions are dominant.

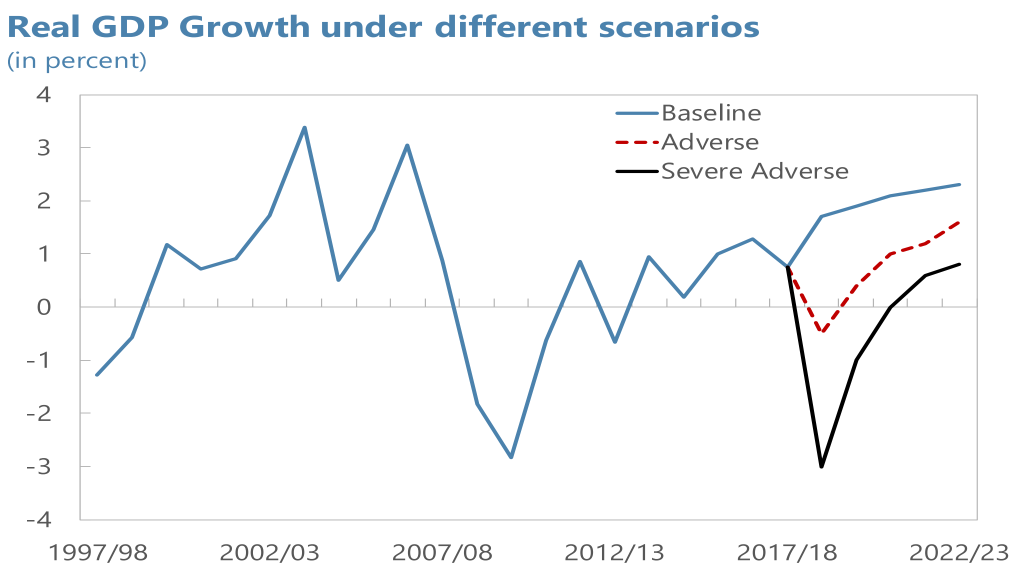


…C. by type of institutions, DTIs and foreign financial institutions dominate against other segments in the domestic exposures network …



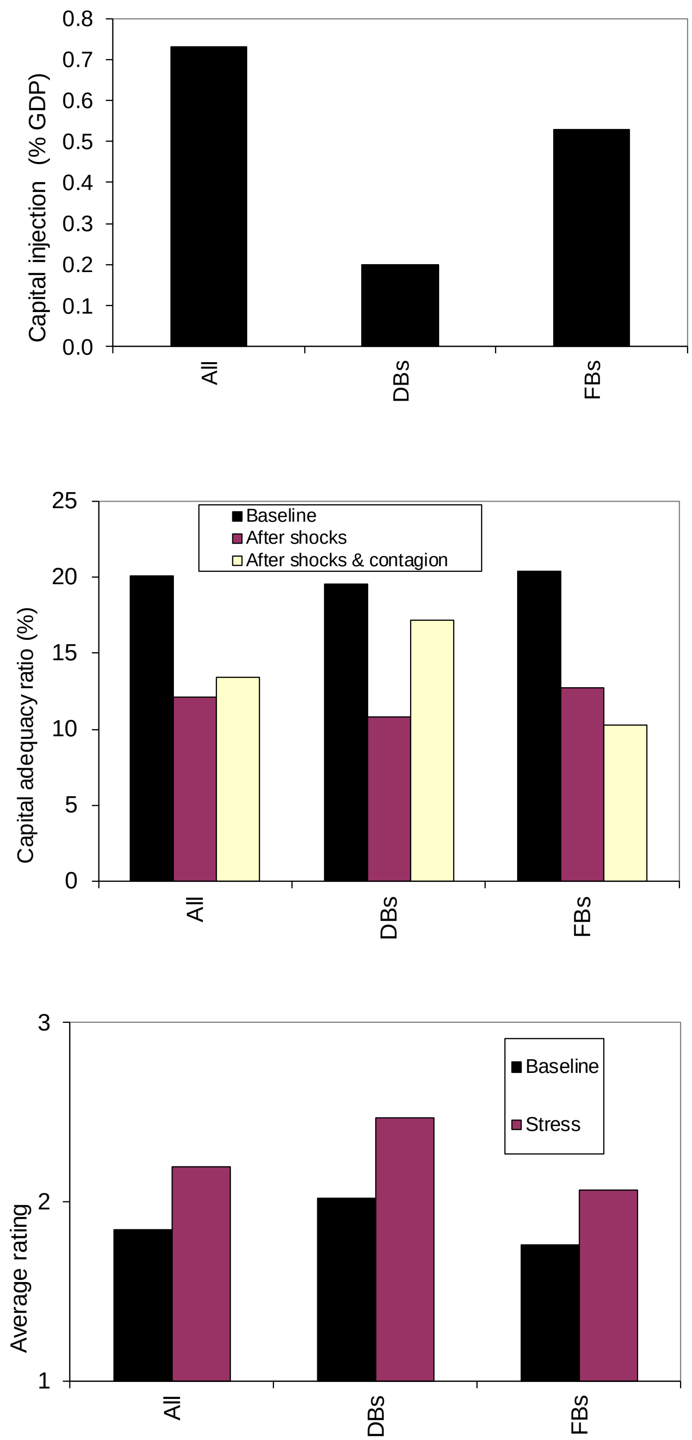
Source: Calculations based on Bank of Jamaica data.

Figure 7a. Jamaica: Stress Test Scenarios for Deposit Taking Institutions



Source: IMF staff calculations.

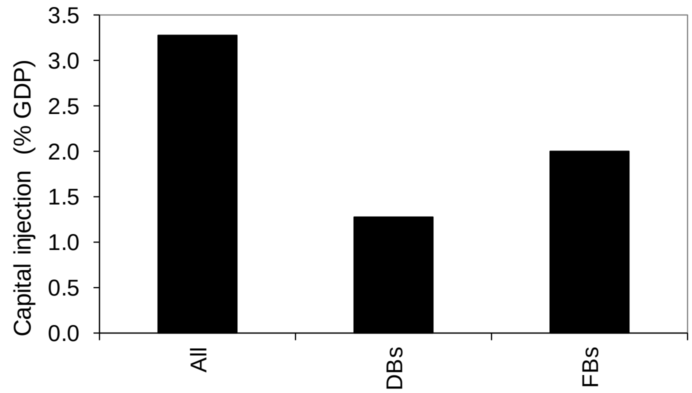
Figure 7b. Jamaica: Adverse Scenario Solvency and Liquidity Stress Test Results[1]

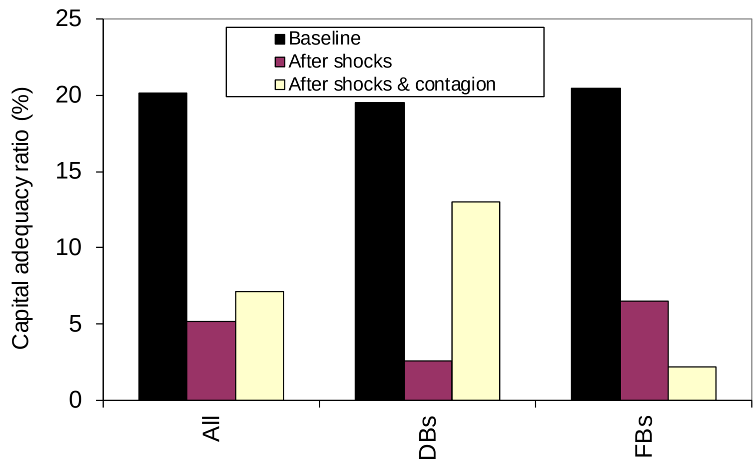


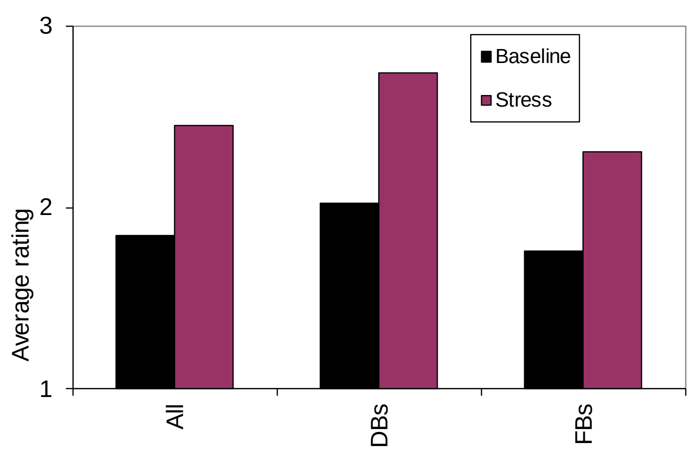
Source: IMF staff calculations.

[1]The analysis and charts are underpinned by the April 2018 WEO assumptions.

Figure 7c. Jamaica: Severe Adverse Scenario Solvency and Liquidity Stress Test Results[1]





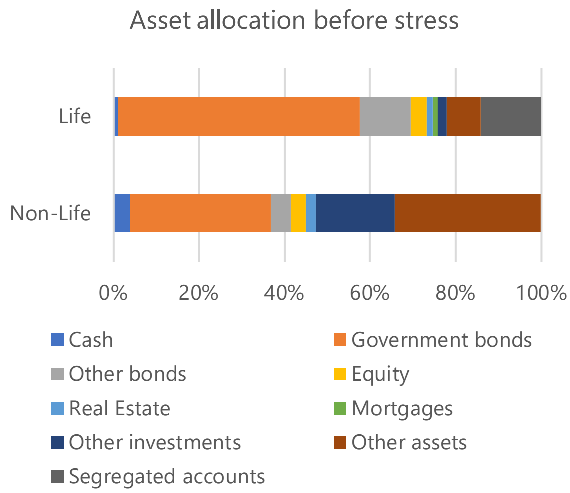


Source: IMF staff calculations.

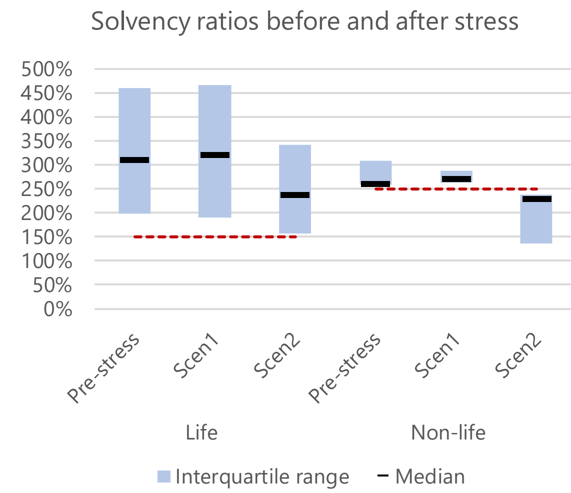
[1]The analysis and charts are underpinned by the April 2018 WEO assumptions.

Figure 8. Jamaica: Insurance Stress Test Results

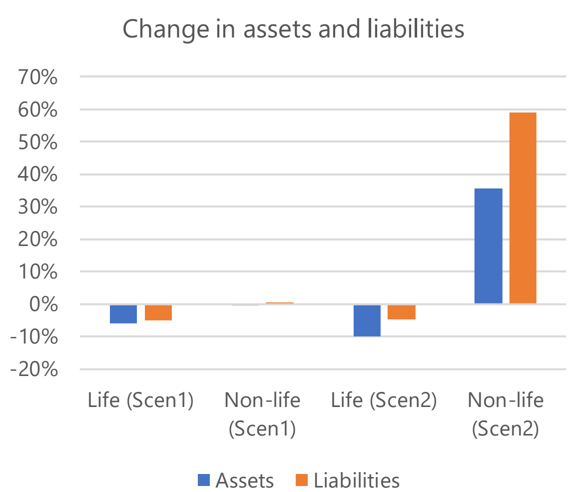
Life insurers are largely exposed to domestic sovereign bonds, while equity and real estate play only a minor role.



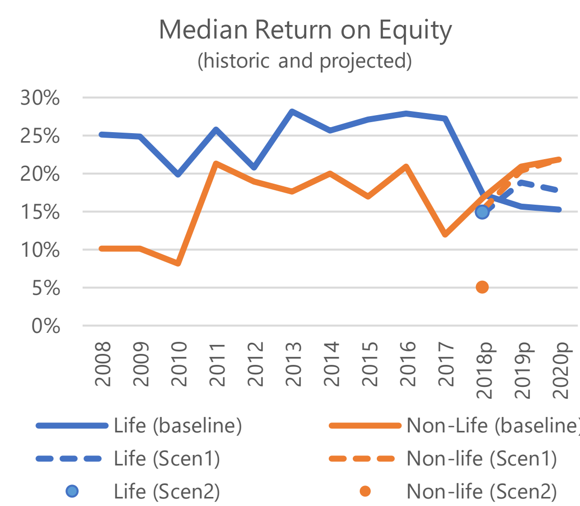
Most life insurers remain above the regulatory threshold, while the majority of non-life firms drop below their respective threshold in Scenario 2.



The value of assets and liabilities is less sensitive to adverse market developments, but a natural disaster substantially impacts non-life insurers' balance sheets.



The median company remains profitable after stress, and especially after Scenario 1, expected returns on equity converge soon towards the baseline.



Source: IMF staff calculations based on company submissions.
Notes: Return on equity projections in Scenario 2 were only requested for the first year of the projection horizon.

Figure 9a. Jamaica: Bank/DTI Credit to GDP Ratio by Selected Countries, 2016

(In percent)

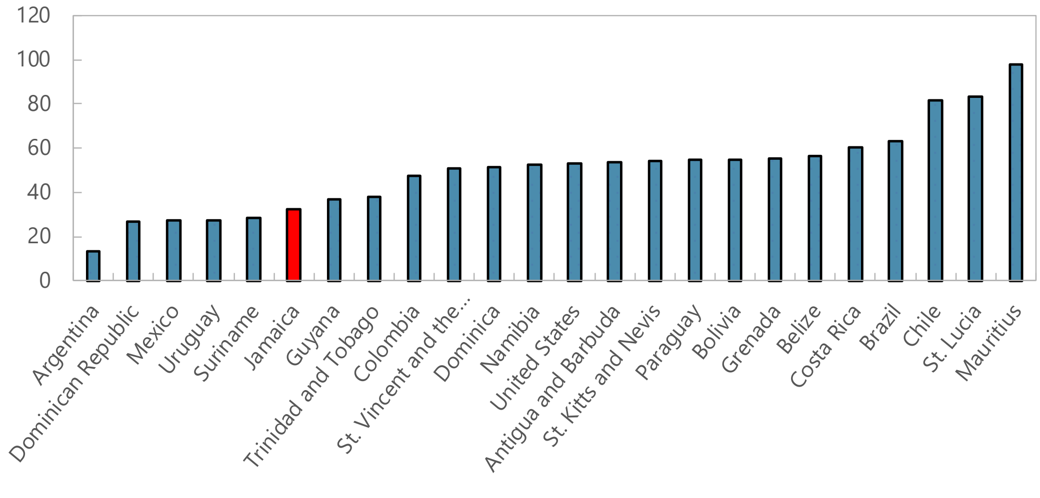
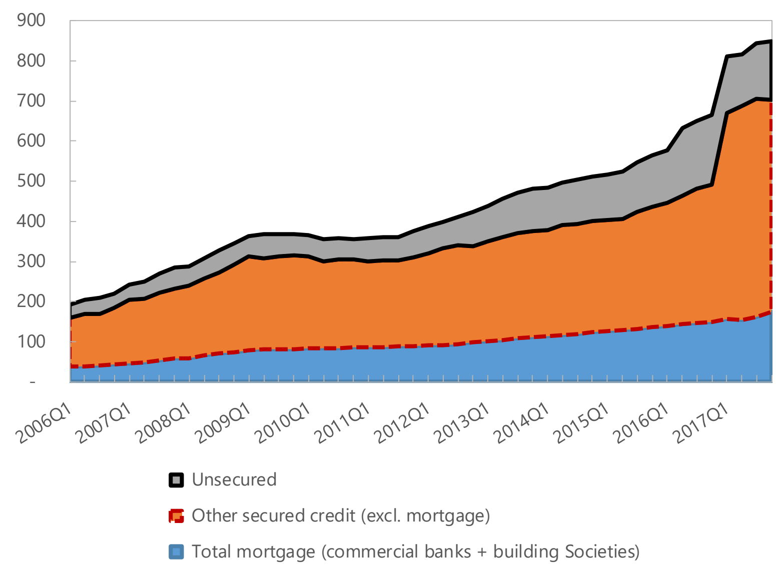


Figure 9b. Jamaica: Composition of DTI Consumer Loans

(In billions of JM$, 2006-2017)



Source: FSAP Team and Authorities' Data.

