



TECHNICAL ASSISTANCE REPORT

SEYCHELLES

Emergency Liquidity Assistance and Collateral Frameworks

November 2025

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Glossary

AFRITAC South	IMF Regional Technical Assistance Center for Southern Africa
CBS	Central Bank of Seychelles
CVaR	Condition Value-at-Risk
DAA	Deposit Auction Arrangement
DACR	Duration Approximation with Cross-country Regression
DASV	Duration Approximation and Stressed Bond Yield Volatility
ECB	European Central Bank
ELA	Emergency Liquidity Assistance
ELF	Emergency Lending Facility
ES	Expected Shortfall
EWG	ELA Working Group
FMD	Financial Market Division
FSA	Financial Services Authority
FSS	Financial Stability Section
FX	Foreign Exchange
GDP	Gross Domestic Product
HHI	Herfindahl-Hirschman Index
IBR	Interbank Rate
IMF	International Monetary Fund
LGD	Loss Given Default
MCM	Monetary and Capital Markets Department (IMF)
MCMCO	Central Banking Operations Division of the IMF's MCM Department
MoF	Ministry of Finance, National Planning, and Trade
MoU	Memorandum of Understanding
MPR	Monetary Policy Rate
MRR	Minimum Reserve Requirement
NBFI	Nonbank Financial Institution
NFA	Net Foreign Assets
NOP	Net Open Position
NPV	Net Present Value
OMO	Open Market Operations
PD	Probability of Default
RoA	Return on Assets
RoE	Return on Equity
RoTE	Return on Tangible Equity
SCF	Standing Credit Facility
SCR	Seychelles Rupee
SDF	Standing Deposit Facility
SOE	State-Owned Enterprise
TA	Technical Assistance
VaR	Value at Risk

Preface

At the request of the Central Bank of Seychelles (CBS), a Monetary and Capital Markets (MCM) Department Technical Assistance (TA) mission visited Victoria from August 10 to 21, 2025, to assist the authorities in the development of the Emergency Liquidity Assistance (ELA) and collateral frameworks.

The mission met with CBS management and staff: Ms. Caroline Abel, Governor of the CBS; Mr. Brian Commettant, First Deputy Governor; Mr. Mike Tirant, Second Deputy Governor; and management and staff of different divisions, including Financial Markets, Financial Surveillance, Research and Statistics, and Banking Services, and the Legal Unit. In addition, the CBS arranged for the mission to meet Mr. Patrick Payet, Secretary of State of the Ministry of Finance, National Planning, and Trade (MoF), and other staff from the ministry, as well as the Managing Director and/or Treasurer of three commercial banks operating in Seychelles.

The mission wishes to thank CBS staff for the support provided pre- and during the mission, the data shared, the constructive discussions, and strong engagement. It also expresses its gratitude for the effective logistical arrangements.

Executive Summary

The mission supported the CBS in developing and operationalizing the ELA provisions under the amended CBS Act of 2024. This work responds to the recommendation of the 2023 IMF Safeguards Assessment, which advised the CBS to operationalize the ELA framework following the approval of the revised legislation. The amended CBS Act provides a robust legal foundation for implementing ELA in line with IMF standard recommendations.

The proposed ELA framework is designed to strengthen the CBS's financial safety net and enhance its crisis preparedness. The banking system in Seychelles is generally robust and well capitalized and maintains comfortable liquidity buffers. Most banks, being part of international banking groups, are generally expected to have access to liquidity support from their parent institutions if needed. Currently, the CBS provides liquidity through the Standing Credit Facility (SCF)—an overnight facility that forms part of its monetary policy toolkit—and the Emergency Lending Facility (ELF), introduced in 2009. While the ELF was intended to address financial stability concerns, it diverges in several respects from the principles of effective ELA. The proposed ELA framework discussed in this report will replace the ELF, aligning the CBS's emergency liquidity support with the best international practices.

A state-of-the-art ELA framework should achieve three key objectives: (i) preserving financial stability; (ii) minimizing moral hazard associated with ELA interventions; and (iii) safeguarding the central bank's core mandates, including price stability, solvency, and institutional independence. The mission provided the CBS with detailed guidance on the development of each component of an effective ELA framework, tailored to the legal and operational context of Seychelles.

To achieve these objectives, the CBS should develop and publish an ELA regulation upon Board approval. This regulation should manage stakeholder expectations, reinforce CBS accountability, and clearly articulate the solvency, viability, and lender-of-last-resort provisions embedded in the law. It should be structured around key elements, including: (i) the financial stability objective underpinning ELA and its discretionary nature; (ii) the requirement for forward-looking assessments of solvency and long-term viability of the applicant; (iii) the obligation for full collateralization of the loan; and (iv) the application of a penalty interest rate, with pricing set at a significant spread (e.g., 200–300 basis points) above the SCF. During hands-on sessions, the mission discussed the public disclosure of additional elements of the ELA framework using the ELA General Documentation developed by MCMCO. The trade-off between discretion—to mitigate moral hazard—and transparency was emphasized. Given the sensitive nature and the uncertainty surrounding the calibration of certain policy parameters—such as the assessment of solvency and viability, and aspects of collateral policy (including preference order, valuation, and risk control measures)—the mission has advised on disclosure approaches, including the appropriate level of discretion necessary to ensure preparedness and manage expectations.

Public regulation should be complemented by published guidelines outlining the financial soundness criteria required to access regular central bank operations. To enhance communication and operational effectiveness, ELA must be clearly distinguished from other central bank liquidity provisions. One of the key elements enabling this differentiation is the financial soundness requirement. The CBS applies an overarching financial soundness criterion as a prerequisite for access to standard monetary policy operations; however, this criterion has not been formally articulated. Publishing the financial soundness requirements for monetary policy counterparties—essentially point-in-time compliance with prudential minima, accompanied by rule-based but gradual remedial measures in case of noncompliance—would support the clear demarcation between ELA and standard operations.

The regulation should be supported by comprehensive internal guidelines and a robust calibration strategy for each policy parameter. These guidelines should clearly allocate internal responsibilities across the various tasks involved in the ELA process, define the decision-making framework, and outline the overall workflow for assessing ELA requests. They should also elaborate on the assessment of forward-looking solvency and viability, as well as the application of the lender-of-last-resort criterion. Additionally, the guidelines should address: (i) the evaluation of the applicant's funding plan, which is essential for assessing liquidity needs, calibrating the ELA amount, and determining the feasibility of an exit strategy; (ii) the design of ELA conditionalities aimed at addressing the vulnerabilities that triggered the request and mitigating risks to the CBS; and (iii) the framework for collateral management, including preferences, ranking, haircuts, and risk control measures.

To operationalize the ELA framework, the CBS should establish an internal ELA Working Group (EWG). This group would be tasked with drafting the ELA regulation and developing the associated internal procedures. The EWG should also lead the formulation of the CBS's communication and transparency strategy for ELA, in line with the IMF's Central Bank Transparency Code. Once the framework has been finalized and approved, the EWG should remain in place to ensure its ongoing maintenance and manage any future ELA requests. Given the infrequent nature of ELA operations, maintaining a high level of preparedness is essential for ensuring their effectiveness. To this end, the EWG should regularly conduct simulation exercises, institutionalized by the mission, and aligned with the agreed procedures and standards.

The CBS should engage with the MoF to establish a Memorandum of Understanding (MoU) on ELA. The MoF is uniquely positioned to support and extend the CBS's liquidity provision capacity. The MoU should clearly define the protocols for information exchange between the CBS and the MoF, reaffirm the circumstances under which ELA can only be granted subject to a government guarantee—as stipulated in the CBS Act and discussed in this report—and specify the form and operational modalities of such guarantees.

The mission provided guidance on establishing an overarching collateral policy at the CBS. As part of this effort, the existing collateral framework for monetary policy operations was reviewed. Given the structured excess liquidity in the system and the historical reliance on the SCF, collateral eligibility for monetary policy operations can remain limited to CBS deposits and government securities without creating collateral scarcity. This restriction would also support the CBS in meeting transparency requirements for its monetary policy collateral framework, particularly with respect to risk mitigation measures.

For ELA purposes, it is instead imperative that the CBS is legally and operationally ready to accept nonstandard collateral, including domestic credit claims and foreign currency-denominated marketable and nonmarketable assets. In typical ELA scenarios, eligible institutions may have exhausted the collateral available for standard operations, necessitating the use of nonstandard collateral. The CBS needs to ensure that such assets can legally be pledged as collateral and develop the necessary operational procedures for their mobilization, valuation, and design risk control measures. Additionally, the CBS should conduct frequent collateral scanning to determine a preference order for assets that can be mobilized for ELA, encourage collateral prepositioning for due diligence, and dedicate adequate resources to the valuation of nonmarketable or illiquid marketable assets.

The CBS should calibrate its haircuts using models that minimize their impact on the pricing of risk by other market participants while protecting its balance sheet. These models should account for key financial risks, such as liquidity, market, and credit risks, as well as the CBS's risk appetite. The haircuts can be calibrated using models discussed during the hands-on sessions.

Recommendations

Table 1. Key Recommendations

Recommendations and Authority Responsible for Implementation	Priority	Timeframe 1/
ELA Regulation		
The CBS should articulate and publish a regulation for an effective ELA framework.	High	Medium term
The regulation should define the forward-looking solvency and viability requirements to be fulfilled in all cases (¶¶31).	High	Medium term
The regulation should specify the lender-of-last-resort criterion for the provision of ELA (¶¶36).	High	Near term
The regulation should allow for strict conditionality (¶¶39, ¶¶40).	High	Near term
The regulation should specify that the ELA will be priced at a positive premium of 200–300 basis points over the SCF (¶¶42).	High	Medium term
The ELA envelope should be determined by estimated liquidity needs and cover a period of two weeks, with daily disbursements allowed within the overall agreed envelope (¶¶43).	High	Medium term
The duration of the ELA should be restricted to within six months set by law (¶¶44).	High	Medium term
The CBS should disclose financial soundness requirements for monetary policy counterparties (¶¶21).	Medium	Medium term
The CBS should ensure legal, operational, and technical readiness for the provision of ELA in foreign exchange (FX), supported by additional risk mitigation measures and stricter conditionality (¶¶45).	High	Near term
Internal Guidelines, Preparedness, and Communication Policy		
To develop and operationalize the ELA framework, the CBS should set up an internal interdivisional working group, whose purview will be to draft ELA regulation and internal procedures, run regular simulations, and handle ELA requests when they arise (¶¶58).	High	Near term
The CBS internal procedures should specify the responsibilities of the different divisions and units in the ELA process, and the internal decision-making process (¶¶58, ¶¶60).	High	Near term
The CBS should run regular simulation exercises (¶¶61).	Medium	Medium term

The ELA working group should specify an ex-ante, ongoing reactive and proactive, and ex-post ELA transparency and communication policy concerning ELA (¶52, ¶53).	High	Near term
To enhance preparedness, the CBS should develop and establish a regular monitoring framework to anticipate potential arising of liquidity risks (¶32).	Medium	Medium term
Memorandum of Understanding (MoU) with the Ministry of Finance (MoF)		
The CBS and the MoF should establish a MoU that clearly defines the scope of information exchange, the specific roles of each institution, as well as form, amount, process, and conditions of government guarantees in the case provided by the CBS Act (¶55, ¶56).	High	Near term
Collateral Policy		
The CBS should develop legal and operational capacity to accept nonmarketable assets, including credit claims, as collateral for ELA (¶76).	High	Medium term
The CBS should develop and implement valuation methodologies and risk mitigation measures for each collateral class in line with the methodologies proposed in the report (Sections III.D and III.E).	High	Medium term
The CBS should conduct regular collateral scanning to determine a preference order for assets that can be mobilized for ELA (¶73).	Medium	Medium term
The CBS should encourage collateral prepositioning for due diligence (¶65).	Medium	Medium term
The CBS should dedicate adequate resources to the valuation of nonmarketable or illiquid marketable assets (¶77).	Medium	Medium term
The CBS should strengthen its risk-mitigation measures to capture key market risks (¶89, ¶91)	Medium	Medium term

1/ Near term: < 12 months; medium term: 12 to 24 months.

Introduction

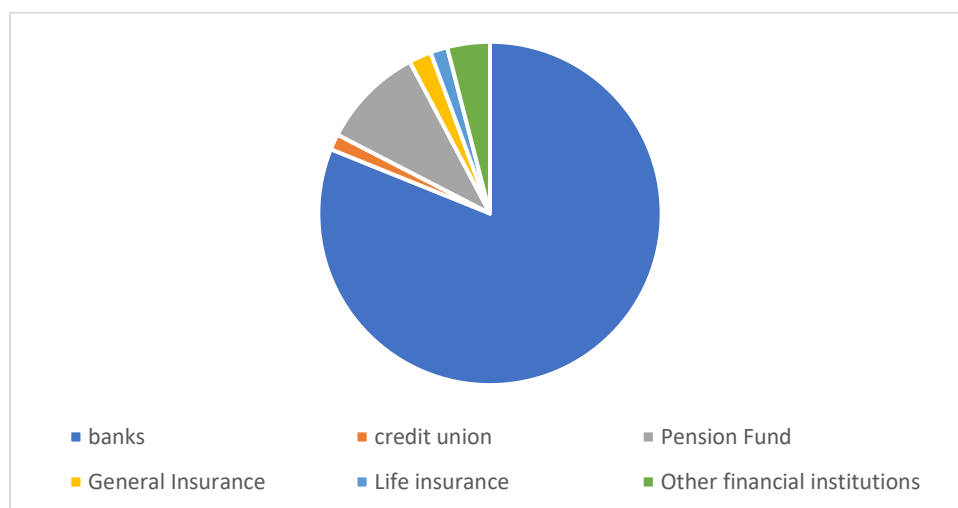
- 1. The ELF, introduced by the CBS in 2009 to provide last-resort liquidity and mitigate bank runs, deviates in several key respects from the principles of effective ELA.** Critical discrepancies include: (i) the ELF guideline does not explicitly restrict access to solvent credit institutions nor incorporate a viability assessment; (ii) the collateral framework is narrow, with eligibility limited to assets accepted for monetary policy operations—namely, government securities; (iii) the maturity structure, set at 60 calendar days with possible 30-day extensions, impedes effective monitoring of the applicant’s liquidity needs and the timely enforcement of crisis-management measures; and (iv) the pricing—set at 5 percentage points above the cost of the Standing Credit Facility (SCF)—is excessively punitive and may compromise the financial viability of the ELF recipient.
- 2. An IMF Safeguards Assessment mission conducted in 2023 recommended a comprehensive overhaul of the ELA framework, contingent upon the approval of an amended CBS Act.** Following the amendment’s approval in 2024, the legal foundation for ELA has been significantly strengthened. The amended Act clearly defines the eligibility scope for ELA, limiting access to solvent and viable, but temporarily illiquid, deposit-taking institutions—banks and credit unions—on a last-resort basis and against adequate collateral. It empowers CBS to determine eligible collateral assets on a case-by-case basis and explicitly provides for government guarantees in situations involving doubts about solvency, collateral sufficiency, or when resolution funding is required and financial stability is at risk. Furthermore, the Act aligns ELA maturity with international best practices, stipulating daily disbursements within fortnightly envelopes and setting a maximum overall maturity of six months.
- 3. Against this background, the mission focused on operationalizing the new legal provisions within a modern ELA framework.** Specifically, the mission provided guidance on how the regulation—or accompanying guidelines—should be articulated to align with the amended CBS Act and discussed the internal procedures the CBS should establish, including the division of responsibilities across divisions. The mission also reviewed the CBS’s collateral frameworks for both monetary policy operations and ELA, covering eligibility criteria, valuation practices, and model-based risk mitigation measures. Additionally, it explored the operational aspects of credit claims mobilization to support the expansion and flexibility of the collateral pool.
- 4. The report is structured as follows:** Section I outlines the financial and monetary landscape of Seychelles, emphasizing key features of banks’ liquidity management and the role of the CBS’s monetary operations and liquidity backstops. Section II focuses on ELA, advising on operationalizing a comprehensive framework. Section III reviews the CBS’s collateral policy, assessing the existing framework and providing for overarching collateral policy for monetary policy operations and ELA. Section IV discusses further possible TA the CBS may need to complete the project.