Table 1. Jamaica: Selected Economic Indicators[1]

Population (2013): 2.8 million | Per capita GDP (2014): US$4955

Quota (current; millions SDRs/% of total): 382.9/0.08% | Literacy rate (2015)/Poverty rate (2016): 87%/17.1%

Main products: Alumina, tourism, chemicals, mineral fuels, bauxite, coffee, sugar | Unemployment rate (Apr. 2018): 9.7%

						Est.	Projections		
	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
				(Annual percent change, unless otherwise indicated)					
GDP and prices									
Real GDP	-0.7	1.0	0.2	1.0	1.4	0.9	1.4	1.6	1.8
Nominal GDP	6.2	9.2	7.2	7.7	5.9	8.1	5.5	7.1	6.9
Consumer price index (end of period)	9.1	8.3	4.0	3.0	4.1	4.0	4.7	5.1	5.0
Consumer price index (average)	7.2	9.4	7.2	3.4	2.4	4.6	3.7	5.5	5.0
Exchange rate (end of period, J$/US$)	98.9	109.6	115.0	122.0	128.7	126.0	…	…	…
Exchange rate (average, J$/US$)	91.2	103.9	113.1	118.8	127.3	127.9	…	…	…
Nominal depreciation (+), end-of-period	13.3	10.8	5.0	6.1	5.4	-2.1	…	…	…
End-of-period REER (appreciation +) (INS)	-2.0	-4.6	7.5	-2.4	…	-2.4	…	…	…
End-of-period REER (appreciation +) (new methodology)	-3.4	-3.5	-0.2	-2.4	-2.6	3.2	…	…	…
Treasury bill rate (end-of-period, percent)	6.2	9.1	7.0	5.8	6.3	5.1	…	…	…
Treasury bill rate (average, percent)	6.6	7.9	7.8	6.3	6.1	5.1	…	…	…
Unemployment rate (percent) 3/	14.5	13.4	14.2	13.3	12.7	9.7	…	…	…
			(In percent of GDP)						
Government operations									
Budgetary revenue	25.7	27.1	26.3	27.0	27.9	29.0	29.8	28.9	28.6
Of which: Tax revenue 4/	24.0	23.6	23.6	24.5	25.7	25.7	25.9	25.4	25.3
Budgetary expenditure	29.8	27.0	26.7	27.3	28.1	28.6	29.6	28.1	27.9
Primary expenditure	20.3	19.5	18.8	19.8	20.3	21.6	22.8	22.0	22.1
Of which: Wages and salaries	11.0	10.1	9.5	9.4	9.4	9.4	9.1	9.1	9.0
Interest payments	9.5	7.5	8.0	7.4	7.8	7.0	6.8	6.2	5.8
Budget balance	-4.1	0.1	-0.5	-0.3	-0.2	0.5	0.2	0.8	0.7
Of which: Central government primary balance	5.4	7.6	7.5	7.2	7.6	7.4	7.0	7.0	6.5
Public entities balance 8/	0.1	0.0	0.9	1.8	2.0	0.6	0.0	0.0	0.0
Public sector balance	-3.9	0.1	0.4	1.6	1.5	1.1	0.2	0.8	0.7
Public debt (FRL definition) 4/ 6/	…	…	…	…	115.1	102.2	99.6	93.6	88.3
Public debt (EFF definition) 5/ 7/	145.0	140.5	139.7	121.3	121.8	109.1	105.8	99.0	92.7
External sector									
Current account balance	-10.3	-8.7	-7.0	-2.0	-2.6	-5.4	-5.0	-4.0	-3.7
Of which: Exports of goods, f.o.b.	11.9	10.6	10.2	8.3	8.8	9.2	10.8	11.2	11.1
Exports of services		14.3	15.5	14.8	15.8	14.2	14.5	15.3	15.7
Of which: Imports of goods, f.o.b.	38.7	37.5	36.4	30.0	31.5	34.9	36.9	36.6	35.9
Imports of services		18.8	19.8	19.5	21.4	20.6	21.1	23.0	24.1
Net international reserves (US$ millions)	884	1,304	2,294	2,416	2,769	3,075	2,965	3,168	3,221
NIR (excl. prefinanced repayments of maturing bonds)	…	…	1,995	2,363	2,769	3,075	2,965	3,168	3,221
of which: non-borrowed	…	714	1,335	1,470	1,944	2,398	2,454	2,820	2,887
			(Changes in percent of beginning of period broad money)						
Money and credit									
Net foreign assets	-13.5	18.7	27.9	10.1	7.1	5.5	2.8	5.5	2.6
Net domestic assets	26.8	-12.6	-22.3	8.6	15.4	2.6	2.7	1.6	4.3
Of which: Credit to the private sector	13.0	8.2	3.1	8.2	22.4	9.0	7.8	8.4	8.8
Of which: Credit to the central government	5.2	-3.1	-15.2	5.5	0.4	2.8	2.8	0.0	-2.1
Broad money	13.3	6.1	5.7	18.7	22.5	8.1	5.5	7.1	6.9
Velocity (ratio of GDP to broad money)	3.4	3.5	3.5	3.2	2.8	2.8	2.8	2.8	2.8
Memorandum item:									
Nominal GDP (J$ billions)	1,340	1,462	1,568	1,688	1,789	1,933	2,039	2,184	2,334

Sources: Jamaican authorities; and Fund staff estimates and projections.

1/ Fiscal years run from April 1 to March 31. Authorities' budgets presented according to IMF definitions.

2/ The new methodology uses trade weights for Jamaica that also incorporate trade in services especially tourism.

3/ As of January 31.

4/ Consolidated central government and public bodies' debt, consistent with the Fiscal Responsibility Law. The most significant deviation from the

5/ Central government direct debt, guaranteed debt, and debt holdings by PCDF, consistent with the definition used under the EFF approved in

6/ Consistent with the Fiscal Responsibility Law (FRL), implementation of the FRL-consistent debt definition began in FY16/17. A backward series

7/ The decrease in debt in FY15/16 partly reflects the PetroCaribe buyback operation that generated an immediate 10 percentage point reduction

8/ Projections for 18/19 reflect the special distribution from PCDF to Central Government, ahead of its reintegration by end 18/19.

Table 2. Jamaica: Financial Sector Structure

Financial Institutions	2005				2017			
	Number	**In billion[1]**	**Percent of Total Assets**	**Percent of GDP[2]**	**Number**	**In billion[1]**	**Percent of Total Assets**	**Percent of GDP[2]**
Commercial Banks	6	376	36.6	53.7	7	1,277	40.2	72.6
Near Banks (FIAs)[3]	5	45	4.4	6.4	2	39	1.2	2.2
Building Societies	4	89	8.7	12.8	2	129	4.1	7.3
Credit Unions	50	33	3.2	4.7	29	98	3.1	5.6
Life Insurance Companies	6	79	7.7	11.3	6	295	9.3	16.8
Non-Life Insurance Companies	11	36	3.5	5.1	11	77	2.4	4.4
Unit Trust Funds	4	16	1.5	2.2	14	197	6.2	11.2
Securities Firms[4]	34	354	34.5	50.6	31	582	18.3	33.1
Pension Funds					805	483	15.2	27.5
Total	**120**	**1,027**			**907**	**3,176**		**181**

Sources: Prudential_Indicators as at 31 Dec 2005 and Prudential_Indicators as at 30 Jun 2017, Publisher: Bank of Jamaica; Statistical Institute of Jamaica, Publisher: Statistical Institute of Jamaica.

[1] Total Assets (incl. contingent accounts). Total Assets and Liabilities reflected net of IFRS Provision for Losses and include Contingent Accounts (Customer Liabilities for Acceptances, Guarantees and Letters of Credit). In keeping with IFRS, Total Assets and Liabilities were redefined to include Contingent Accounts.

[2] Gross Domestic Product at current market prices JM$700,276 and JM$1,758,449 for 2005 and 2016 respectively. Units: ' Millions of Jamaican dollars.

[3] Merchant banks

[4] At 9, 2017, there were 42 securities dealer companies, 3 individual dealers, 2 investment advisor companies and 2 individual investment advisors registered by the FSC to operate in Jamaica. Of the 42 securities dealer companies, 32 were recognized as core securities dealers while 10 dealers were recognized as non-core securities dealers. With regards to the core securities dealers 8 received primary dealer status from the BoJ, 13 were approved by the JSE as stockbrokers, 10 operated as FSC approved Collective Investment Schemes fund managers. 10 non- core securities dealers includes one (1) commercial bank, four (4) insurance companies, two (2) credit unions, one (1) pension fund management company, one (1) trust company and one (1) education savings plan company.

Table 3. Jamaica: Financial System Groups

Deposit Taking Institutions	*Subsidiary/Branch*	*HQ location (immediate parent)*	*Building Societies*	*Securities' Dealers*	*Life Insurance*	*General Insurance*	*Real Estate*
Commercial Banks (7)							
Bank of Nova Scotia Ja Ltd.	Subsidiary	Barbados (Canada)	Scotia Jamaica Building	Scotia Investments Ja. Scotia Asset Management Jacotia Life Insurance (Ja.)	Scotia Life Insurance (Ja.)		
Citibank N.A.	Branch	USA					
FirstCaribbean International Bank (Jamaica) Ltd	Subsidiary	Barbados (Canada)		First Caribbean International Securities Ltd.			
First Global Bank Limited (FGB)	Subsidiary	Jamaica		GK Capital Management Ltd.		GK General Insurance Co.	
JN Bank Limited (JNBANK)	Subsidiary	Jamaica	National Building Society (Cayman)	JN Fund Managers	JN Life Insurance Co.	JN General Insurance Co.	Ja. Joint Venture Investment Co. (Property Co.) Building Societies Development Co. JN Properties Ltd
National Commercial Bank Ja Ltd. (NCBJ)	Subsidiary	Jamaica		NCB Cap. Markets Ja. NCB Insurance Company Ltd. West Indies Trust Co. Guardian Life Jamaica Ltd.	NCB Insurance Company Ltd. Guardian Life Jamaica Ltd.	Guardian General Insurance Jamaica Ltd. Advantage General Insurance	
Sagicor Bank Jamaica Limited (SBJL)	Subsidiary	Jamaica		Sagicor Securities Limited Sagicor Investments Jamaica Sagicor Life Jamaica	Sagicor Life Jamaica		Real Estate X Fund Ltd Sigma Real Estate Fund
Merchant Banks (2)							
JMMB Merchant Bank Limited (JMMB)	Subsidiary	Jamaica		Jamaica Money Market Brokers Ltd JMMB Securities (Ja.) Ltd. JMMB Fund Managers (Ja.) Ltd.			JMMB Real Estate Holdings
MF&G Trust & Finance	Stand-Alone	Jamaica					
Building Societies (2)							
The Scotia Jamaica Building Society (SJBS)	Subsidiary	Jamaica (Canada)	The Scotia Jamaica Building				
Victoria Mutual Building Society (VMBS)	Subsidiary	Jamaica	Victoria Mutual Building Society Ja.	Victoria Mutual Pension Management VM Wealth Investments Ltd.		British Caribbean Insurance Ltd.	Victoria Mutual Property Ltd Victoria Mutual Property Services VMBS Realty

Table 4a. Jamaica: Financial Sector Key Indicators

	June 2017			2005		
Depoit Taking institutions	**All Banks**	**Domestic Private (DB)**	**Foreign (FB)**	**All Banks**	**Domestic Private (DB)**	**Foreign (FB)**
Capital Adequacy						
Total capital / RWA (CAR) *	21.4	20.6	21.7	32.6	39.6	29.9
Asset Quality						
NPLs (gross)/ total loans *	2.6	3.2	2.3	2.9	4.8	2.3
Provisions/NPLs	120.3	95.8	136.4	69.4	35.0	92.1
(NPLs-provisions)/capital *	-1.8	0.4	-2.8	2.3	5.8	0.5
FX loans/total loans	25.9	15.6	30.8	35.3	18.5	40.6
RWA/total assets	67.3	69.2	66.3	42.2	41.0	42.7
Profitability (quarterly)						
ROA (after-tax) *	0.7	0.3	1.0	3.1	2.2	3.4
ROE (after-tax) *	5.1	2.0	6.6	22.3	13.8	26.6
Liquidity						
Liquid assets/total assets	26.3	21.5	28.6	23.9	11.8	28.7
Liquid assets/short-term liabilities*	35.0	28.1	38.4	30.4	15.0	36.5
Sensitivity to Market Risk						
Net FX exposure / capital *	7.6	-9.1	15.7	6.9	12.2	4.2
Insurance sector		**General Insurance**		**Life Insurance**		
Capital to Assets*		28.4		87.5		
Liquid Assets to Total Liabilities		77.4		23.2		
Return on Equity		3.0		8.6		
Securities Dealers	**June 2016**		**June 2017**		**Dec. 2017**	
Tier 1 Capital to RWA	17.5		16.7		16.0	
Return on Assets	0.8		0.5		0.7	

Table 4b. Jamaica: Financial Sector Indicators[1]

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Balance sheet growth (y/y)												
Capital	11.5	14.7	13.8	5.1	5.3	4.0	18.3	7.4	9.0	12.6	8.1	10.4
Loans	28.7	24.2	5.3	-1.4	4.8	12.9	14.1	6.6	9.3	18.3	7.2	11.2
NPLs	14.2	57.6	68.0	36.1	44.0	-10.8	-12.9	0.2	-11.6	-16.9	-2.6	10.3
Liquidity												
Domestic currency liquid assets [2]	25.0	30.3	31.3	36.2	30.5	26.7	26.3	31.5	26.5	27.4	31.5	30.8
Asset Quality												
Prov. for loan losses/NPLs	103.4	87.2	75.7	69.9	75.2	90.3	95.7	101.6	106.4	117.5	121.3	111.2
NPLs/loans	2.3	2.9	4.7	6.5	8.9	7.0	5.4	5.0	4.1	3.5	3.5	3.5
Capital Adequacy												
NPLs/Capital+Prov. for loan losses	9.1	12.3	17.7	20.2	28.4	24.1	18.6	17.4	14.5	11.0	10.0	11.6
Capital Adequacy Ratio (CAR)	16.0	15.2	18.8	18.2	16.1	14.1	15.1	15.9	14.9	14.5	14.5	14.5
Profitability (calendar year) [3]												
Pre-tax profit margin	26.7	26.3	21.4	21.1	30.8	21.4	19.0	18.9	19.8	26.8	24.9	28.0
Return on average assets	3.4	3.5	2.9	2.5	3.9	2.4	2.0	2.1	2.1	2.1	2.1	2.1

Source: Bank of Jamaica.