I. Financial and Monetary Landscape

A. Financial Sector

5. **Seychelles's financial sector is relatively large in relation to GDP and is predominantly composed of banks (Figure 1).** Total financial sector assets amount to approximately 150 percent of GDP. Commercial banks account for 81 percent of these assets, while the remainder comprises pension funds (10 percent), general and life insurance companies (3.7 percent), a credit union (1.5 percent), and other nonbank financial institutions (3.8 percent). The CBS supervises banks and the credit union. The Financial Services Authority (FSA) of Seychelles is responsible for licensing, regulating, enforcing compliance requirements, and supervising the conduct of business in the nonbank financial services sector.

Figure 1. Seychelles Financial Sector Share of Total Assets by Institution

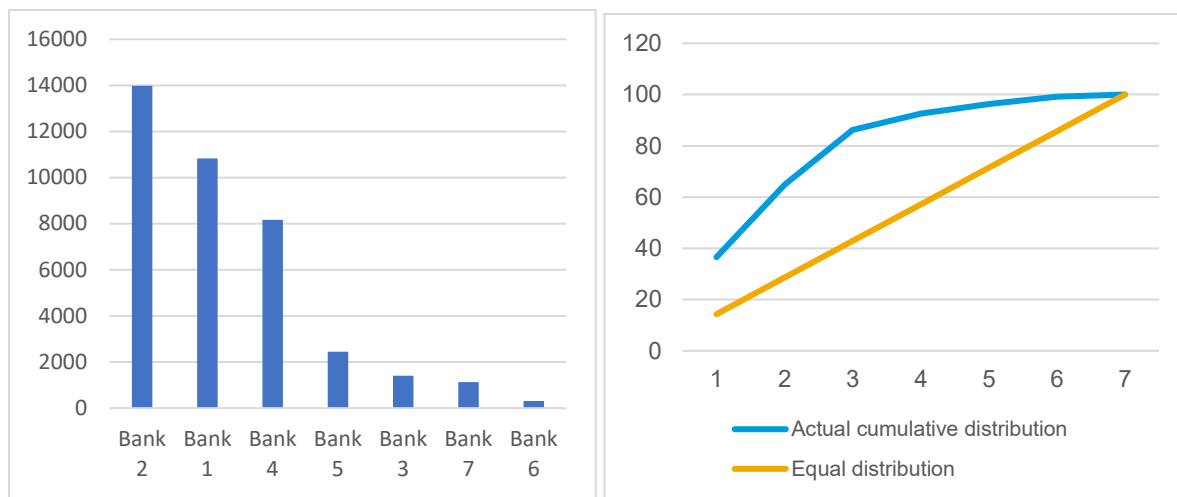


Source: CBS and IMF staff calculations.

Note: Based on June 2025 balance sheet data.

6. **The banking system in Seychelles is concentrated, with signs of segmentation (Figure 2).** The sector comprises seven entities: three subsidiaries of foreign banks, two branches of foreign banks, and two locally incorporated banks in which the government holds a controlling stake. The three largest banks account for 87 percent of total banking system assets as of May 2025. The Herfindahl-Hirschman Index (HHI) is 2687, indicating an overall concentrated banking system. In addition to these banks, there is a small credit union that also accepts deposits. It is supervised by the CBS and subject to the reserve requirement. Although interbank activity is limited, observed transactions suggest segmentation between the top three banks and the remaining institutions. Beyond differences in balance sheet size, segmentation is driven by factors such as varying credit appetites and, notably, the operational capacity of departments within smaller banks.

Figure 2. Banking System by Total Assets: Asset per Bank (left chart); Actual versus Equal Distribution (right chart)



Source: CBS and IMF staff calculations.

Notes: Figures in the left chart in millions of rupees; based on June 2025 balance sheet data.

7. Banks in Seychelles exhibit limited diversification in their funding sources (Figure 3).

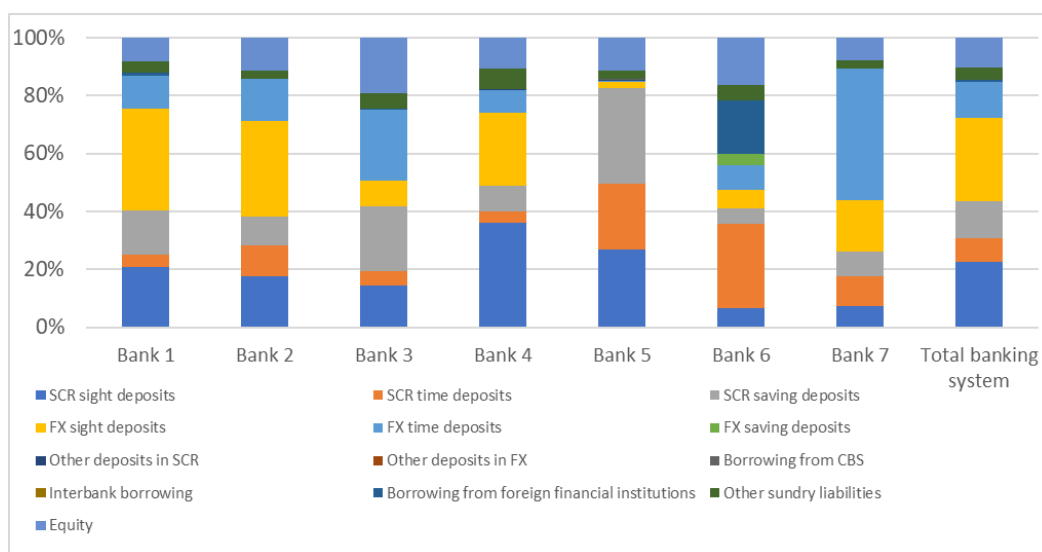
On average, customer deposits account for 85 percent of total liabilities, while equity represents an additional 10.5 percent. FX deposits constitute nearly 50 percent of total deposits. Other liabilities include provisions and accrued interest and expenses. Nonfinancial corporate deposits represent, on average, 43 percent of total deposits but reach as high as 64 percent in one bank. Deposits from other financial institutions account for 16 percent of total deposits, though they are highly concentrated in two banks, where they represent 36 percent and 28 percent, respectively.