[1] Commercial banks, building societies, and merchant banks.
[2] Data for 2013 refer to the September calendar quarter.
[3] Percent of prescribed liabilities.

Table 5. Jamaica: Financial Sector Aggregate Exposures Network

(Figures represent borrowing as percent of all borrowing; borrowers in rows and lender in columns)

Lender/Borrower	DTI 1	DTI 2	Financial Institutions[1]	Foreign Financial Institutions	Public Institutions	Total Network Contribution	As percent of Total Borrowing from Foreign Financial Institutions	As percent of Total Borrowing
DTI 1	-	0.1	4.0	0.7	0.2	5.0	3.7	4.9
DTI 2	0.1	-	12.3	16.9	0.5	29.8	83.9	29.7
Financial Institutions1/	1.5	4.7	21.5	2.5	7.8	38.0	12.4	38.1
Foreign Financial Institutions	9.1	6.6	11.2	-	0.0	26.9	-	26.9
Public Institutions	0.0	0.0	0.3	0.0	-	0.3	0.0	0.3
Total	10.7	11.4	49.3	20.2	8.4	100	100	100

[1] Excludes DTI 1 and DTI 2.

Source: FSAP team and authorities' data.

Annex I. Report on Observance of Standards and Codes: Basel Core Principles

A. Introduction

1. This assessment of the implementation of the Basel Core Principles for Effective Banking Supervision (BCP) in Jamaica has been completed as part of the Financial Sector Assessment Program (FSAP).

2. This FSAP has been undertaken by the International Monetary Fund (IMF) in 2018, at the request of the Jamaican authorities. [1] The assessment reflects the regulatory and supervisory framework in place as of the completion of the assessment. It is not intended to analyze the state of the banking sector or crisis management framework, which are addressed by other assessments conducted in this FSAP.

3. An assessment of the effectiveness of banking supervision requires a review of the legal framework, and detailed examination of the policies and practices of the institutions responsible for banking regulation and supervision. The assessment focused on the regulation and supervision by the Bank of Jamaica (BoJ) of the Deposits-Taking Institutions (DTIs) and did not cover the specificities of regulation and supervision of other financial intermediaries.

B. Information and Methodology Used for Assessment

4. This assessment was performed against the standard issued by the Basel Committee on Banking Supervision (BCBS) in 2012. Since the previous BCP assessment, which was conducted in 2006, the BCP standard has been revised. The revised Core Principles (CPs) strengthen the requirements for supervisors, the approaches to supervision, and the supervisors' expectations of banks through a greater focus on effective risk-based supervision and the need for early intervention and timely supervisory actions. Furthermore, the 2012 revision placed increased emphasis on corporate governance and supervisors' conducting sufficient reviews to determine compliance with regulatory requirements and thoroughly understanding the risk profile of banks and the banking system. This assessment was thus performed according to a significantly revised content and methodological basis, compared to the BCP assessment carried out in 2006.

5. Compliance with the BCP was assessed and rated against the essential criteria of the BCP. To assess compliance, the BCP Methodology uses a set of essential criteria (EC) and additional criteria (AC) for each principle. The EC were the only elements by which to gauge full compliance with a Core Principle (CP). The AC are recommended as the best practices against which the authorities of some more complex financial systems may agree to be assessed and graded. The assessment of compliance with each principle is made on a qualitative basis. The assessment of compliance with each CP requires a judgment on whether the criteria are fulfilled in practice.

[1] The assessment team comprised Richard Gresser (former Senior Director, Capital Division of the Office of the Superintendent of Financial Institutions Canada) and Luc Riedweg (IMF).

Evidence of effective application of relevant laws and regulations is essential to confirm that the criteria are met.

6. The assessment team held extensive meetings with BoJ officials, as well as the Minister of Finance, the banking industry, and other relevant counterparts who shared their views with the assessors. The team also reviewed the framework of laws, regulations, and supervisory guidelines. The BoJ provided self-assessments of the CPs and comprehensive questionnaires filled out by the authorities. The BoJ also facilitated access to supervisory documents and files, staff, and systems.

7. The assessment team appreciated the excellent cooperation, including extensive provision of internal guidelines, supervisory files, and reports. The team extends its thanks to staff of the BoJ staff who responded to the extensive and detailed request promptly and accurately during the assessment at a time when supervisory staff were burdened by many supervisory and regulatory initiatives related to consolidated and risk-based supervision.

C. Preconditions for Effective Banking Supervision[2]

8. Sustained fiscal discipline and a multitude of supply-side reforms have helped establish macroeconomic stability in Jamaica. Macroeconomic fundamentals have been steadily improving, which is reflected in high employment levels, a well-anchored inflation, and a primary surplus exceeding 7 percent of GDP since 2013/14. However, DTIs operate in a low growth environment (real GDP growth has averaged 0.9 percent in the last four years).

9. Building on the progress so far in strengthening the macro-economy, the Jamaican authorities are seeking to establish an effective financial stability framework. The important first step of establishing institutional arrangements is complete. A high level inter-agency Financial System Stability Committee (FSSC) has been established by way of an amendment to the BoJ Act. The FSSC is tasked with producing regular financial stability assessments and providing recommendations to the BoJ on potential macroprudential policy actions. Final responsibility for the actions resides with the BoJ who now faces the challenging task of operationalizing the macroprudential policy framework. While good progress has been made, there are still many information gaps to be closed before an early warning system is in place. In tandem with this work on indicators, the BoJ is also engaged in a search for instruments to include in a "macroprudential policy toolkit" for mitigating and containing systemic risks.

10. The current framework for crisis management does not provide sufficient tools for the resolution of the complex financial conglomerates that are predominant in Jamaica's financial sector and does not establish one resolution authority for such institutions. To address such shortcomings the authorities have proposed a two-part solution: an administrative resolution framework for all DTIs, and a modified insolvency framework for all other financial institutions with the BoJ acting as the resolution authority. Drafting instructions for the former have been prepared

[2] This summarized section draws from other documents produced for the FSAP. A complete analysis of the macroeconomic framework is contained in Article IV reports.

and sent for transmission to the Office of the Parliamentary Counsel while such instructions are not complete for the latter initiative although both proposals are to be submitted for adoption by Parliament in early 2019. In this context, much work is needed to have an operational system for financial institution resolution in place within the proposed timeline.

11. The deposit insurance framework, managed by the Jamaica Deposit Insurance Corporation (JDIC), broadly conforms to international best practices. Although the JDIC is part of the institutional framework for system-wide crisis preparedness there has not been any contingency planning for a systemic crisis. There is a plan for a crisis simulation exercise to be conducted in 2019 under the auspices of the Financial Regulatory Committee (FRC) which is aimed at facilitating information sharing, cooperation and collaboration among domestic authorities on regulatory matters.

12. Transparent information is provided by DTIs to the public. Given Jamaica's adoption and implementation of IFRS and in particular IFRS 7 (Financial Instruments: Disclosures), DTIs are required to disclose their financial statements to enable users to evaluate the nature and extent of risks arising from financial instruments to which the entity is exposed and its management of those risks.

D. Main Findings

Responsibility, Objectives, Powers, Independence, Accountability (CPs 1–2)

13. Considerable progress has been made since the last FSAP in 2006. Owing to the Banking Services Act (BSA) passed in June 2014, the architecture of the supervisory framework has been substantially improved, with critical supervisory functions being transferred from the MoFPS to the Governor of BoJ. The legislation has established a clear allocation of responsibilities for the supervision of financial institutions between the BoJ and the Financial Services Committee (FSC). The legal framework gives the BoJ powers to authorize DTIs and FHCs, conduct ongoing supervision and undertake timely corrective action. The BoJ has a broad range of powers provided for in the BSA to address individual situations where DTIs do not comply with laws and regulations or where DTIs engage in unsound practices.

14. Whilst the architecture of supervision has been improved, the BoJ's inability to issue binding regulations constitutes a limitation. Minimum prudential requirements for DTIs are primarily to be found in the banking law itself and in the supplementary *Regulations* and *Supervisory Rules* which, upon a proposal from the BoJ's Supervisory Committee, must systematically be subject to consultation of the MoFPS and affirmative resolution from the Parliament. The BoJ has over the years introduced several standards of sound practices (SSP) which are intended to serve as guidance to DTIs. While these standards do not by themselves have the force of law, they deal with key aspects of supervision (corporate governance, internal control, fit and proper assessments, credit risk management, liquidity management, etc.). Furthermore, breaches of provisions included in these standards cannot lead directly to enforcement action. They have to be viewed as constituting unsafe and unsound practices. Also, the guidance notes are not as detailed and prescriptive as the Regulations already issued by the BoJ.

15. Supervisory resources are stretched and insufficient for the range and nature of the tasks the BoJ must carry out for effective supervision. The BoJ has not yet quantified the impact of risk-based supervision and carry out a mapping of the skills that are required. The legislation does not include express prohibitions against members of the Supervisory Committee and senior supervisory staff from holding any position of responsibility in a supervised entity for a determined period after they demit office.

Ownership, Licensing, and Structure (CPs 4-7)

16. Permissible activities for banks, licensing, transfers of ownership, and bank mergers and acquisitions are appropriately defined and controlled. The permissible activities of DTIs supervised by the BoJ are well defined leaving little doubt as to the status of institutions using the word bank in their name. The BSA provides an adequate basis for the BoJ to approve or reject major acquisitions or investments by a DTI. The BoJ also has well established supervisory practices to limit and monitor risks arising from such acquisitions. Entry to the banking business, either through a de novo license or a change in ownership or an acquisition are controlled by the BoJ using consistent, well defined criteria to evaluate, as appropriate, the investor's financial capacity, management strength, suitability and business plan viability.

Methods of Ongoing Supervision (CPs 8–10)

17. The BoJ carefully assesses compliance with prudential regulations. The BoJ uses a reasonable range of techniques and tools to implement its supervisory approach, which also includes monitoring of macroeconomic and sector-wide developments. It employs a mix of on- and offsite supervisory elements to assess the risks that DTIs are running and has broad information gathering power. However, while thorough analyses of the risks taken by the banking system as a whole have been conducted on a regular basis, the offsite assessment is not sufficiently analytical and does not compare banks with peer groups and / or the banking sector. Further, the assessment of the risk profile of each individual DTI as part as offsite supervision has been rather limited and the frequency of on-site examination rather low.

18. The BoJ has taken firsts step towards improving its supervisory approach by initiating the implementation of a risk-based supervision methodology. A well-designed risk-based methodology has already been defined. Under the risk-based supervision framework, the assessed risk profile of a licensee will determine the frequency and intensity of monitoring. It is important to remain cautious as only one DTI is currently supervised under the new methodology. Nonetheless, the first results look promising. A thorough analysis of the risk profile was performed by offsite examiners. The quality of on-site work has also improved substantially, with a clear focus on governance, risk profile and risk management framework; findings were detailed and substantiated.

19. The recent enhancements are in the right direction, although some time needs to be given to yield results and others need to be materially intensified to achieve the desired goal. Successful implementation requires adequate staffing, a revision of the examiner guidance assessing licensee's credit risk processes, governance and internal control, and refocus on core supervisory functions. As the BoJ matures and develops its experience with risk-based supervision, the authorities should reconsider whether it is still appropriate to approve ex ante all new products designed by DTIs and conduct fit and proper evaluations for all DTIs officers, managers and key employees.

Corrective and Sanctioning Powers of Supervisors (CP 11)

20. Despite the vast range of corrective measures and powers that the BoJ enjoys based on the BSA, evidence of effective application of these new powers is somewhat limited. The BoJ has considered so far more effective to get DTIs to agree to an action plan for completing corrective actions. Applying gradual responses rather than immediately resorting to more coercive measures is not questionable per se as long as tools and processes are in place to (i) addresses supervisory concerns with banks in a proactive and timely manner, including formal communication and escalation to senior management and the DTIs' Boards as appropriate, and (ii) ensure adequate and timely follow-up of actions taken by DTIs. In this regard, it was noted that the process of providing recommendations to DTIs based on on-site examinations was lengthy, which weakens its effectiveness, and remediation progress were insufficiently monitored and documented.

Cooperation, Consolidated and Cross-Border Banking Supervision (CPs 3, 12–13)

21. The BoJ is fully empowered under the BSA to supervise financial groups but does not yet impose prudential standards on a consolidated basis. Preparatory work is underway. As contemplated by the BoJ, further action is now needed to better understand the overall structure and tisk management of the bank, banking group, and the wider group, review the main activities of parent and affiliated companies, implement the process for the licensing of FHC, impose prudential standards on a consolidated basis (solvency, liquidity, large exposures, related parties), collect prudential data on a group-wide basis, establish and enforce fit-and-proper standards for owners and senior management of parent companies, and strengthen the regulations on internal control and risk management while making compliance with these provisions on a consolidated basis compulsory.

22. In terms of cooperation between regulators, significant achievements have been accomplished in the recent years, but further enhancements are necessary. Instruments for cooperation and collaboration, such as Memorandum of Understanding (MoUs), are in place to exchange information with all relevant domestic authorities and a large number of foreign supervisors. A Financial Regulatory Committee (FRC) has been established in Jamaica, and the BoJ participates in several colleges of supervisors with foreign counterparts. There is long tradition of information sharing among regulators in the Caribbean region. Conversely, the assessment team was not provided with sufficient evidence confirming the effectiveness of cooperation arrangements with the FSC. Aggregate system-wide information is exchanged, but no joint inspections have been conducted and there are have been limited attempts to understand risks arising from intra group transactions.

Corporate Governance (CP 14)

23. The BoJ should also adopt a more intrusive approach to corporate governance. The BoJ uses its on-site inspection process for the determination of the status and effectiveness of corporate governance in the banking sector and for the oversight of Boards in individual risk areas. Governance is duly included in the scope of on-site inspection. However, the BoJ did not provide sufficient evidence of action taken to address weaknesses identified by examiners in Board oversight and committees' structures. Moreover, the BoJ has organized a limited number of formal meetings with executive and non-executive Board members in order to discuss the strategy, risk appetite, risk policies, risk profile and the way they oversee senior management.

Prudential Requirements, Regulatory Framework, Accounting and Disclosure (CPs 15–28)

24. Capital requirements are no longer aligned with international widely observed regulations. Several elements of the framework are prudent (minimum level of the ratio, composition of the Tier 1 capital), but the calculation of capital requirements still reflects the analytical methodology of the Basel I framework, thereby focusing exclusively on credit risk and foreign exchange risk and leaving aside the other market risks and operational risk that are likely to be significant when measured on a consolidated basis. Although the BoJ has the general power to increase capital adequacy ratio requirements, it has not yet elaborated a comprehensive methodology to determine capital surcharges reflecting the risk profile using a Pillar II approach. In practice, the BoJ applies a crude approach which requires the two largest DTIs to maintain minimum capital at least 2.5 percent above the general 10 percent requirement. The authorities are also encouraged to increase transparency around the main drivers of the decision to determine capital surcharges reflecting the systemic importance.