8. The composition of bank funding reveals exposure to potentially volatile wholesale sources, as deposits from financial and nonfinancial corporates tend to be more sensitive to market conditions than retail deposits. Three key vulnerabilities emerge. First, the lack of diversification: reliance on a single funding source increases correlation risk, whereas diversified funding reduces vulnerability to shocks. Second, sight¹ and savings deposits—which may be withdrawn on demand—account for approximately 75 percent of total deposits and over half of total bank liabilities, heightening liquidity risk. Third, deposit dollarization stands at nearly 50 percent.

9. This vulnerability is compounded by two factors. First, the CBS's statutory liquidity requirement, which mandates banks to hold at least 20 percent of their liabilities in liquid assets, does not differentiate by currency. As a result, banks may hold less than 20 percent in liquid FX assets, potentially undermining their ability to meet FX deposit outflows. Second, the CBS itself may face constraints in providing ELA in foreign currency due to limited FX reserves. Indeed, the existing ELF guidelines restrict ELA provision to Seychelles rupees (SCR) only.

¹ "Sight deposits" is a synonym for "checkable deposits," which is the prevailing term in Seychelles.

Figure 3. Compositions of Banks' Liabilities



Source: CBS and IMF staff calculations.

Note: Based on June 2025 balance sheet data.

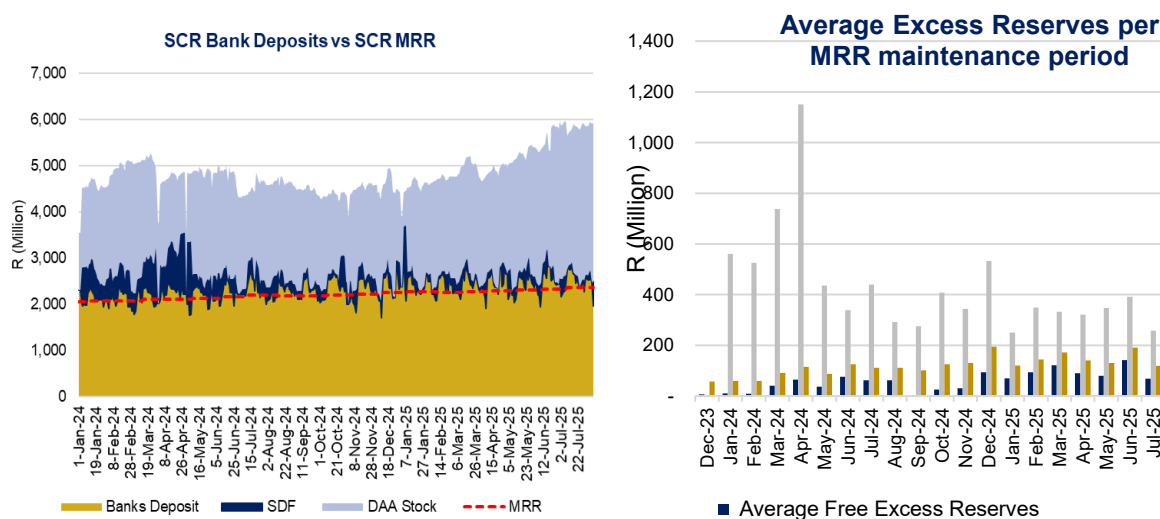
- 10. Beyond banks and the credit unions, there appear to be no systemically important institutions exposed to material liquidity risk.** There are no money market or investment funds operating in Seychelles. Pension funds and life insurance companies are not subject to significant liquidity pressures, while general insurance companies retain flexibility in the timing of claim payments and are sufficiently backed by technical reserves, allowing for more effective liquidity management. Moreover, these institutions are not exposed to sudden, bank-run-type liquidity events.

B. The CBS Operational Framework

- 11. In 2019, the CBS transitioned from a reserve money targeting framework to an interest rate-based monetary policy framework.** The focus of monetary policy shifted from indirectly influencing the intermediate target of money supply growth to guiding short-term interest rates through the introduction of a Monetary Policy Rate (MPR). With the discontinuation of reserve money as the operating target, the MPR now serves as the key policy rate, signaling the monetary policy stance. This is complemented by an interest rate corridor, which adjusts in line with changes to the MPR.
- 12. The CBS operates a textbook mid-corridor system targeting a market rate.** In a context of persistent excess liquidity—primarily driven by the CBS's net foreign asset position (Figure 4)—the CBS guides market rates toward the policy rate through weekly variable-rate auctions of seven-day fixed-term deposits, known as the Deposit Auction Arrangement (DAA). Auction volumes are calibrated based on the CBS's liquidity forecasts to absorb projected excess liquidity, net of the estimated demand for precautionary liquidity buffers by banks. The maximum bid rate is set at the CBS's policy rate. In addition to the weekly seven-day deposit auctions, the CBS conducts fortnightly auctions of one-month and two-month deposits, in which it acts as a price taker (Annex I). While the CBS aims to absorb approximately two-thirds of excess liquidity through the weekly seven-day auctions, currently, over half of excess liquidity is absorbed via the longer-term one-month and two-month deposits.

- 13. Figure 4 illustrates the impact of the operational framework on banks' liquidity management.** Banks place most of their available liquidity in the DAA, maintaining cash balances broadly equivalent to the reserve requirement (left chart). Average excess reserves range between SCR 100 million and 150 million per maintenance period, largely exceeding the CBS estimate of the structural precautionary balance of SCR 50 million (right chart). Further details on the CBS operational framework are provided in Annex I.

Figure 4. DAA Placements, Reserve Requirement, Cash Balances, and Standing Deposit Facility (SDF) (left chart); Excess Reserves per Maintenance Period (right chart)



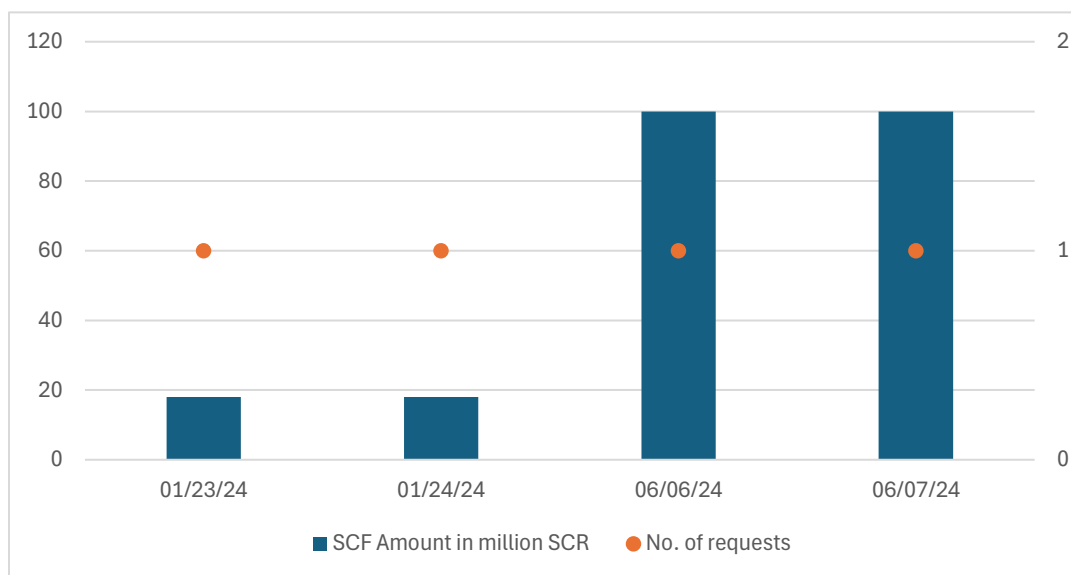
Source: CBS.