25. Loan loss provisions are currently calculated using a conservative rules-based approach imposed by the BoJ. Minimum provisioning percentages are imposed for the exposures classified in various categories defined under a draft regulation which is considered by DTIs and legal auditors as binding. Provisions calculated based on regulatory requirements that exceed the amounts required under the accounting standards are transferred from retained earnings to a non-distributable loan loss reserve, leading to prudent NPLs coverage ratios (higher than 100 percent).

26. The forthcoming implementation of IFRS 9 in Jamaica raises new challenges. Going forward, the BoJ would like a period of experience with IFRS 9. While a better alignment with international accounting standards is desirable, the definition of a transition period, as intended by the BoJ, would indeed be prudent considering the complexity of the calculation of expected credit losses. However, it is unclear whether the BoJ intends to keep the existing provisioning regime as a backstop or just as a benchmark in an IFRS 9 environment and how it will operationalize the use of a regulatory floor. Clarification is therefore needed, as well as the establishment of safeguards to be used during the transition period should the BoJ decides to change the loan loss provisions rules so as to be better aligned with internal standards (technical capabilities to assess the methods employed by DTIs to calculate expected credit losses in accordance with IFRS 9, legal powers to require changes in valuation, impact study).

27. **While related party and large exposures are well defined and controlled, large exposure limits will need to be changed to meet international standards.** The BSA provides a comprehensive and transparent definition of exposures and counterparties for the purpose of capping concentrations risk and limiting exposure to related parties. International standards for large exposures are stricter (25 percent rather than 40 percent of capital base), but the BoJ in cooperation with the FSC is consulting on proposals to bring the regime more in line.

28. **While qualitative guidance on liquidity risk management has been issued, there are no quantitative minimum prudential liquidity requirements.** The qualitative guidance on liquidity risk management needs to be updated. A binding standard that incorporates the BoJ's work on what constitutes a sound liquidity contingency plan should be established. It is noted that the current liquid asset requirements imposed on banks are not prudential in nature.

29. **Market risks other than foreign exchange and banking book interest rate risk are inherent in groups of companies comprising securities dealers under a regulated FHC.** Adopting a group wide supervision means the BoJ will have to expand capital requirements and expectations for market risk management in order to address the marked to market price and valuation risks that likely resides in securities dealers.

30. **The supervisory approach to operational risk management is fragmented and incomplete.** A more comprehensive approach to operational risk quantification and management, would require the bringing together the various operational risk related expectations of the BoJ into a single enforceable standard along with supporting requirements for industry collection of operational risk loss data.

31. **Accounting and disclosure frameworks in Jamaica standard help facilitate market discipline and could be better leveraged by the BoJ.** The forthcoming risk-based framework for on-site supervision would benefit from a regular sharing of perspectives with bank external auditors who use a risk-based approach to external audits that identify material and emerging risk.

Abuse of Financial Services (CP 29)

32. **Concerning AML/CFT, efforts to strengthen the legal and supervisory frameworks should continue.** The applicable Guidance notes do not have the force of law. The BoJ has already made considerable strides in combatting abuse of financial services and is working towards establishing a well-structured risk-based AML/CFT supervision program. that sets measurable targets for banks to cure identified compliance deficiencies.

Table 1 offers a principle-by-principle summary of the assessment results, while recommendations to improve the effectiveness of regulatory and supervisory frameworks are summarized in Table 2.

Table 1. Jamaica: Summary Compliance with the BCPs
Core Principle
Comments
1. Responsibilities, objectives, and powers
The allocation of supervisory responsibilities is clear and the BoJ has a broad set of supervisory powers. However, the BoJ's inability to issue binding regulations constitutes a limitation. In the absence of regulatory power to issue binding rules, the BoJ has over the years introduced several standards of sound practices (SSP) which are intended to serve as guidance to DTIs. While these standards do not by themselves have the force of law, they deal with key issues (corporate governance, internal control, fit and proper assessments, credit risk management, liquidity management, etc.). Furthermore, breaches of provisions included in these standards cannot lead directly to enforcement action.
2. Independence, accountability, resourcing, and legal protection for supervisors
The BoJ has full discretion to take supervisory actions. However, several legal requirements designed to improve transparency and accountability have not yet been implemented and the level of supervisory resources is insufficient for the range and nature of the tasks the BoJ must carry out for effective supervision.
3. Cooperation and collaboration
Instruments for cooperation and collaboration, such as MoUs, are in place to exchange information with all relevant domestic authorities and a large number of foreign supervisors. There is long tradition of information sharing among regulators in the Caribbean region. However, the exchange of information with the FSC is done as the need arises and not on a regular basis. There is no comprehensive formal mechanism of cooperation between the BoJ, the MoFPS and other regulators for bank resolution, except that in the case of a liquidation.
4. Permissible activities
The BSA clearly defines the business of banking, for licensees classified as Banks, merchant banks and building societies, while also providing additional clarity regarding which service/activities are prohibited or constrained. Credit unions are not regulated by the BoJ and can take deposits. The Government of Jamaica has given the BoJ the power to collect information from credit unions as a first step to bringing them under the supervisory umbrella of the BoJ.
5. Licensing criteria
The BoJ has the legal authority to grant banking licenses under the BSA with a transparent set of criteria for applicants, that require the collection of relevant information as to the ownership, financial wherewithal, business plans, projections and supervisability of corporate structure. For foreign entrants

The BoJ also has a routine for confirming the non-objection by the foreign supervisor of the applicant and enters into information sharing arrangements.
6. Transfer of significant ownership
Licensees are required by the BSA, to submit notification to the Supervisor of an acquisition of 5 percent or more of their issued share capital and any subsequent incremental acquisitions of 5 percent or more of their issued share capital. Significant ownership and control are defined in legislation. Change in ownership control/effective control requires Supervisory Committee approval and the BoJ has to nullify breaches of ownership changes that were not approved.
7. Major acquisitions
The BSA provides an adequate basis for the BoJ to approve or reject major acquisitions or investments by a DTI. These powers extend to the establishment of cross-border operations. The BoJ also has well established supervisory practices to limit and monitor risks arising from such acquisitions. However, while the BoJ has adopted a detailed internal approach to assessing proposals for major acquisitions using the criteria in legislation for a de novo license and other criteria, the criteria for conducting such assessments are not laid out in regulation. While the due diligence process undertaken by the BoJ thoroughly assesses the impact of the acquisition on the acquirer, it is not sufficient to determine that the DTI has from the outset adequate managerial and organizational resources to handle the acquisition.
8. Supervisory approach
The BoJ carefully assesses compliance with prudential regulations. Until recently, the BoJ has not been conducting on a regular basis a forward-looking assessment of the risk profile of individual banks and banking groups. The BoJ has taken a first step towards improving its supervisory approach by initiating the implementation of a risk-based supervision methodology. The new framework is still in its early stages of implementation. The BoJ is not yet empowered to require changes to business strategies, managerial, operational and ownership structures, and internal procedures when bank-specific barriers to orderly resolution are identified. Recovery and resolution plans also have not been required by the BoJ.
9. Supervisory techniques and tools
The BoJ uses a reasonable range of techniques and tools to implement its supervisory approach. The supervisory approach in the BoJ relies to a very significant extent on determinations made pursuant to the BSA (licensing, major acquisition, fit and proper, etc.). Equally, however, the frequency and intrusiveness of on- and offsite supervision has not been driven until recently by the evolving risk profile and systemic importance of the individual DTIs. There have been few findings on internal control, risk management and governance until the implementation of risk-based supervision. When findings were made, the were not always followed by explicit recommendations and remedial actions. Additionally, the onsite inspection planning process was made on subjective terms, the frequency of on-site inspections was low regardless of the size and/or the risk profile of DTIs, and several reports were not finalized and communicated to the inspected entities.
10. Supervisory reporting

Information is collected in a consistent format, on weekly, monthly quarterly and annual basis. Comparable quality data on licensees permits off-site analysis completed for pre-examination preparation, and for one-off/occasional system-wide studies. The scope of information is limited to licensees on a stand-alone basis, which is consistent with the scope of supervision that is currently in effect. Consequently, an equally robust picture of parent and affiliated entities is missing.
11. Corrective and sanctioning powers of supervisors
The BSA contains a large range of tools, measures and powers to bring about timely corrective actions. The BoJ has considered so far more effective to get DTIs to agree to an action plan for completing corrective actions rather than immediately resorting to more coercive measures. However, the process of providing recommendations to banks based on on-site examinations was lengthy, which weakens its effectiveness, and remediation progress and completion were insufficiently monitored and documented.
12. Consolidated supervision
The legal framework that could support the conduct of the consolidated supervision is extremely detailed and provides the BoJ with a broad range of powers and tools. However, while the BoJ is fully empowered to supervise financial groups, its understanding of risks and activities across existing financial groups is rather limited, given that a methodology for consolidated supervision has not yet been operationalized. Also, the BoJ does not yet impose prudential standards on a consolidated basis and does not require the submission of routine prudential data on a consolidated basis.
13. Home-host relationships
Significant achievements have been accomplished in the recent years. Processes for sharing information and cooperating on a continuous basis have been established. Valuable information is shared on a continuous basis. Additional work is ongoing. However, the cross-border crisis management policies and a formal communication strategy with foreign supervisors have not yet been finalized. Resolution planning and measures to facilitate cross-border cooperation such resolution colleges have not been established so far.
14. Corporate governance
The BoJ uses its on-site inspection process for the determination of the status and effectiveness of corporate governance in the banking sector and for the oversight of Boards in individual risk areas. Governance is duly included in the scope of on-site inspection. However, the BoJ did not provide sufficient evidence of action taken to address weaknesses identified by examiners in Board oversight. The BoJ has organized a limited number of formal meetings with executive and non-executive Board members in order to discuss the strategy, risk appetite, risk policies, risk profile and the way they oversee senior management. No review on compensation policies and practices has been conducted. Under the BSA, it is unclear whether the BoJ is in a position to replace weak performing Directors.
15. Risk management process

Supervision of risk management by the BoJ is in a transition period where it is moving from a more compliance based CAMEL approach to a more Risk Based Supervision framework that assesses risk management in the context of inherent risk in key business activities. Internal guidelines and examination manuals provide a sound foundation for evaluating Board involvement in oversight of the risk management program of a bank, ensuring an effective risk control culture in management and Board engagement. However, the framework for reviewing risk management exhibits deficiencies with respect to integrating an enterprise wide view of risks given the absence of formal guidance on (i) Internal Capital Adequacy Assessments (taking into consideration all material risks) (ii) stress testing and (iii) a requirement for a Chief Risk Officer at systemically important DTIs.
16. Capital adequacy
Several elements of the capital adequacy framework are prudent (minimum level of the ratio, composition of the Tier 1 capital). However, capital requirements are no longer aligned with international widely observed regulations. The calculation of capital requirements still reflects the analytical methodology of the Basel I framework, thereby focusing exclusively on credit risk and foreign exchange risk and leaving aside the other market risks and operational risk that are likely to be significant when measured on a consolidated basis. Although the BoJ has the general power to increase capital adequacy ratio requirements, it has not yet elaborated a comprehensive and transparent approach to determine capital surcharges reflecting the risk profile using a Pillar 2 approach and/or the systemic importance. In practice, the BoJ applies a crude approach which requires the largest DTIs to maintain minimum capital at least 2.5 percent above the general 10 percent requirement.
17. Credit risk
Credit risk is the most significant risk factor in the banking sector. The framework of requirements is detailed and comprehensive. However, no comprehensive on-site review assessing DTIs' credit risk management policies and practices has been conducted by the BoJ since 2013; similarly, the last credit file review was performed by on-site examiners in 2013. The BoJ did not provide sufficient evidence of actions taken to address weaknesses identified by examiners in credit risk management processes.
18. Problem assets, provisions, and reserves
The current regime for problem assets is governed by piecemeal regulations, which makes it difficult to understand. Moreover, the current norms are of different nature, some of them are binding (BSA), others are not enforceable (SSP) or have never been finalized (draft CCPNR). Minimum provisioning percentages are imposed for the exposures classified in the Substandard, Doubtful and Loss categories defined by the BoJ. This approach has proved to be prudent (NPL coverage ratio above 100 percent in the largest banks). Provisions calculated based on regulatory requirements that exceed the amounts required under IFRS are transferred by DTIs from retained earnings to a non-distributable loan loss reserve. Going forward, the BoJ would like a period of experience with IFRS 9 in order to ensure that provisions remain prudent. However, it is not clear how the BoJ will operationalize the use of the current regulatory provisioning regime as a backstop or a benchmark in an IFRS 9 environment.

19. Concentration risk and large exposure limits
There is a clear and objective measure of exposure (balance sheet and off-balance sheet including commitments to lend) and counterparty group (for purposes of aggregating exposures to parties that are not related to the licensee). Limits on single counterparty and counterparty groups of 20 percent and 40 percent of the bank's capital base are in place and enforceable. While the limits expressed in the BSA and the credit risk management practices with respect to diversification are supposed to apply on a consolidated basis at the FHC, there is neither consolidated reporting nor evidence of supervisory view on a group-wide basis.
20. Transactions with related parties
The BSA provides a legally enforceable requirement that caps related party exposures, defines clearly what a related party is, based on a comprehensive definition of exposure. The JamFIRMS reporting framework supports monitoring of related party exposures, while the supervisory framework and powers to obtain information permit examiners to confirm and review the details of a bank's related party exposures.
21. Country and transfer risks
The BoJ has not supervised licensees against the CP21 for Country and Transfer risks, based on the near exclusive Jamaican asset footprint of entities supervised on a solo basis. Due to the gaps in the current reporting framework, it is impossible to confirm with absolute certainty that trans-border risk is not material.
22. Market risk
The market risk of DTIs is limited to foreign exchange risk and the market risk of available for sale securities because the BSA prohibits a DTI from managing or investing funds on behalf of its customers and engaging in proprietary trading in securities for its own accounts. Once consolidated supervision is implemented, market risks of securities dealers, and requirements for identification, monitoring and control of position risk will have to be incorporated into the supervision at the FHC level.
23. Interest rate risk in the banking book
Although the BoJ has published a SSP for Interest Rate Risk Management that sets out the minimum policies and procedures each DTI needs to have in place, the framework remains largely unimplemented. Examiners generally do not conduct routine assessments of DTI's interest rate risk management policies, procedures and processes. There is no requirement for DTIs to conduct stress testing and include appropriate scenarios to measure their vulnerability to loss under adverse interest rate movements.
24. Liquidity risk
While qualitative guidance on liquidity risk management has been issued, there are no quantitative minimum prudential liquidity requirements. The BoJ relies on a Standard of Sound Business Practices for Liquidity Management as the basis for on-site review. However, the Standard has become dated and consequently is deficient compared to current international standards including stress testing of liquidity and contingency planning.

25. Operational risk
Currently, there is no law, regulation or specific guidance note on operational risk. There is evidence that the BoJ efforts in the operational risk space are addressing IT security issues, adequacy of vendor and outsourcing management and Business Continuity/Contingency Planning. However, the assessors did not see evidence a more systematic supervisory approach to operational risk management that would place these risks in a framework of key risk indicators.
26. Internal control and audit
The BoJ has issued a fairly comprehensive framework for internal control and audit even though the coexistence of several guidelines affects their readability. Moreover, the provision on the separation of duties is not sufficiently specific. Lastly, there have been few findings on internal control and internal audit as a result of on-site inspections.
27. Financial reporting and external audit
The BSA mandates the preparation and disclosure of financial statements of licensees that are audited in accordance with internationally recognized accounting standards. The BSA also gives the BoJ adequate and appropriate powers to remove an external auditor, require an expanded or special audit and require external auditors to report any material transactions or condition that comes to their attention. Given the BoJ relies in part on external auditors to test valuation assumptions for hard to value assets that require modelling inputs, and external auditors conduct risk-based scoping of their audits, the accounting firms are a valuable input to supervisory work that argues for more than as needs discussions/contact.
28. Disclosure and transparency
BSA-mandated disclosure of financial statements in accordance with international accounting and disclosure standards promulgated by the ICAJ work in tandem with Jamaican Stock Exchange requirements for listed companies. Equally the bank data made available on the BoJ's web site helps complete the snapshot of the financial condition of licensees. The result is complete coverage of BoJ regulated DTIs with useful financial information that can assist investors play their role in enforcing market discipline.
29. Abuse of financial services
The BoJ has made considerable strides in combatting abuse of financial services including through its ongoing work towards establishing effective risk-based AML/CFT supervision regime for DTIs and Cambios.

Table 2. Jamaica: Summary of Recommendations	
Reference Principle	**Recommended Action**
Principle 1	• The authorities should provide greater delegation to the BoJ to reduce delay and improve proactivity and flexibility in enacting legally enforceable prudential rules BoJ. • The most relevant Standards of Sounds Practices (governance, credit risk management, internal control and audit) should be included in the binding set of rules. • Legislation is needed to update and clarify the BoJ's supervisory mandate.
Principle 2	• There should be a requirement in the legislation that there be public disclosure made of the reason(s) for relieving the governor or deputy-governor. • Steps should be engaged to operationalize measures included in the BSA that were intended to enhance accountability. • The BoJ should develop a formally documented guide for the delegation of supervisory decisions along BoJ Financial Institution Supervisory Department's organizational hierarchy as well as procedures governing the execution of offsite and onsite supervisions. • Resources should be increased. A thorough evaluation of the staffing and capacity building needs should be initiated by the BoJ in the context of the implementation of risk-based supervision.
Principle 3	• The BoJ should intensify the exchange of information among domestic authorities with a view to better understanding risks arising from intragroup transactions initiated within the largest financial conglomerates. • The authorities should consider amending the legal framework to adequately protect information exchanged through cooperation arrangements by explicitly prohibiting disclosure to third parties. • As Jamaican authorities develop a recovery and resolution framework, they should establish effective mechanisms for cooperation between the BoJ, the Minister of Finance other financial institution regulators to undertake recovery and resolution planning. Further efforts are also necessary to establish an effective framework for cross-border cooperation in the context of bank resolution.
Principle 7	• The criteria for assessing proposed acquisitions and investments should be included in the regulation. The power to impose prudential conditions on an acquisition should be included in the legislation. • Due diligence should be more intrusive to determine that the DTI a has from the outset adequate managerial and organizational resources to handle the acquisition.
Principle 8	• The BoJ should take further steps to fully deploy the risk-based methodology.

	• The BoJ should be empowered to require changes to business strategies, managerial, operational and ownership structures when bank-specific barriers to orderly resolution are identified.
Principle 9	• Onsite inspection tool should be utilized on a more frequent basis. • The BoJ should develop risk-focused examination manuals with detailed objectives and controls. • The BoJ should develop and implement mechanisms to increase its contact with licensees' Board and non-executive Board members and senior managers to reinforce priority messages and develop knowledge of and insight into individual DTIs. • The BoJ should (i) develop early warning indicators to better identify, assess, and mitigate any emerging risks across DTIs and (ii) consider deploying horizontal reviews on key risks it has identified in the banking sector. • The authorities are encouraged to redefine supervisory priorities and reconsider whether it is still appropriate to approve all new products designed by DTIs and conduct fit and proper evaluations for all DTIs officers, managers and key employees.
Principle 10	• The authorities should expand supervisory reporting to include consolidated information in a level of detail and frequency that supports the approach to consolidation they decide on in future. At minimum monitoring risk on a consolidated basis, should include capital adequacy, credit exposures, market risk exposures, large exposures, operational risk loss events and liquidity. • The BoJ should collaborate with competent authorities for the collection of information from securities dealers (SDs) to accommodate their supervisory needs should it be decided that SD reporting could benefit from sharing the BoJ IT platform.
Principle 11	• The BoJ should shorten the turnaround time of a supervisory review from initiation to final report. • The BoJ should perform a thorough follow up on the implementation of supervisory recommendations. • As part of the implementation of risk-based supervision and the intensification of banking oversight, the authorities are encouraged to use proactive, preventative and earlier corrective actions to address governance and risk management issues.
Principle 12	• The BoJ should (i) better understand the overall structure and risk management of the bank, banking group, and the wider group, (ii) review the main activities of parent and affiliated companies; (iii) implement the process for the licensing of financial holding companies, (iv) impose prudential standards on a consolidated basis (solvency, liquidity, large exposures, related parties); (v) routinely collect prudential data on consolidated basis, (vi) establish and enforce fit-and-proper standards for owners and senior management of parent companies, and (vii) strengthen the regulations on internal control and risk management while making compliance with these provisions on a consolidated basis compulsory.

	• The BoJ is encouraged to develop a policy for determining the basis on which to conduct onsite visits in host jurisdictions. • Cooperation with the FSC should be intensified through on-site joint inspections, staff exchanges, and regular exchange of information to better understand and analyze intragroup transactions. • Financial Institution Supervisory Department's internal policies should include a focus on Jamaican DTI/FHC's oversight of their foreign operations.
Principle 13	• The authorities should develop a cross border crisis cooperation plan, including a formal communication strategy and establish resolution colleges.
Principle 14	• The authorities should include requirements related to governance and fit and proper tests in binding rules. The issuance of the regulation will enable the BoJ to adopt a more intrusive approach to corporate governance, as well as strengthen enforcement. The regulation should explicitly state that remunerations (including bonuses) have to be aligned with prudent risk-taking and that minimum number of board members with relevant banking experience without being an officer is required. • Regular coverage of corporate governance is needed. In view of overarching resource constraints, this may be an appropriate topic for a horizontal review performed by offsite examiners. The BoJ should also adopt a more intrusive on-site approach to corporate governance and ensure that in-depth and thorough assessments of governance framework and compensation policies are performed during on-site inspections. • The authorities should amend the legal framework granting the BoJ the power to change the composition of DTIs' Board subject to appropriate constraints.
Principle 15	• The authorities should develop and implement Guidelines/Standards for an internal capital adequacy program (ICAP) at DTIs that specify - as appropriate - a requirement for a CRO function that is responsible for the ICAP and that incorporates firm-wide stress testing of the inherent risks. • The authorities should take a more risk-based approach to new product approval by setting standards for and assessing on site the internal new product approval process at DTIs on a regular basis.
Principle 16	• The risk-weights should better differentiate risks and all significant risks should be captured through a broader comprehensive Pillar 1 approach and a new Pillar 2 surcharge. • The authorities should specify how Tier 1 and Tier 2 will be calculated on a consolidated basis and how risk-weighted will be determined by capturing all risks on a group-wide basis. • The authorities are encouraged to increase transparency around the main drivers of the decision to determine capital surcharges reflecting the systemic importance. • The BoJ should ensure that banks develop a forward-looking approach to managing capital.

Principle 17	• The should also clearly specify that DTIs have to monitor all risk factors that may lead to a default of the borrowers, including unhedged foreign exchange risk. • The BoJ should revise examiner guidance assessing licensee's credit risk processes and include a detailed list of inspection objective and checks. • Supervisory expectations as regards DTIs' credit risk modeling and stress testing should be clearly defined.
Principle 18	• The BoJ should be transparent about how it will use the current regulatory provisions regime in an IFRS 9 environment. • The authorities should implement a regulation transposing the BCBS guidelines on the prudential treatment of problem assets, with a clear set of definitions (non-performing exposures, forbearance measures). Sound valuation principles should be included as well. • Changes to the loan loss provisions rules should be preceded by a careful quantitative impact study. • Explicit powers should be given to the BoJ to require a change in the risk classification and/or additional provisions when it is considered appropriate. • The BoJ should revise the loan review methodology in such a way that the supervisor develops a profound understanding of the banks internal risk management policies. • The BoJ should develop its technical capabilities to assess the methods employed by DTIs to calculate expected credit losses.
Principle 19	• The authorities should consider adopting the treatment of interbank exposures proposed in the updated Basel standard for large exposures coming into force in 2019. Alternatively, a local adaptation that provides for a higher limit rather an exemption for these short-term bank exposures may be prudent given the need to be proportional to the needs of local markets.
Principle 21	• The authorities should supplement their off-site monitoring by conducting periodic horizontal focused reviews that include obtaining and reviewing information on country and transfer risk on a periodic basis to confirm immateriality.
Principle 22	• The authorities should implement a framework for market risk under consolidated supervision that includes: • Capital requirements for debt specific and general market risk, and for traded equity risk. • Standard of Sound Business Practice for Market risk that incorporates existing Standards for foreign exchange and securities portfolios. • Requirements for licensees to conduct stress testing including for market risk.
Principle 23	• The authorities should implement a binding regulation on the management of interest rate risk in the banking book. • Such a regulation should include requirements for DTI's to conduct stress testing to measure their vulnerability to loss under adverse interest rate movements.

Principle 24	• The authorities should update their qualitative standards for liquidity risk management with explicit inclusion of requirements for liquidity stress testing and internal policies for asset encumbrance consistent with Basel standards as appropriate to local conditions. • The authorities should consider the merits of a minimum quantitative prudential liquidity standard taking into account interactions with existing central bank's requirements for minimum liquid assets that are not available in times of stress.
Principle 25	• The authorities should develop an Operational Risk Management Guideline/SSP based on Basel Committee's guidance documents Principles for the Sound Management of Operational Risk (June 2011). • The authorities should develop standards for the collection and reporting of operational risk loss events by DTIs in support of their responsibilities for quantifying monitoring and managing operational risk.
Principle 27	• The authorities should enforce, enhance and rationalize supervisory requirements on internal controls. The BoJ should consider the option of consolidating all requirements on internal control in one binding regulation. • Greater frequency of off-site assessment of internal audit and internal control is needed. In view of overarching resource constraints, this may be an appropriate topic for a horizontal review. • The BoJ should adopt a more intrusive approach to internal control and audit. As a complement to the Section Notes guiding the examiners, the BoJ should incorporate into the on-site examination function a robust program for examining and assessing internal audit and internal control.
Principle 28	• The authorities should establish a regular contact with external auditors of DTIs in Jamaica for the purposes of matters of common interest, for example planned areas of focus for annual external audits, considerations for upcoming implementation of changes to accounting standards and developments/experience in valuation of hard to value assets.
Principle 29	• The provisions currently included in the AML/CFT Guidance Note, which do not have the force of law, should be incorporated into biding regulation. • The authorities should include a review of correspondent banking relationships in the review of a licensee's AML/CFT policies.

Annex II. Report on Observance of Standards and Codes: Core Principles for Effective Deposit Insurance

Core Principle 1: Public Policy Objectives	The DIA should be amended to make clear that JDIC may fund the payment of insured deposits but may not offer loans, guarantees or advances to policyholders in excess of such amounts.	Medium Term
Core Principle 3: Governance	The Chief Executive Officer should have a fixed term of office.	Medium Term
Core Principle 4: Relationships With Other Safety-Net Participants	There should be a formal Service Level Agreement between JDIC and BoJ governing the necessary sharing of information to allow for adequate preparation by JDIC to meet its mission.	Short Term
Core Principle 5: Cross-Border Issues	JDIC should enter into agreements with relevant deposit insurers for all foreign banks operating as subsidiaries in Jamaica to allow for the sharing of information about failing or failed institutions in the home country. Such information sharing will allow for contingency planning by JDIC in case such difficulties cause stress at the local subsidiary and to ensure that communication is accurate and consistent between the various deposit insurers.	Medium Term
Core Principle 6: Deposit Insurer's Role in Contingency Planning and Crisis Management	There should be system-wide contingency planning and simulation exercises that include JDIC and that would consider the roles of all safety-net players in a financial crisis including one with potentially systemic consequences.	Medium Term
Core Principle 9: Sources and Uses of Funds	JDIC contributions from its deposit insurance fund to the resolution of a DTI should be limited to the amount needed to compensate insured depositors in a liquidation scenario. JDIC should finalize an agreement with BoJ and MOF to allow it to access funding in case of need. Such an agreement could provide for access to BoJ funding with a government backing. JDIC should enter into a repo agreement with BoJ to provide access to liquidity funding in case of need. Funding for any additional role for JDIC such as a liquidator	Medium Term

	or administrator for a non-DTI as contemplated under the plans for a SRR should be identified as this role will require JDIC to prepare in advance of any possible liquidation or administration even if such an action is ultimately not taken and therefore no funds from the estate of the non-DTI become available Seed funding for any obligation JDIC takes on for the insurance of deposits at credit unions should be provided.	
Core Principle 14: Failure Resolution	The process of revising the resolution regime should take into account the detailed recommendations made in this Assessment to better align the operations of JDIC with good international practices.	Short Term
Core Principle 15: Reimbursing Depositors	The law provides JDIC up to 90 days to reimburse depositors. JDIC's internal procedures require it to be prepared to reimburse depositors within 14 days but it is operating with an interim payment system in advance of completion of an automated payment system. It should complete its adoption of a system that would allow it to reimburse depositors within 7 days and work with BoJ to implement a rule requiring Policyholders to adopt required recordkeeping practices	Medium Term
Core Principle 16: Recoveries	JDIC should receive a higher priority in the hierarchy of claims in a winding up than that of an unsecured creditor to allow it to recover more of the payments it makes to insured depositors and its costs incurred in making such payments.	Medium Term
Short Term: 6-12 months; Medium Term: 1-2 years.		

Appendix I. FSAP Risk Assessment Matrix[1]

Source of Risks	Relative Likelihood	Expected Impact and Transmission Channels
Risk #1: Domestic shock. **Delays in implementing the economic and structural reforms agenda.**	**High** *A heavy reform agenda coupled with low implementation capacity.* There are still important challenging reforms to be completed, including in the financial sector. If stopped (or delayed) growth, the fiscal deficit and confidence would be impacted. Confidence in the economy is currently high, sovereign spreads have declined, and dollarization has declined somewhat, although it remains at high levels. Broader-based economic growth remains anemic.	**High** In the adverse stress test scenario, a slowdown in the reform momentum could trigger real GDP growth declining by 0.5 percentage point in the first year, and hover at zero for the following two fiscal years, with cumulative three-year growth falling by 5 percentage points against the baseline. This would increase spreads and trigger JM$ depreciation, increase credit risk (specially in credit unions and microfinance). It would also increase DTIs' NPLs; DTIs' capital is very sensitive to NPLs increases, which directly impact capital. At the same time, investors would begin demanding higher sovereign bond yields, adding fiscal pressures and a loss of investors' confidence. DTIs would further add sovereign bond holdings in a crowding out reversal effect. Foreign borrowing would be affected, especially given the existing concentration model, and quickly transmit domestically with refinancing risks to DTIs and liquidity would be affected. Second round effects on growth and FX reserves would add further pressures on dollarization, via FX exposures, off-balance sheet and off-shore activities despite the tightening of FX regulation.
Risk #2: External financial shock. **Tighter global financial conditions**	**Medium/High** There are no immediate sovereign financing needs, but the increase in the US$ rates and appreciation of the US$ would further tighten fiscal-driven growth and a search for US$-denominated yield search efforts.	**High** An external financial shock in advanced economies would negatively impact tourism, remittances and FDI inflows. The real sector channel would negatively impact FX reserves, credit spreads, JM$ weakening, and lead to an increase in NPLs. Liquidity, quite concentrated into two banks, would further exacerbate. The shock will also directly impact lending terms from abroad, which would channel through the foreign entities with foreign funding access and via domestic capital markets and further compress domestic lending. Dollarization pressures would accelerate, leading more a further off-shore activity. Second round effects include investors would begin demanding higher yields from the government to hold the debt, and reversing the progress made against crowding out.