Note: Average excess reserves are equal to banks' cash balances exceeding reserve requirement plus standing deposit facility balance minus standing credit facility balance. Free reserves are excess reserves minus standing deposit facility balances.

- 14. Banks' underbidding in CBS operations is primarily driven by liquidity risk in the absence of a functional interbank money market.** Bank funding is predominantly composed of sight, savings, and term deposits from retail and corporate clients, with the latter being more volatile. Given the shallow nature of the interbank market and limited appetite among banks to trade reserves, institutions maintain sizable precautionary liquidity buffers to withstand potential shocks. As a result, banks regularly underbid in the CBS's open market operations, with tendered amounts falling short of the auctioned volumes calibrated to achieve neutral liquidity conditions.
- 15. In addition to regular operations, the CBS may conduct fine-tuning operations.** These are unscheduled interventions with nonstandard tenors, typically executed in response to significant forecasting errors in autonomous liquidity factors. Fine-tuning operations may also be conducted at the end of the reserve maintenance period to address liquidity imbalances arising from such errors. However, these operations are currently not used, as liquidity imbalances primarily stem from banks' systematic underbidding in regular CBS auctions.
- 16. The interest rate corridor is defined by two overnight standing facilities.** The SCF and the Standing Deposit Facility (SDF) are currently priced at 150 basis points above and below the MPR, respectively. The SCF is available daily between 3:00 p.m. and 4:00 p.m., approximately 30 to 60 minutes after the closing of the payment and settlement systems.

Eligible collateral for the SCF includes fixed-term deposits at the CBS, SCR-denominated Treasury bills, and government securities.² In the current environment of broad-based excess liquidity and banks' preference for maintaining precautionary buffers, the SCF is rarely used (Figure 5); since the beginning of 2024, it has been accessed only five times.

Figure 5. Usage of the SCF since the Beginning of 2024



Source: CBS.

- 17. Minimum Reserve Requirements (MRR) complete the set of monetary policy instruments employed by the CBS.** The MRR ratio is set at 13 percent on both rupee and foreign currency deposits of residents and is applied to all deposit liabilities of banks, excluding interbank deposits. The maintenance period spans one month, running from the second Wednesday of the month to the second Tuesday of the following month. MRR are calculated based on the daily average of the closing balance of deposit liabilities held over a reporting period specified by the bank. The reporting period for a new maintenance starts on the Wednesday before the beginning of the preceding MRR maintenance period and ends on the Tuesday of the week before the start of a new maintenance period. MRR for U.S. dollar deposits must be maintained in U.S. dollars, those for euro deposits in euros, and those for other foreign currency deposits in U.S. dollars. Full averaging provisions apply. The penalty rate for nonfulfillment of the MRR is set at twice the MPR.
- 18. The CBS does not currently offer an intraday liquidity facility, due to technical constraints within its payment and settlement system.** These limitations are being addressed. In the meantime, banks rely on precautionary liquidity buffers and benefit from the averaging provisions of the reserve requirement, which provide sufficient flexibility to accommodate intraday liquidity fluctuations resulting from the timing of inflows and outflows.
- 19. The operational framework described above was well communicated at the time of its rollout, and the CBS continues to provide regular updates on liquidity conditions through its website.** Operational guidelines for individual instruments are also readily accessible. However, there is currently no dedicated document, section, or presentation on the

² Collateral policy for monetary policy operations is reviewed more comprehensively in Section III.

CBS website that outlines the overall framework and the guiding principles of CBS liquidity management. Such information would be useful for market participants and support a consistent understanding of the framework.

20. **The CBS maintains an overarching financial soundness criterion as a precondition for access to standard monetary policy operations.** However, this criterion has not been coherently and formally articulated, nor has it been defined internally or publicly in operational terms. The absence of a clear definition limits its practical applicability and may hinder consistent implementation across institutions.
21. **The mission recommends that the CBS formally articulate and publish its financial soundness requirements for monetary policy counterparties.** This would entail defining in a public document the financial soundness indicators and prudential minimum that institutions must meet to access standard monetary operations.³ The mission discussed possible approaches to formulating such requirements, emphasizing the importance of a rule-based framework. Remedial measures should be introduced progressively in cases of deteriorating financial indicators. In this context, access to credit operations could be prudently limited and ultimately suspended in cases of noncompliance.
22. **The ELA framework will complement Seychelles's broader liquidity defense architecture by providing the CBS with greater discretion and flexibility in responding to liquidity shocks.** A comprehensive liquidity defense framework typically relies first on money markets to redistribute excess reserves. When temporary liquidity shortfalls arise and market mechanisms are insufficient, central bank standard operations and facilities should alleviate liquidity pressures. The effectiveness of the monetary policy framework determines the central bank's ability to steer short-term money market rates and implement policy effectively. If conditions deteriorate beyond the buffers provided by precautionary reserves and access to regular operations becomes constrained, ELA serves as the final line of defense.

II. Emergency Liquidity Assistance

A. Background and Current Framework

23. **The CBS introduced an ELF in 2009.** The ELF primarily addresses severe short-term liquidity shocks that cannot be met through the SCF. Under the ELF, the CBS may lend to deposit-taking institutions, in SCR, against eligible collateral used for monetary operations, after considering financial stability concerns. The ELF can be provided for an initial period of 60 days, which may be extended in 30-day increments. The interest rate is set at 500 basis points above the SCF rate. ELF requests must be accompanied by a repayment plan. Although the CBS considers the solvency of the requesting institution when evaluating ELF requests, the ELF does not explicitly state that the ELF is only possible for solvent banks.
24. **Although the ELF provides a useful foundation for liquidity provision in stress situations, it has several shortcomings.** These include the previously mentioned lack of an overarching solvency requirement, which is critical in the context of lender-of-last-resort support, as the applicant must continue to adhere to sound risk management principles. Other limitations include the restriction of eligible collateral to that used for monetary policy operations—hindering liquidity support during acute stress scenarios, when banks may lack

³ The overriding requirement is the compliance with the point-in-time minimum capital requirement.

standard collateral—the relatively rigid provisions regarding tenor and maturity, the high interest rate, the restriction to SCR-denominated lending only, and the absence of provisions outlining the government's role in providing guarantees or the conditionality under which liquidity support may be granted.

- 25. An IMF Safeguards Assessment recommended enhancing the ELF framework once the CBS Act—then undergoing legislative amendment—was approved.** The amendment was eventually passed in 2024. Building on this, the mission assisted CBS in developing a state-of-the-art ELA framework, advising on: (i) the review and release of a new regulation disclosing key elements of an effective framework; (ii) the development and implementation of comprehensive internal guidelines; (iii) the strengthening of the collateral framework; and (iv) the clarification of the government's role within the framework.

B. Legal Basis and Proposal for a New ELA Framework

- 26. The CBS Act, as amended in 2024, provides sufficient legal provisions for an effective ELA framework.** The amended Act clearly defines the eligibility criteria for ELA, targeting solvent and viable—but temporarily illiquid—deposit-taking institutions (banks and credit unions), as a last resort and against adequate collateral. It authorizes CBS to determine, on a case-by-case basis, the assets to be accepted as collateral. The Act explicitly recognizes the government's role in contributing to financial stability, including the provision of guarantees in cases where there are concerns about solvency or adequacy of collateral, or when funding is required for resolution and financial stability is at risk. It also defines ELA maturity in line with best practices, with daily disbursements within envelopes set fortnightly and a maximum overall maturity of six months.
- 27. The mission has provided guidance on operationalizing these legal provisions.** To ensure the effectiveness of the ELA framework, several key principles must be upheld. The framework should: (i) support financial stability through effective ELA interventions; (ii) minimize the moral hazard associated with such interventions; and (iii) safeguard the central bank's core objective of price stability and its autonomy. The remaining sections of this chapter aim to assist the CBS in crafting a comprehensive and coherent ELA framework. In addition to the legal basis, regulation, internal guidelines, and the government's role, a robust framework should also include crisis preparedness and a communication strategy. As a liquidity provision instrument, the ELA framework must be supported by an appropriate collateral policy, which is discussed in the next chapter.