Risk #3: External natural shock. Natural disasters and epidemics.	Medium	High
Risk #3: External natural shock. **Natural disasters and epidemics.**	Jamaica's exposure to natural disasters ranks in the top 20 globally, given its low-lying coastal zones, mountains, and five major fault lines. The country has withstood about 40 disasters between 1950-2017, averaging about a disaster a year. Sixty percent of these were hurricanes and storms, and about a quarter of floods, droughts, and epidemics.	With a natural disaster, there would be a negative impact on the fiscal deficit and growth. The financial sector would see credit risk increase in the lending portfolio and market risk (interest rate and JM$) would be adversely affected. The DTI NPLs, capital and liquidity would also suffer in the aftermath of a natural disaster, with possible second-round effects to FX reserves, growth and debt levels. In the severely adverse stress testing scenario, a natural disaster of historical dimension would have a three-dimension impact: material physical damage of 2-3 percentage of GDP; real GDP growth dropping by 1-2 percentage points in the first year and by 2 percentage points thereafter; the primary balance would revert to a deficit of around 0.1 percent of GDP, and debt would revert towards an upward trend. Interest rates would spike by 600 basis points, led by a flight to safety. The exchange rate would depreciate by about 60 percent, and aggregate banking system NPLs would increase three-fold. Liquidity shortages would require of CB immediate assistance to the system.

[1] The Risk Assessment Matrix (RAM) shows events that could materially alter the baseline path (the scenario most likely to materialize in the view of IMF staff). The relative likelihood of risks listed is the staff's subjective assessment of the risks surrounding the baseline ("low" is meant to indicate a probability below 10 percent, "medium" a probability between 10 and 30 percent, and "high" a probability of 30 percent or more). The RAM reflects staff views on the source of risks and overall level of concern as of the time of discussions with the authorities. Non-mutually exclusive risks may interact and materialize jointly.

Appendix II. Implementation of Previous FSAP Recommendations, Preliminary Assessment

Stability Module

2006 FSAP recommendation	Implementation Status and measures taken (Authorities' view)
Maintaining financial stability and enhancing supervision:	
1. Reduce the public debt. (MOFPS)	Ongoing. Implementation of Responsibility Framework Legislation in 2010 lead to a reduction in the FY2015/16 public debt ratio to about a 100 percent of GDP. Under the FY2014/15 Enhanced Fiscal Rules the debt ratio should drop to of 60 percent of GDP by FY 2025/26.
2. Raise margin requirements on securities dealers' repos in GoJ securities to at least 10 percent this year. (FSC)	Done. A new framework is in place and involves the JCSD Trustee Services Limited functioning as trustee and registrar to hold the securities underlying retail repos in the trust for the benefit of retail repo investors. A new retail repo transaction structure became operational in August 2015. It included the new margin requirement based on the type of assets used as the underlying security for the retail repo contract. Margins for retail repos range between 5-15 percent depending on the type of assets used as the underlying security for the retail repo contract. Current Margin Requirements for Retail Repo: (i) The minimum initial and maintenance margin requirements for the following list of 'qualifying issuers' shall be 5 percent: (i) the GOJ, inclusive of central government, statutory bodies, companies owned or controlled by the GOJ and agencies of the GOJ; (ii) the BoJ; and (iii) Governments and Government Agencies of the US, Canada, and the U.K. (ii) For all other allowable assets, the minimum initial and maintenance margin requirements shall be 15 percent as long as the issue is: (i) a locally issued JM$ denominated immobilized corporate bond; an Investment grade sovereign foreign security (excluding U.S., Canada and U.K.); or Investment grade corporate foreign.
3. Strengthen monitoring and analysis of housing and equities prices. (BoJ)	Ongoing. In 2015, BoJ and the National Housing Trust (NHT) signed an MoU on the compilation of a housing price index for Jamaica. Under this agreement, the NHT provides transactions and data to compile a quarterly aggregate housing price index, and the BoJ produces a housing price index and two sub-indices for the two largest housing markets within Jamaica (i.e., St Catherine and Kingston & St Andrew). A rolling-window hedonic price model for housing is utilized to construct and update the housing price indices. BoJ has been producing this index since 2016.
4. Enhance analysis of insurance risk concentration and reinsurance coverage. (FSC)	Ongoing. In 2004, the FSC was a newly formed regulatory body for the insurance industry. In 2005 the FSC implemented a plan to improve its regulatory capacity, with the hiring of a

2006 FSAP recommendation	**Implementation Status and measures taken (Authorities' view)**
	senior staff specializing in the review of reinsurance treaties and reinsurance regulation and hiring in 2006 a consultant to train the staff and to advise on the regulation of reinsurance programs of the companies. The consultants also included two on-site examinations as part of their training program. Current practices: The general insurance companies have been instructed to file copies of their reinsurance treaties annually for review by the FSC. The FSC currently reviews the reinsurance treaties of general insurance companies and a report of the assessment is submitted to our Board of Commissioners. All general insurers were instructed to file its Reinsurance Risk Management Plan/Procedure to the FSC. Annually the FSC conducts on-site examinations which includes the assessment of the companies' reinsurance programs.
5. Develop and test crisis management plans.	National Financial Crisis Management Plan The inter-agency cooperation and coordination work on crisis preparedness and crisis management falls under the Financial Regulatory Committee (FRC), a statutory committee established under the Section 34 BB of the BoJ Act. In 2015 the FRC approved and now maintains a National Financial Crisis Management Plan (the NFCM Plan) which includes a compendium of supporting policies, procedures and guidelines. The Guide to Intervention for Financial Entities (Crisis Intervention Matrix) also provides guidance on the actions to be taken by each member of the financial system safety net in crises. Updates are made to operationalize the NFCM Plan and ensure consistency/ alignment with the reforms currently being undertaken. The NFCM Plan and other elements of the framework have not yet been tested/simulated. Jamaica has not had a financial crisis since the 1990s. In process. Special Resolution Regime FRC agreed to the development of a national crisis management plan and resolution framework for financial institutions and the Committee published a consultation paper recommending the introduction of a special resolution regime (SRR) in February 2017. The SRR proposes a framework for the resolution of financial institutions (FIs) in line with international standards, that facilitates the orderly resolution of non-viable FIs. The proposed regime includes a specialized insolvency limb and an administrative limb. BoJ and other FRC stakeholders submitted SRR proposals to Cabinet that were approved in October 2017. A Technical Working Group is drafting instructions for legislative measures to introduce the SRR. Under the proposed regime, BoJ would become the Resolution Authority. The legislative framework is to be tabled in 2019.

2006 FSAP recommendation	Implementation Status and measures taken (Authorities' view)
6. Strengthen coordination across supervisory agencies and close remaining legal gaps (including through passage of an Omnibus Banking bill) to permit comprehensive consolidated supervision and more effective supervision of conglomerates. (BoJ/FSC/JDIC/MOFPS)	In process. The Omnibus Banking Bill which was commenced as the Banking Services Act, 2014 (BSA), consolidated into one standalone Act, the disparate primary statutes which previously governed the different deposit-taking subsectors under BoJ's regulatory purview. The BSA is the primary legislative tool supporting enhancements to Jamaica's regulatory and supervisory framework, including the legislative framework to support Consolidated Supervision. BoJ is to license and supervise FHCs; it will be responsible for, inter alia, ensuring the groups are adequately capitalized on a consolidated basis, and subject to effective governance and risk management frameworks. Effective implementation of consolidated supervision will require enhanced consultation between BoJ and other regulatory agencies. Additional legislative measures are in process: (i) the Banking Services (Capital Adequacy) Regulations; and (ii) the Banking Services (Financial Holding Companies) (License Application) Rules. On March 2016, the FSC submitted its proposal to the MOFPS for legislative amendments to enable group-wide supervision of financial groups that do not include a deposit-taking institution.
7. Give supervisory agencies more resources and budgetary flexibility. (BoJ/FSC)	Pending. The budget of the BoJ's Financial Institution Supervisory Division (FISD) forms a part of the broader BoJ budget, primarily funded through revenues from central banking operations (Section 9 of BoJ Act). If funds are inadequate, the Bank is entitled to funding from the Government's Consolidated Fund. The annual budget for supervision is determined by the Bank's senior management and approved by the Board, based on estimates based on past year expenses. FISD's budget includes allocations for training, technology and travel expenses as well as other resource needs. The division's budgetary requests have generally been fully met. Supervisory staff are also allocated funds to participate in international meetings of significant relevance including supervisory colleges. The BoJ is subject to public sector wage guidelines, subjected to prolonged periods of wage increase constraints. These have constraint BoJ's ability to attract and retain qualified staff, particularly at and above the level of senior examiner. FISD has suffered a high rate of attrition, typically losing staff to overseas regulators and the financial industry, with challenges to effectively carry out its supervisory responsibilities. To counter this problem, the Division engaged into external recruitment at a sufficiently high-level to offer competitive remuneration and used contracts (as opposed to permanent appointments).

2006 FSAP recommendation	Implementation Status and measures taken (Authorities' view)
	The FSC's surplus and reserves have grown between 2005-2017. In 2008, the rate charged on the assets of securities dealers was increased. Also in 2008, the fee charged on general insurance companies also increased. Resource constraints are also important.
8. Further codify the legal and operational independence of supervisory agencies. (BoJ/FSC)	The BSA was passed by Parliament in 2014 and brought into effect in 2015. The BSA introduced several provisions aimed at supporting the operational independence of the BoJ. For example, the process for the appointment of the Governor (who is also the Supervisor) was changed so that it is Governor-General, on the advice of the Cabinet of Ministers, who is empowered to make such appointments (Section 6A of the BoJ Act). The Act also established a Supervisory Committee with critical supervisory powers, which previously rested with the Minister of Finance. Some of the powers include, for example, the granting and revocation of licenses; determinations on the fitness and propriety of directors, officers, key employees and substantial shareholders of licensees; and the variation of prudential capital adequacy requirements. In addition, the Supervisor, on his own, can take prompt corrective action with respect to licensees. These reforms aimed at removing the scope for government interference in the supervisory process. The BSA brought about operational independence on supervisory functions carried by the BoJ but not independence overall. The BoJ's Board, responsible for the general strategic and administrative oversight of the Ban, including the Supervisory Division, has a majority of members appointed by MoF. The Supervisory Division is also subject to the operational oversight of the Committee of Bank Supervisors (COBS). COBS is chaired by the Governor and is also comprises the Deputy Governor (as Deputy Supervisor of Banks), FISD's Division Chief and the respective department heads within the Division as well as legal counsel with direct responsibility for supervision. In relation to the FSC, no action was taken.
Addressing development and infrastructure priorities:	
9. Overhaul creditor rights and the insolvency regime and introduce a credit bureau. (BoJ)	The Credit Reporting Act was passed in 2010 and provides the enabling framework for a privately-run credit bureau sector. Under the Act, BoJ is the designated Supervising Authority and is charged with maintaining a general review of the practice of credit bureaus in Jamaica. Since implementation of the CRA in 2011, three credit bureaus have been licensed by the MoF based on recommendations from the BoJ, and continued the exchange of information with credit information providers (CIPs). The Insolvency Act 2014, which took effect in January 2015,

2006 FSAP recommendation	Implementation Status and measures taken (Authorities' view)
	inter alia, established an orderly process which provides insolvent debtors with an opportunity for rehabilitation, having due regard to the protection of the rights of creditors and other stakeholders, and ensuring the fair allocation of the costs of insolvency. The passage of the Security Interests in Personal Property Act (SIPPA) 2013 took effect in January 2014, and allows persons (whether natural or corporate) to offer personal property as collateral, facilitating the reduction of transactions costs involved in borrowing. The SIPPA gives certainty to security interests over assets within the scope of the legislation. The framework provides that the order of priority for such security interests be governed by the registration date. The framework limits the risk of competing claims over the same collateral. SIPPA provides for a registry on which creditors or their duly authorized agents may register their interests in collateral by filing a simple notice.
10. Ensure that the new regulatory regime for credit unions is carefully balanced to minimize risks without stifling credit unions' impressive outreach. (BoJ)	Currently, credit unions are to provide information on their operations to BoJ. This was a preliminary step towards placing these institutions under the supervisory oversight of the BoJ. A Cabinet submission was completed by Ministry of Finance and the Public Service (MOFPS) and submitted to the Cabinet in April 2017 based on the advice of the Chief Parliamentary Council (CPC) that the framework proposals for the BoJ (Credit Unions) regulations reside in principal as opposed to subsidiary legislation. Based on the resulting cabinet decision, MOFPS prepared and sent drafting instructions to the CPC for the proposed credit union special provisions legislation. The preliminary draft of the Credit Union Bill was received from the CPC on 17 July 2017 and has been reviewed by MOFPS, BoJ and JDIC. Further drafting instructions were sent by MOFPS and a second draft of the Credit Union Bill was received by MOFPS from the CPC on 16 January 2018 and circulated to stakeholders including BoJ, JDIC and the Ministry of Commerce, Agriculture and Fisheries (MICAF) for review and feedback. Comments on the second draft of the Credit Union Bill have been received from the Credit Union League, FSC, from BoJ and MOFPS. A meeting was held between the League, BoJ and MOFPS on 18 April 2018, after which, further drafting instructions were sent to CPC. A third draft was submitted to the BoJ on 18 May 2018 and is currently being reviewed. BoJ continues preparation for the commencement of the regulatory regime. In the interim, oversight responsibility for the credit union sector remains vested with the Department of Co-operatives and Friendly Societies as the statutory oversight agency, while an industry self-regulatory

2006 FSAP recommendation	Implementation Status and measures taken (Authorities' view)
	role is assumed by the Credit Union League.
11. Pass legislation to enable FSC to begin registering and regulating pension funds; equalize the income tax treatment of approved retirement schemes with that of superannuation funds. (FSC)	*Completed*. The Pensions (Superannuation Funds and Retirement Schemes) (Registration, Licensing and Reporting) Regulations came into force on March 13, 2006. The income tax treatment of approved retirement schemes was covered in the Income Tax (Amendment) Act 2008 as well as the Pensions (Superannuation Funds and Retirement Schemes) (Validation and Amendment) Act 2013.
12. Expedite introduction of a sound legal framework for payment and settlement systems; introduce an RTGS system. (BoJ)	Jamaica's legal framework for payment and settlement systems include the enactment of the Payments Clearing and Settlement Act, 2010 and the Government Securities Dematerialization Act, repealed in 2012 and replaced by the Public Debt Management Act (PDMA) and the implementation in 2013 of the Guidelines for Electronic Retail Payment Services (Guidelines). The Guidelines are currently being updated. RTGS was implemented in February 2009.
13. Establish a CSD for fixed income securities. (BoJ)	*In process.* JamClear®-CSD was implemented in May 2009, replacing the paper-based issue of GoJ and BoJ fixed income securities. With the introduction of JamClear®-CSD, all new issues of BoJ and GOJ securities are dematerialized to eliminate the need for paper certificates, thereby mitigating the risks associated with the trading, clearing and settlement of paper-based securities. The electronic system provides the authentic record of ownership of BoJ and GOJ securities. It brings significant efficiencies to the processes for issue, management and redemption to the domestic fixed-income securities market. JamClear®-CSD reduces settlement risk and improves the liquidity and efficiency of the secondary markets, with potential savings on public debt service. JamClear®-CSD is seamlessly integrated with JamClear®-RTGS to allow for Delivery versus Payment (DVP) settlement.