C. Internal Guidelines and Policy Parameters

- 28. This section discusses internal guidelines and the calibration of key ELA parameters.** Internal guidelines refer to the procedures to be followed within CBS when handling an ELA request. They consist of three key elements: (i) assessing eligibility; (ii) assessing conditionality; and (iii) determining the financial parameters. Although internal, these procedures should be carefully designed, with a comprehensive description of requirements, operational checks, and decision rules. In addition to ensuring operational effectiveness in managing ELA cases, clear internal guidelines also support central bank accountability, as ELA regulations—discussed below—essentially disclose selected elements of these internal procedures.

Eligibility

29. To be eligible for ELA, institutions must: (i) be legally eligible; (ii) be solvent on a forward-looking basis and deemed viable; and (iii) have exhausted all other available funding sources.

30. In addition to being legally eligible, only supervised banks should qualify for ELA.

Solvency and viability are prerequisites, and the related assessments must be conducted within a short time frame. Furthermore, ELA is a conditional liquidity support mechanism that entails significant risks if appropriate supervisory measures are not implemented and enforced—making the supervision requirement essential. Article 29(B)(1) of the amended CBS Act grants eligibility to banks and credit unions in Seychelles. As of the mission, all banks and credit unions meet this initial eligibility criterion, as they are all supervised by the CBS.

31. A key challenge in assessing eligibility for ELA is determining an institution's ability to recover from its liquidity stress. This requires passing forward-looking solvency and viability tests.

- **A forward-looking solvency requirement is essential for ELA.** While a point-in-time assessment of solvency may be appropriate for determining eligibility for regular monetary operations, a more flexible approach is required for ELA.⁴ A forward-looking assessment allows ELA to be extended to a temporary undercapitalized bank, which, if denied access to ELA, could contribute to the spread of liquidity stress across the financial sector. This approach requires a credible prospect that capital will be maintained or restored above the prudential minimum within a reasonable period (e.g., six months or lower given legal constraint on the term). This time frame could be specified in the regulation.⁵
- **A viability assessment encompasses an entity's broader business operations and outlook.** This assessment focuses on identifying and evaluating potential weaknesses in the entity's business strategy, asset quality, governance and management, earnings, liquidity, and risk management processes. A viability assessment is "business model" focused, aiming to determine the entity's capacity to generate sufficient cash flow to repay ELA. It also considers whether this ability is contingent on certain reforms, such as changes in lending practices or management, which could become part of ELA conditionality. Viability assessment often requires input from the Financial Market Division (FMD) and the Financial Stability Section (FSS).

32. To ensure timely decision making, the FSS must be capable of assessing the applicant's financial condition on short notice. Specifically, it should be able to evaluate within 24 hours an institution's forward-looking solvency and viability as input for the final decision. While this may be challenging, potential requests can be anticipated through liquidity monitoring, real-time market indicators, and general market intelligence. Additionally, regular solvency stress testing—adapted to meet ELA requirements, such as using a six-month horizon and factoring in higher funding costs—can offer methodological insights and enhance the CBS's preparedness to conduct forward-looking solvency assessments promptly.

33. Before granting ELA, a financial stability risk assessment should be conducted. While this assessment should evaluate individual banks' systemic importance, it should recognize that systemic importance goes beyond the ex-ante systemic classification of institutions. The

⁴ See Bank for International Settlements, July 2015, "[Guidelines for identifying and dealing with weak banks](#)," on different types of bank weaknesses.

⁵ For this assessment, the CBS could apply the traffic light approach, similar to what was discussed during the mission.

potential risk that a bank's failure poses for financial stability because ELA was not granted is critical. During a crisis, bank liquidity conditions can be highly contagious, and even a bank not considered systemically important ex ante may threaten the stability of the entire financial system during periods of heightened uncertainty. ELA could be granted to all illiquid and solvent banks, and a bank's systemic importance should be considered in the decision-making process. When solvency is in doubt, the heightened risks for such a bank could be mitigated by a government guarantee (Section II.E).

34. The assessment of financial stability risks within the treatment of an ELA request may yield different results from the ex-ante classification of systemically relevant banks.

Criteria for systemic relevance in ELA include: (i) size, as measured by the applicant's market share of deposits and/or lending, its activities in the interbank market, and its importance in the payment system; (ii) complexity, where not providing ELA may increase the risk of a disorderly resolution; (iii) substitutability, where an applicant is a unique provider of key financial services and may be difficult to replace in the short term, and not providing ELA may prevent other entities from functioning properly; (iv) interconnectedness, as measured by bilateral exposures (e.g., via interbank deposits) or the capacity (via leverage) to magnify the initial shock and cause turbulence in the asset markets; and (v) contagion risks, arising from a wholesale or retail deposit run spreading to other segments or from fire sales of assets.

35. The mission assesses that there is no need to extend eligibility to nonbank financial institutions (NBFIs) nor to review the law in that respect. Beyond the legal restriction, such an expansion is not necessary in Seychelles: (i) existing NBFIs—a pension fund and five insurance companies—are typically subject to different regulatory regimes than banks and credit unions, and extending eligibility could raise level playing field concerns; (ii) existing NBFIs do not generally have runnable liabilities, and their liquidity mismatches are likely to be limited; and (iii) existing NBFIs lack clear intermediary roles or the provision of critical financial functions within the financial system, raising questions about their systemic importance and potential eligibility for ELA—an instrument designed to safeguard financial stability (see Section I.A above and the discussion in Annex I).

36. In the treatment of an ELA request, it should be ascertained that the applicant is in a lender-of-last-resort situation and has exhausted all short-term alternative funding sources. Internal guidelines should outline how such a situation is assessed. These short-term funding sources include secured and unsecured money markets, liquidity lines with parent institutions abroad, and the CBS's SCF. The assessment may involve reviewing information provided by the applicant with the ELA request, and the submission of such information should be mandatory.

37. To extend ELA to foreign-owned entities, specific criteria must be met. For subsidiaries of foreign banks, the applicant must fully exhaust parent funding, including committed lines, as well as all available funding sources from the home central bank, before being considered for ELA. To facilitate this process, the CBS may need to establish a MoU with the supervisory authorities responsible for overseeing the parent banks, in order to enable and support cooperation and information exchange. An initial step toward effective cross-border cooperation is participation in international colleges of supervisors.

Conditionality

38. Preparing an agreed and credible funding plan is a crucial condition for ELA. An initial version of the funding plan, detailing the applicant's liquidity situation, should be included in the ELA request. The CBS should then assess and collaborate with the counterparty to finalize

the funding plan within days of the first ELA disbursement. This plan helps identify the remedial measures that the bank envisions to repay the ELA within the agreed timeframe, assess their feasibility, and reach agreement on those measures. Developing funding plan templates—such as the one circulated during the mission—and sharing them with counterparties through workshops and seminars can help meet the tight emergency deadlines.

39. The CBS should assess whether additional conditions are needed to ensure that the funding is used solely for core business activities and to exit ELA as soon as possible.