Source: Authorities.

Developmental Module

FSAP Development Module Recommendation	Implementation Status and measures taken (Authorities' view)
Overall	
14. Develop an umbrella financial inclusion strategy, covering key areas, MSME finance, housing finance, payments, rural finance, and financial consumer protection and literacy (BoJ and other key stakeholders)	The National Financial Inclusion Strategy (NFIS) was launched on 29 March 2017. The National Financial Inclusion Council held its inaugural meeting on that date.
MSME Finance	

FSAP Development Module Recommendation	Implementation Status and measures taken (Authorities' view)
15. Encourage the development of financial instruments for MSMEs, by developing the legal and regulatory framework and infrastructure: (i) factoring; (ii) leasing, and (iii) venture capital (DBJ/MoFPS)	In keeping with the NFIS, which was launched on 29 March 2017, to date there are simultaneous projects being conducted by the Ministry of Industry Commerce Agriculture and Fisheries (MICAF) and the Development Bank of Jamaica (DBJ) to promote factoring, and receivables financing. In April 2017, MICAF completed its review of the secured transactions regime. In September 2017, a feasibility assessment on factoring was completed by DBJ. DBJ continues to pursue the development of the venture capital ecosystem, through the development of proposals for tax reform to incentivize venture capitalists.
16. Review and revamp the PCG scheme to provide adequate incentives for lenders to participate (DBJ/MoFPS)	DBJ is the project lead for the Access to Finance project with the World Bank, which was approved in January 2018 by the World Bank's Board. Under that project, work will be done to strengthen the institutional arrangements for the Credit Enhancement Fund. GOJ has also entered into an agreement with the Inter-American Development Bank to recapitalize the credit enhancement fund over a 4-year period. It should be noted that in November 2016, BoJ revised its risk weighting for loans supported by the partial credit guarantee having regard to the existing governance framework.
17. Ensure an adequate regulatory and supervisory framework for different lenders to guarantee a level playing field for financial institutions providing the same activities (MoFPS/BoJ)	Deposit-taking institutions are subject to the supervisory framework established under the Banking Services Act. Policy to enhance regulatory framework for money lending institutions was approved by Cabinet in 2013. The legislation has been drafted and is being reviewed. Once finalized, the legislation will be tabled in Parliament, which is expected in FY 2018/2019. The draft legislation includes provisions for designation of a regulatory authority, licensing, fit and proper requirements for officers, record keeping and reporting requirements, offences and penalties and transparency in lending practices and other consumer protection matters. For the Credit Union (Special Provisions) Bill, a third draft bill was sent to BoJ in May 2018, as part of stakeholder consultation. Comments are to be provided.
18. Simplify documentation requirements for MSMEs and consider adopting measures in prudential regulations to incentivize lending to MSMEs (BoJ)	**Financial Inclusion** To clarify, this recommendation has informed the NFIS. The NFIS speaks to two action items for BoJ: (a) Evaluate, design and implement a policy framework for opening transaction accounts with graded KYC requirements for MSMEs; (b) Review and enhance the prudential framework regarding provisioning for SIPPA registered collateral.

FSAP Development Module Recommendation	Implementation Status and measures taken (Authorities' view)
	In relation to item (a) BoJ provided its policy proposals for graded KYC/CDD requirements to be accommodated as part of the risk-based framework for AML/CFT under the Proceeds of Crime Act in May 2017. This action item has been merged with another work-stream on AML/CFT. For item (b) On 28 February 2018, BoJ published its consultation paper on Problem Asset Management and Provisioning Requirements. There has been ongoing consultation with stakeholders and IFC. **Prudential Requirements** At the year-end 2016, in keeping with the provisions of the Banking Services (Deposit-Taking Institutions) (Capital Adequacy) Regulations, 2015, Bank of Jamaica approved a reduction in capital requirements for development banks. Bank of Jamaica recommended that loans (or portions thereof) with guaranteed coverage by credit guarantee schemes (subject to conditions) should be risk-weighted twenty per cent, with uncovered portions remaining one hundred per cent risk-weighted. The application of the twenty per cent risk-weighting is limited to loans extended in Jamaican currency. The application of a reduced risk-weighting to loans (or portions thereof) with guaranteed coverage by credit guarantee schemes would include the following implications: a. Incentivized lending, enabling creditors to increase financing levels to MSMEs; b. Regulatory capital relief, as lowering the risk-weighting will lead to reduced regulatory capital requirements for exposures covered by the guarantees; and c. Jamaica's financial inclusion aims are promoted in manner that is consistent with the existing framework of prudential regulatory requirements. The approval for capital relief with respect to exposures guaranteed under this framework will remain effective for a period of three years, at the end of which, Bank of Jamaica will conduct an assessment to determine if there is a basis for the continued application of the reduced risk-weighting.
19. Consolidate public programs for MSME finance to improve efficiency and effectiveness (MoFPS/ MoIIC)	This work-stream is ongoing.
Housing Finance	

FSAP Development Module Recommendation	Implementation Status and measures taken (Authorities' view)
20. Design a comprehensive national housing policy strategy (MoFPS/ MoTWH)	The proposed Housing Policy was submitted to Cabinet in April 2018, following extensive stakeholder consultation (Ministry of Economic Growth and Job Creation).
21. Establish uniform regulatory and supervisory framework for housing finance lending (BoJ/MOFP/MoTWH)	Work on a database for housing financial indicators.
22. Develop the legal and regulatory framework for long term funding instruments (FSC/BoJ/MoFPS)	Under the NFIS, work began on mortgage insurance. However, following the feasibility assessment on mortgage insurance as part of the Access to Finance project, this component was dropped from the Access to Finance project.
23. Design a specific policy to introduce subsidies and incentives for low income and informal borrowers access to housing finance (MoFPS/ MoTWH)	NHT continues to create innovative housing micro-finance products targeted to the lower-income contributors. This work began in 2016 and continues in partnership with credit unions.
Rural/Agriculture Finance	
24. Include agriculture finance as a key area in the overall financial inclusion strategy, including specific financial instruments, public policies and institutional framework (MoFPS/MoA)	There are 8 action items related to Agriculture Finance. Work is ongoing.
25. Review the potential of warehouse receipts financing, including the appropriate legislation, regulatory and supervisory oversight (MoA)	This is also part of the NFIS and will inform the work-stream for receivables financing/factoring products.
26. Develop micro-insurance regulations and guidelines (FSC)	In 2010 the FSC initiated the process to seek Technical Assistance ("TA") from the World Bank to provide support in developing an appropriate legal and regulatory framework for the supervision of micro-insurance business. A Memorandum of Understanding between the FSC and the World Bank to provide TA on microinsurance business was finalized and signed by the representatives of both organization in February 2013. The TA project in Jamaica

FSAP Development Module Recommendation	Implementation Status and measures taken (Authorities' view)
	regarding microinsurance business involves three components:[1] (I) diagnostic study on the microinsurance landscape to determine the policy, regulatory and supervisory actions (a regulatory roadmap) for microinsurance development; (II) support for the implementation of the regulatory road map by supervisory entities for microinsurance; and (III) cross-country knowledge generation and dissemination to advance regional and global learning in the field of microinsurance policy, regulation and supervision. Since the signing of that agreement, the FSC made a number of achievements including the following: 1. On November 4, 2013 the FSC in collaboration with the Multilateral Investment Fund, a member of the Inter-American Development Bank A2ii hosted a Microinsurance Workshop at the Jamaica Pegasus Hotel, under the theme "Microinsurance: Exploring a New Frontier". The workshop was attended by 135 participants. 2. Following the workshop, members of the Project Team started their interviews of the various stakeholders, which was a prime requirement of the diagnostic study. These stakeholders included the FSC, the insurance industry, the Bank of Jamaica, Credit Unions and other key players. The diagnostic study was completed in December 2013. 3. The second microinsurance Workshop was on July 4, 2014. The FSC in collaboration with (A2ii) presented the Jamaica Microinsurance Country Diagnostic Report, under the theme, Exploring a New Frontier-Unveiling the Results". 4. An outside broadcast was held on November 7, 2014 in Sam Sharpe Square, St. James that attracted over 400 persons. 5. In December 2014 a Microinsurance Framework was drafted for providing a "roadmap" to guide the process of developing microinsurance in Jamaica. 6. On July 29, 2015, an Insurance Inclusive Committee (IIC) was established with stakeholders from the insurance and cooperative industry to help chart the map to develop microinsurance. The IIC was charged with the responsibility to:

[1] Information adapted from the Terms for Reference conducting the diagnostic study in Jamaica.

FSAP Development Module Recommendation	Implementation Status and measures taken (Authorities' view)
	a) Develop Consultation (with stakeholders) on Microinsurance Regulatory Reforms b) Create Market Conduct Initiatives c) Identify Microinsurance capacity issues within Jamaica and how to fill this capacity. d) Research and help establish a long-term business case for Microinsurance to assist with buy in from the various financial sectors. e) Provide Public Education f) Identify and facilitate steps to improve the microinsurance supply landscape g) Establish a Monitoring and Evaluation Framework for microinsurance at the country level. 7. During October 2015 A2ii conducted a mid-evaluation to assess the results of the project to-date and make recommendations for improvements where applicable. The project was extended until 2016. 8. In May 2016 the FSC conducted another workshop and a live Radio Broadcast on microinsurance entitled "**"Microinsurance, Through Financial Inclusion: The Way Forward"**. 9. A microinsurance policy framework was issued in March 2017. The policy was updated and issued in September 2017. 10. In March 2018 the proposed amendments to the Insurance Act to facilitate the Microinsurance framework were submitted to the Ministry of Finance. Since then, we are currently working on the development of the Regulations and Guidelines for microinsurance. The FSC has been engaged in a project with the IADB to develop the microinsurance regulations and guidelines. The project should end in November 2018.
Payments and Remittances	
27. Increase the usage of retail electronic payments through: (i) deepening the payment infrastructure in rural areas, (ii) revising the existing access criteria for the ACH; (iii) use the Centralised Treasury Management System for distributing Government welfare and pension payments (BoJ/MoFPS)	BoJ has prepared concept papers on a national payment switch and Access Policy under the NFIS and circulated these for stakeholder comments. For the period October 2016 – November 2017, BoJ provided technical assistance to the Ministry of Labour and Social Security and PATH in work for a pilot for the transmission of welfare payments using ERPS products. Education fairs were held in November 2017. BoJ is preparing a policy paper on paying Government welfare payments is being prepared for June 2018 for the National Payments Council.
28. Develop and implement a policy framework for opening of "no frill"	Please see comments on AML/CFT risk based framework. Work is also advancing on a review of the supervisory

FSAP Development Module Recommendation	Implementation Status and measures taken (Authorities' view)
accounts in banks for deepening financial usage (BoJ)	guidance issued by financial regulators given the passage of the National Identification Registration Act (NIRA) that will be informed by the work on the National Risk Assessment using the World Bank NRA Tool. Training on the tool and the Financial Inclusion module began in October. 2016 and continued May 2017. The NIDS working group commenced its work in March 2018.
29. Prohibit exclusivity arrangements with respect to remittance companies, non-bank electronic payment service providers and banks. and review the regulatory framework for the appointment of agents (BoJ)	1. An exclusivity arrangement exists between only one (of fourteen) overseas remittance provider, who has this arrangement with one Primary Agent, which is by mutual agreement. BoJ does not think that this one arrangement affects the competition that exists among the 6 Primary Agents providing service on behalf of 14 overseas providers across 453 locations in the island. 2. We do not see the need to review the regulatory framework for agents in the context of the "licensing process being onerous". We have Fit and Proper requirements for all relevant persons in the industry. With the AML global concerns re Money Service Businesses, and the resultant de-risking, we would not recommend lowering the fit and proper standard for sub-agents. The remittance model in Jamaica is to approve sub-agents to provide service on behalf of the Primary Agents. At present, there are 202 such sub-agents. As with the primary agents, these sub-agents are subject to fit and proper requirements. In terms of agents for DTIs, there is new legislation in effect. There is a review of the Electronic Retail Payment System (ERPS) Guidelines, which will address matters including exclusivity arrangements.
Credit Reporting	

FSAP Development Module Recommendation	Implementation Status and measures taken (Authorities' view)
30. Establish oversight framework for credit reporting BoJ ST Adopt measures to encourage credit bureaus to compete in services and not in data, and conduct onsite examinations to verify full data provision to the credit bureaus (BoJ)	Credit bureaus are supervised by the BoJ's credit oversight unit. An oversight structure was established in 2013 and a further build out of this structure is being contemplated by BoJ. Bank of Jamaica is currently seeking a Consultant to provide technical assistance for a review of the existing legislation governing credit reporting to propose legislative amendments. A Terms of Reference has been developed and the Consultant is expected to undertake a comprehensive review of existing legislation dealing with credit information sharing, with the aim of encouraging increased participation of data providers and further entrenching best practices within the credit reporting eco-system.
31. Enhance the consumer protection framework for credit bureaus (BoJ)	This will be addressed as part of the concept paper on consumer protection and legislative review of the Credit Reporting Act.
Consumer Protection & Financial Literacy	
32. Create a high-level task force to supervise development of a comprehensive national plan on financial consumer protection and financial literacy (MOFPS/BoJ/FSC/MoIIC/CAC/FTC/JDIC)	A national financial literacy action plan and interim strategy was developed with the assistance of IADB. Ministry of Education, Youth and Information (MOEYI) approved it on 30 May 2018.
33. Consider establishing an independent statutory financial ombudsman (MOFPS/BoJ/FSC)	A concept paper on financial services consumer protection is being prepared for June.
34. Create standard and simple disclosure for consumer financial services (BoJ)	This has been accommodated under The Banking Services (Deposit Taking Institutions) (Customer Related Matters) Code of Conduct, 2016.
35. Conduct regular surveys of consumer finance (Statistical Institute)	This is to be triennially from date of NFIS launch.