The following list presents actions the CBS might impose on counterparties:

- Equity buybacks can be prohibited because these are essentially capital-related activities, although funds can be used to meet debt repayments as they become due.
- Funds should not be used to facilitate nonessential or risky lending practices, the distribution of dividends, or bonuses/salary increases for management.
- In the case of foreign subsidiaries, there should be protection against funds being “upstreamed” to their parent institutions. The CBS should have formalized arrangements with the host supervisor for the sharing of prudential information (see above).

40. Conditionality should also be possible and considered to mitigate CBS risks and the vulnerabilities that have contributed to the ELA request. This may include institution-specific measures to address governance and risk management failures (as may have come to light in the viability assessment). The regulation shall enable the CBS to impose such measures, and the CBS can assess their appropriateness on a case-by-case basis.

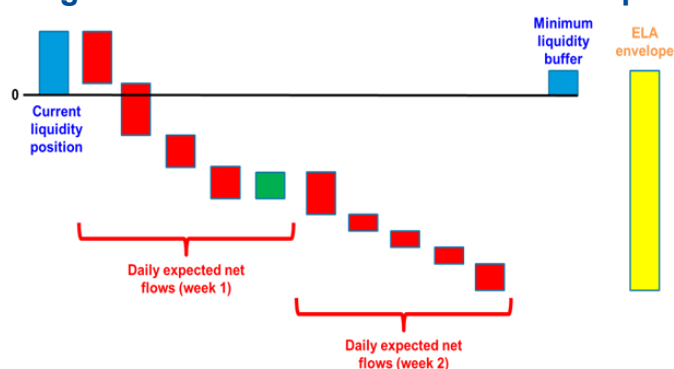
ELA financial parameters and collateral

41. ELA financial parameters are calibrated to support the market objectives of the ELA framework. They intend to provide guidance on the pricing of ELA loans, particularly in areas where the central bank’s laws are not prescriptive.

42. ELA should be priced at a positive premium over the highest monetary policy facility rate. The pricing must strike a balance—being sufficiently punitive to mitigate moral hazard and encourage timely repayment, while not so punitive as to threaten the applicant’s medium-term solvency and viability. For Seychelles, the mission recommends applying the premium over the SCF. The typical recommended range for this premium is 200–300 basis points.

43. An ELA envelope should be calculated based on the institution’s forecasted liquidity requirements, typically over a two-week period (Figure 6). The bank must submit a detailed cash flow forecast for the upcoming two weeks to the CBS, clearly distinguishing between asset-related flows (e.g., loans, securities, interbank deposits, reserve requirements, and other factors) and liability-related flows (including interbank borrowing, money market access, and the use of central bank liquidity facilities). Additionally, the envelope should allow the bank to maintain a minimum liquidity buffer. Disbursements should occur daily to meet daily liquidity needs within the overall ELA envelope. Detailed cash flow and deposit flow forecasts should be monitored daily and reviewed at each biweekly ELA rollover. The CBS could develop a liquidity monitoring tool based on the template shared during the mission.

Figure 6. Calibration of an ELA Envelope



Source: IMF staff.

- 44. The maximum duration for ELA should be established within the six-month limit set by law.** Disbursements should be based on a two-week approved envelope from the CBS Board of Directors, which sets the maximum liquidity that can be extended by the FMD without requiring further approval. This approach minimizes the need for frequent approvals for ELA extensions, especially when there are no changes in the institution's financial condition or balance sheet composition. The amounts allocated should follow the funding plan and be based on anticipated cash flows and ELA needs over the next two weeks. Within this period, ELA should roll daily to meet daily liquidity needs, allowing for small working liquidity balances at the start of the next business day while minimizing excessive upfront disbursements that increase costs for banks and risks for the central bank. At the end of each two-week period, the forecasted ELA need should be recalibrated and a new envelope allocated—potentially larger or smaller than the previous one—in line with funding plan targets. A maximum term for ELA provisioning should be specified in the regulation.
- 45. The CBS should ensure operational and technical readiness for the provision of ELA in FX, supported by additional risk mitigation measures and stricter conditionality.** Given the significant share of FX liabilities (Section I), banks are exposed to FX liquidity risk even though FX liquidity buffers appear adequate.⁶ These risks are further exacerbated by the CBS's statutory liquidity ratio. According to CBS regulations, banks must hold liquid assets in an amount that shall not, as a daily average each month, be less than 20 percent of the bank's total liabilities per the Financial Institutions (Liquidity Risk Management) Regulations (2009). Notably, banks are allowed to hold SCR-denominated assets against FX liabilities, and a 30 percent Net Open Position (NOP) limit⁷ enables currency arbitrage. Limiting ELA provision to SCR only would require banks to borrow in SCR to meet FX liquidity needs, potentially causing dislocations in the FX market and exposing banks to exchange rate risk. Thus, ELA in FX should be subject to additional risk control measures (e.g., higher haircuts to account for FX risk), stricter conditionality (e.g., on the use of liquidity lines from a parent bank), and more intrusive supervision due to the greater risks involved. Finally, ELA in foreign currency may be priced at a higher premium than SCR ELA, considering the CBS's FX funding and operational costs.
- 46. Ex ante, to enhance counterparties' capacity to absorb FX risk, the CBS may consider differentiating the liquidity ratio by currency.** This would align with best practices and

⁶ Per the CBS assessment, a substantial portion of these FX liquidity buffers are held abroad as term deposits—most of them as three-month-maturity deposits—which may delay their availability in the event of a liquidity shock.

⁷ In the calculation of the overall NOP, long and short positions in different currencies are summed up in absolute terms.

require banks to hold at least 20 percent of liquid assets in the same currency as their liabilities.⁸ Additionally, to minimize the risk of having to provide ELA in foreign currency, the CBS may consider setting a higher liquidity ratio specifically for FX liabilities.

- 47. The ELA envelope should be fully collateralized throughout the duration of the ELA loan.** The ELA collateral policy should be integrated into the broader collateral framework (Section III). As with standard monetary operations, ELA requires clearly defined eligibility criteria, robust valuation processes, and adequate risk mitigation measures. The ELA-specific collateral framework extends the standard framework by incorporating broader eligibility criteria, presenting challenges in valuing less liquid collateral (e.g., credit claims) and necessitating more tightly calibrated risk haircuts. These measures address the heightened risks associated with lower-quality collateral, recognizing that lending to a liquidity-constrained counterparty is inherently riskier than lending to one with ongoing market access (see concentration limits and overcollateralization in Section III). Nevertheless, in the absence of sufficient collateral, CBS should have an agreement in place with the government, including a guarantee for the provision of ELA (Section III.E).

D. Transparency and Communication

- 48. A comprehensive ELA transparency and communication strategy should include:** (i) an ex-ante transparency policy; (ii) a communication strategy for ongoing ELA operations; and (iii) an ex-post transparency and disclosure policy.

Ex-ante transparency

- 49. Ex-ante transparency involves disclosing selected elements of the ELA framework in a public document that serves as a regulation.** The objectives of this disclosure are to manage the expectations of ELA stakeholders, emphasize that ELA is intended for the liquidity needs of solvent and viable institutions, and ensure central bank accountability through sound governance. Stakeholders whose expectations need to be managed include banks and other supervised financial institutions potentially eligible for ELA (to help them understand and prepare for ELA if needed), bank shareholders and other investors (to clarify the implications of a bank requiring ELA, particularly regarding the solvency criterion and conditionality), bank depositors and creditors, and the government.
- 50. The regulation should clearly define the broad terms and conditions under which ELA is granted.** This includes specific coverage of the following areas: (i) the financial stability objective behind the operation and its discretionary nature; (ii) the requirement for forward-looking solvency and long-term viability of the ELA applicant; (iii) the necessity for the ELA to be always fully collateralized; and (iv) the requirement to provide ELA at a penalty interest rate. While certain aspects of the framework, such as parameters on the collateral policy (collateral preference order, valuation, and risk control measures), need to remain confidential due to their sensitive nature, a high level of transparency is recommended regarding governance, processes, and conditionalities. This transparency supports bank preparedness and enhances public understanding of the framework. Additionally, the level of the ELA interest rate should be made public to send a clear signal to banks and reassure them of the level playing field. The regulation should also emphasize the discretionary nature of the ELA, avoiding terms such as “facilities.”