Appendix III. Stress Testing Matrix (STeM)

<table>
<tr><th colspan="2" rowspan="2">Domain</th><th colspan="2">Framework</th></tr>
<tr><th>TD by Bank of Jamaica</th><th>TD by FSAP Team</th></tr>
<tr><td rowspan="4">1. Institutional perimeter</td><td>Institutions included</td><td colspan="2">The 11 banks comprising the universe of Commercial banks, Building Societies and Merchant Banks.</td></tr>
<tr><td>Market share</td><td colspan="2">About [100] percent of total banking sector assets (excluding Credit Unions).</td></tr>
<tr><td>Data</td><td>Effective date: June 2017.
Data:
Scope of consolidation: Projection of consolidated ratios based on solo estimates.</td><td>Effective date: June 2017.
Data: Supervisory data
Data was also complemented with public sources including: International Financial Statistics (IFS), IMF Global Assumptions (GAS), and IMF WEO.
Scope of consolidation: Individual Deposit Taking Institution.</td></tr>
<tr><td>Stress testing process</td><td></td><td>The FSAP team conducted its own TD macroprudential stress test based on the WEO forecast (baseline) and an adverse scenario calibrated on the financial crises in 1996/97 and 2008/09.
For exposures, stressed NPL ratios, stressed coverage ratios, and a stressed transition matrix for performing exposures is projected.</td></tr>
<tr><td rowspan="2">2. Channels of risk propagation</td><td>Methodology</td><td></td><td>• IMF balance sheet stress test framework (customized for Jamaica FSAP, and includes interbank and liquidity modules). Liquidity module specified to include both a basic liquidity scenario with “proportional withdrawals” as well as a more complex “flight to safety” scenario.</td></tr>
<tr><td>Stress test horizon</td><td></td><td>June 2018 to June 2019 for solvency purposes; up to 5 days for liquidity shock purposes.</td></tr>
<tr><td>3. Tail shocks</td><td>Scenario analysis</td><td></td><td>The main macroeconomic variables considered for the scenario are Jamaica’s real GDP growth, the exchange rate, short term interest rate, inflation and unemployment.

Baseline: All variables follow the IMF WEO baseline projections (as of Q1 2018).

Adverse: Jamaica’s real GDP growth would fall by 0.5 percentage point in FY 2018/19, and hover at zero for the following two fiscal years. Cumulative three-year growth would be 5 percentage points lower than the baseline. Important reforms, particularly around public-sector transformation would stall, and confidence in the reform program would</td></tr>
</table>

Domain		Framework	
		TD by Bank of Jamaica	TD by FSAP Team
			begin to erode. Investors would begin demanding higher yields from the government. Unemployment would reverse course, and rise cumulatively by an estimated [2] percentage points. Demand for FX would ramp up, and the currency would begin to depreciate by [10] percent per year. Inflation volatility would increase materially, and repeated breaches of the central bank inflation target band would prompt them to hike rates by up to 300 basis points. **Severely Adverse:** Jamaica would be hit by a massive natural disaster which would result in losses representing ½ standard deviation more than the historical average along three dimensions: material physical damage representing 8 percent of GDP; the number of people affected would exceed 190 thousand, or just around 7 percent of the island's inhabitants; and more than 30 deaths. Real GDP growth would drop by [4] percentage points in the first year (i.e. almost 6 percentage points lower than the baseline), and would be permanently lower by 2 percentage points thereafter. The primary balance would revert to a deficit of around [2] percent of GDP, a swing of 9 percentage points from the baseline and debt would breach crisis levels witnessed previously (i.e. more than 145 percent of GDP). Interest rates would spike by 800 basis points, led by a flight to safety.
	Sensitivity analysis		All shocks occur over three years and include: Interest rate hikes by 300 bps; In the severely adverse case interest rate hikes would reach 800 basis points (to account for risk premium and government distress). Jamaican dollar depreciates against USD by up to 45 percent; 60 percent in severely adverse scenario. Counterparty concentration risk: the top borrower of each bank defaults, with [x] percent recovery; In severely adverse case, all 5 top borrowers would default. Industry concentration risk: NPLs would reach their historical peaks (Agriculture 22 percent; Manufacturing 16 percent; Construction 30 percent; Trade and

Domain		Framework	
		TD by Bank of Jamaica	TD by FSAP Team
			Tourism 22 percent; Non-bank financial institutions 13 percent; Mortgages and personal loans 12 percent). Recovery would be minimal, and provisioning would fall to 50 percent of new NPLs. In severely adverse case, NPL would increase by 100 percent across the entire loan book. Liquidity: Two liquidity stress tests are considered. • DTIs would undergo a proportional withdrawals of demand deposits of 15 percent per day (domestic currency), and 10 percent per day (foreign currency) for up to 5 days. Time deposits would witness 3 percent withdrawals per day. Assumptions around liquid asset availability are tiered into 3 groups: Large deposit center banks would have access to 95 percent of their existing liquid asset base, while smaller banks would only have access to 75 percent. Entities which are mainly securities dealers and Fund managers but also operate banking subsidiaries would only have access to 60 percent of the pre-shock liquid assets. • A more complex "flight to safety" scenario would begin with the same assumptions as the proportional withdrawals scenario. An entity by entity dynamic discount factor (initially based on each DTI's pre-shock balance sheet strength/weakness) would also increase the calls by depositors and counterparties (including repo and in-group position unwinding). Moreover, given the already shallow state of secondary market trading in Government bond, the scenario assumes that such instruments are treated as 100 percent illiquid during the shock horizon.
4. Risks and buffers	Positions/risk factors assessed	• Credit losses. • Losses from securities in the banking and trading books. • FX risk. • Counterparty concentration risk (consistency will be ensured with network analysis stress test). • Industry concentration risk.	

<table>
<tr><th colspan="2" rowspan="2">Domain</th><th colspan="2">Framework</th></tr>
<tr><th>TD by Bank of Jamaica</th><th>TD by FSAP Team</th></tr>
<tr><td></td><td></td><td colspan="2">• Liquidity risk from calls on deposits and other non-deposit short term liabilities e.g. repo and same group position unwinding (consistent will be ensured with network analysis stress test).</td></tr>
<tr><td></td><td>Behavioral adjustments</td><td colspan="2"><u>Dynamic balance sheets</u>
Balance sheets evolve with key macroeconomic aggregates adjusting for credit demand effects.</td></tr>
<tr><td>5. Regulatory and market-based standards and parameters</td><td>Calibration of risk parameters</td><td>Credit risk projections are based on loan loss provision ratios and non-performing exposures.</td><td>Changes in NPLs provisioning rates are based on response functions calibrated to Jamaica past crises during 1990s and 2008, while the macroeconomic outcomes expected from a severe natural disaster shock are calibrated using analysis in IMF WP/17/235; IDB Policy Brief IDB-PB-208 and IMF Policy Paper "Small States' Resilience to Natural Disasters and Climate Change."</td></tr>
<tr><td></td><td>Regulatory standards</td><td colspan="2">Minimum capital requirements were based on Jamaica-specific regulatory minimums.</td></tr>
<tr><td>6. Reporting format for results</td><td>Output presentation</td><td colspan="2">Evolution of Capital adequacy, liquidity, and probability of failure, for the aggregate banking system, and individual banks.
Contribution of key drivers to aggregate net profits and aggregate CET1 capital ratios.
Number of banks and share of total assets below hurdle rates.
Capital shortfall in terms of nominal GDP.</td></tr>
</table>

Appendix IV. Insurance: Overall Stress Testing Approach

1. Central to the insurance sector stress test is a bottom-up exercise for which the IMF team, in cooperation with the Jamaican authorities, provides scenario specifications and an Excel reporting template to selected undertakings (see section II). In this bottom-up exercise, participating companies calculate the impact of the stress scenario on their balance sheet and ultimately their coverage of the solvency capital requirement.

2. The stress test broadly follows the same principles as the DCAT exercise currently prescribed for the life insurance sector which should similarly also be applied by general insurers for this exercise.

3. The reference date for the stress test exercise should be December 31, 2017.

4. The stress test should be run at the highest level of consolidation which includes all insurance activities of domestic as well as foreign subsidiaries and branches. Banking and other non-insurance activities should be excluded. The scope of consolidation should be as of the reference date—entities acquired after that date should not be included in the exercise. If some entities within the group do not contribute materially to the overall risk profile of the group, these can be excluded from the stress test exercise after consultation with FSC.

I. Scenarios

5. To test the resilience of the Jamaican financial sector, three scenarios have been developed:

- Baseline: in line with the October 2017 World Economic Outlook projections for Jamaica and other relevant countries,
- Adverse scenario 1: global repricing of risk premia,
- Adverse scenario 2: domestic natural catastrophe causing a short and severe economic recession in combination with price corrections on financial markets.

Jamaica. Narrative for the Scenarios

Baseline: The October 2017 World Economic Outlook projects the annual real GDP growth rate to converge towards 2.8 percent over the next five years, consumer prices to increase at rates between 5 and 5.5 percent each year, and unemployment to steadily decline.

	2017	2018	2019	2020	2021	2022
Real GDP growth	1.7 percent	2.3 percent	2.7 percent	2.8 percent	2.8 percent	2.8 percent
Inflation (change in consumer prices)	3.4 percent	5.2 percent	5.5 percent	5.5 percent	5.5 percent	5.4 percent
Unemployment rate	12.2 percent	11.6 percent	11.0 percent	10.5 percent	10.0 percent	9.5 percent

Adverse scenario 1: This scenario comprises a global repricing of risk premia. While shocks on financial markets are observed both in advanced and emerging economies, a higher level of risk aversion results in higher declines in asset prices in emerging economies and a sharper increase in credit spreads of non-investment grade debt. Inflationary pressures are assumed to decrease in this scenario so that central banks would pursue a slightly more accommodative monetary policy.

Adverse scenario 2: This scenario assumes a major natural catastrophe, similar to hurricane Gilbert which hit Jamaica in September 1988. Following the event during the storm season of 2018, the real GDP is assumed to decline sharply (annual growth for 2018: -2 percent), followed by a steady recovery in line with the baseline projections for 2019-22. Domestic financial markets are assumed to react to the catastrophe with a sharp decline in equity and property prices, and also credit spreads of the domestic sovereign and domestic corporates are assumed to increase.

1. The scenarios for the purpose of the insurance sector stress test assume that all market shocks are assumed to occur at the beginning of the first year (instantaneous shock).[1] Naturally, the focus of the scenario specification for the insurance sector lies on financial market variables:

- Shocks to risk-free interest rates: separate for relevant currencies;
- Shocks to corporate bond spreads: separate per rating class;
- Shocks to equity prices: separate for relevant countries;
- Shocks to property prices: separate for domestic and foreign real estate holdings;
- Shocks to foreign exchange rates: changes of relevant FX rates.

[1] It is further assumed that asset prices do not recover after the instantaneous shock.

Jamaica. Insurance Sector Stress Testing: Scenarios and Assumptions			
(change compared to the reference date)		**Adverse scenario 1**	**Adverse scenario 2**
Risk-free interest rates (parallel shift of the interest rate term structure)[2]	Jamaica	-100bp	-150bp
	United States	-50bp	0bp
	Other advanced economies	-50bp	0bp
	Other emerging and developing economies	-100bp	0bp
Sovereign bond spreads	Jamaica	+300bp	+450bp
	United States	0bp	0bp
	Other advanced economies	+50bp	0bp
	Other emerging and developing economies	+300bp	0bp
Corporate bond spreads (Jamaica)	AAA	+30bp	+40bp
	AA	+55bp	+75bp
	A	+100bp	+140bp
	BBB	+190bp	+270bp
	BB or lower	+300bp	+400bp
	Unrated	+300bp	+400bp
Corporate bond spreads (Other)	AAA	+20bp	0bp
	AA	+40bp	0bp
	A	+65bp	0bp
	BBB	+120bp	0bp
	BB or lower	+200bp	0bp
	Unrated	+200bp	0bp
Currencies	Change of JMD against major currencies[3]	-10 percent	-15 percent
Equity	Jamaica	-27 percent	-35 percent
	United States	-15 percent	0 percent
	Other advanced economies	-15 percent	0 percent
	Other emerging and developing economies	-27 percent	0 percent
Real Estate	Jamaica	-15 percent	-20 percent
	United States	-10 percent	0 percent
	Other advanced economies	-10 percent	0 percent
	Other emerging and developing economies	-15 percent	0 percent

[2] The shock to risk-free interest rates should apply to all fixed-income investments as well as to any liabilities whose value is determined by market interest rates. In addition to the shock to the risk-free interest rate, further shocks might need to be applied, e.g. the sovereign bond spread shock – the yield for Jamaican sovereign bonds in adverse scenario 1 is therefore assumed to increase by (-100) + 300 = 200 bps.

[3] Negative values denote a depreciation of the domestic currency.

9. Additional assumptions should be made for the two adverse scenarios:

- Adverse scenario 1:
    - o New business in year 1 to decline by 10 percent (life), compared against 2017; in years 2 to 5, new business growth rates back in line with baseline projections (but starting from the lower levels caused by the decline in year 1);
    - o Lapse rates in life insurance in year 1 to increase by 10 percent against baseline projection, lapse rates for years 2 to 5 in line with baseline projections.
- Adverse scenario 2:
    - o A hurricane event mirroring Hurricane Gilbert (1988) in terms of size, strength and routing: Claims from this scenario should be estimated based on exposures as of the reference date. Reinsurance recoverables as well as reinstatement costs for reinsurance should also be taken into account. In the reporting template, insurance undertakings should provide the reinsurance recoveries from the participant's top 5 reinsurers (on a group basis).
    - o New business in year 1 to decline by 30 percent (life) and 10 percent (general insurance), compared against 2017; in years 2 to 5, new business growth rates back in line with baseline projections (but starting from the lower levels caused by the decline in year 1);
    - o Lapse rates in life insurance in year 1 to increase by 25 percent against baseline projection, lapse rates for years 2 to 5 in line with baseline projections.

II. Methodological approaches

10. The main output of the stress test calculations will be the effect on available capital and the resulting coverage of the capital requirements, i.e. the MCCSR for life insurers and the MCT for general insurers. As a hurdle rate, a coverage of 150 percent is foreseen for life insurers and 250 percent for general insurers. Internal models, if approved by the supervisor, can be used for the performance of the stress test calculations. Management actions should only be included in the calculations as far as they relate to non-discretionary rules already in place at the reference date.

11. The impact of the stress event should be assessed under national GAAP.

III. Presentation of results

12. In line with the IMF's practice in publishing its findings from stress tests, no individual company results will be published. Results will be presented in an aggregated format for groups of companies, e.g. life and non-life insurers. Besides aggregated numbers, also the dispersion of results will be shown, taking into account the small sample size in this exercise. The Jamaican authorities will clear all documents before publication and thereby ensure that no individual company results can be derived from the aggregated information.

Appendix V. Network Analysis

The FSAP team applied two approaches to examine network analysis, based on market data:

1. **Interconnectedness inferred from RTGS data.** Payments among RTGS participants during 2017 are used to infer direct connectedness among the 26 participants. The RTGS dataset differentiates among seven different (very broad) categories. Three of them contribute with about 95 percent of all payments: Transfers in JDM (45.01 percent), intraday repos with the central bank (31.53 percent), and long-term repos (18.56 percent). The graphs corresponding to each category and their aggregation during 2017 are displayed using a circular layout (alphabetically ordered); arrows display the direction of the payments (from sender to receiver), with the width and color of each arrow representing its contribution to total payments; the diameter of each node represents the contribution (i.e., importance) of the corresponding participant as sender of payments.

2. **Interconnectedness inferred from stock market data.** In order to filter the correlations that are most informative, two methodologies are implemented. The asset graph discards correlations that may be deemed as weak, preserving meaningful ones; in this case, the threshold is set to ±0.3. The second methodology is the minimal spanning tree. In the minimal spanning tree correlations are transformed into distances, and only the most important linkage for each node is displayed (without cycles), so it is regarded as the skeleton that better describes the system under analysis.