⁸ This may be prescribed only for significant currencies accounting for more than 5 percent of total liabilities.

- 51. In crafting the regulation, consistency should be ensured with internal guidelines and procedures.** For concrete guidance, the CBS could refer to Annex II to determine which elements of the framework should be included in the regulation and how they should be formulated. Annex III provides a mapping between the components of public regulation and the corresponding internal guidelines. These annexes have been developed by the Central Banking Operations division of the IMF's Monetary and Capital Markets Department (MCMCO).

Real-time transparency

- 52. The CBS should establish a communication strategy within its ELA internal guidelines, ensuring it can be promptly deployed in an ELA scenario.** While real-time disclosure is generally not recommended for ELA, having a communication strategy in place can help address market rumors and respond to public inquiries when necessary. For instance, evidence of increased bank lending—reflected in the monthly publication of the CBS balance sheet—may trigger such inquiries, regardless of whether there are leaks. Additionally, stress indicators for an institution may be inferred from its balance sheet or market pricing.

Ex-post communication

- 53. The CBS should develop ex-post communication guidelines to ensure accountability while avoiding disclosures that could exacerbate liquidity stress.** Although central bank transparency generally supports its objectives and operations, caution is warranted during periods of financial stress. Premature disclosure of liquidity support to an individual institution could trigger contagion and heighten risks to financial stability. Identifying the ELA recipient may eventually be required under public disclosure obligations—ideally at least one year after the ELA has been repaid. In such cases, communication should focus on the actions taken in accordance with the framework and the outcomes achieved.
- 54. The mission advises that the CBS refer to the IMF Transparency Code as a foundation for developing a comprehensive transparency strategy for the ELA framework.** During the mission, the code was applied and CBS staff were introduced to its use in the context of ELA, including aspects of real-time transparency and ex-post disclosure. Key elements of internal procedures and ELA parameters discussed during the mission (Sections II.C and II.F) were covered; Annex IV provides an illustration of the code's application.

E. Agreement with the Government

- 55. The CBS and the MoF should establish a MoU that clearly defines the scope of information exchange and the specific roles of each institution.** The MoU should detail the types of information that can be shared, particularly in situations where a government guarantee may be required. It should also explicitly state that: (i) both the CBS and the government share the mandate for financial stability; and (ii) the CBS's operational independence must always be preserved in any ELA-related decision. This MoU can be a standalone document or incorporated as a section within the existing financial stability MoU between the CBS and the MoF; the MoU is also signed by the Financial Services Authority and Financial Intelligence Unit. Considering the multiple signatures of the current MoU and to the extent the Financial Services Authority and Financial Intelligence Unit are not key stakeholders in the ELA process and envisaged the exchange of information in pursuit of financial stability, a standalone document may be more appropriate.

- 56. The CBS and the MoF should formalize a process for granting guarantees for ELA.** As discussed during the mission, government guarantees may be required in ELA under the following circumstances: (i) when there is a risk of undercollateralization—where the government would cover the remaining (noncollateralizable) liquidity needs; (ii) when the institution’s solvency is uncertain—stemming from the forward-looking nature of the solvency assessment (Figure 7); and (iii) when ELA is used for funding-in-resolution and concerns over the exit strategy arise—such as in cases where the institution undergoing resolution has uncertain forward-looking solvency or viability, or where the CBS’s liquidity provision cannot be fully collateralized. The provision of ELA for funding-in-resolution should be determined on a case-by-case basis and not triggered automatically. Any guarantee must be legally enforceable, irrevocable, and unconditional, ranking *pari passu* with the government’s other senior obligations. The CBS should define the circumstances under which a guarantee will be sought and document them in both the MoU and its internal ELA procedures.⁹
- 57. Particular attention should be given to the issue of government transparency regarding guarantees.** The mission took place during the review of the debt management legislation, which includes a proposal requiring the MoF to notify Parliament of any government guarantee to the central bank within 90 days of its issuance. It is important that this provision not jeopardize financial stability or impair the effectiveness of ELA. Heightened transparency during an ongoing ELA case could precipitate the very financial stability crisis that ELA is designed to prevent (Section II.D). To mitigate this risk, the transparency requirement could be implemented without disclosing case-specific details until after the situation is resolved or the reporting deadline could be extended to six months, allowing disclosure only six months after the ELA has been repaid. An exception to the transparency requirement on financial stability grounds may also be considered. In light of the overall size and depth of the market, the risk of spillover via overall sentiment effects is high and hence extra caution is needed on any disclosure.

Figure 7. When a Government Guarantee Should Be Sought



Source: IMF staff.

F. Operationalization of ELA

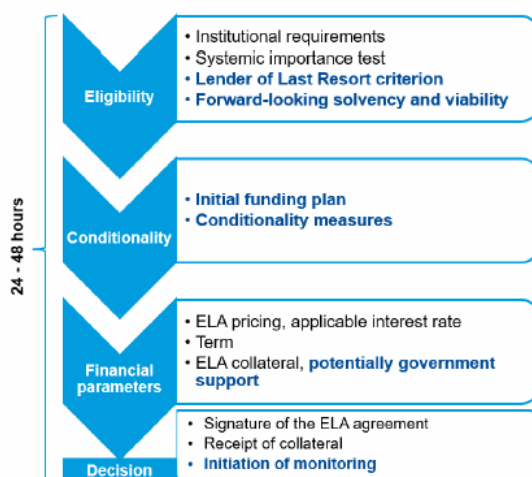
- 58. To operationalize ELA, it is essential to establish comprehensive cooperation frameworks across multiple business areas by forming an ELA Working Group (EWG).** Its responsibilities should include drafting the regulation, developing the internal procedures, running regular simulations, and handling ELA requests. Chairing the EWG could fall to the FMD, which would be consistent with international best practices and the IMF’s standard recommendations on the matter. Thus far, the existing ELF has been in the remit of the FSS, which also hosts the supervising duties. Going forward, this would potentially lead to a biased

⁹ The process for banks that are partially or wholly government owned is the same as for privately owned banks, as public ownership of a private enterprise does not constitute formal commitment to recapitalize it.

decision on the solvency of the applicant and the overall assessment of the ELA request.¹⁰ The mission advises the CBS to establish (or relocate the ELA) the lead of the EWG in the FMD. For this to take place and for the FMD to assume the coordinating role on ELA, its resources may need to be bolstered, as they are currently stretched. Membership of the EWG should include representatives from relevant areas within the CBS, such as the Financial Surveillance Research and Statistics divisions and the Legal and Communications units. A detailed terms of reference should be developed, focusing on preparedness and documented procedures, with clear delineation of each division's obligations in order to ensure that policy responses during crises are coherent, coordinated, and based on the best available information.

59. Establishing a swift and efficient process for assessing ELA requests is crucial, with the aim of completing the evaluation within 24 to 48 hours. Figure 8 outlines the steps involved in assessing an ELA request, with detailed descriptions provided in Section II.C. Table 2 illustrates the proposed allocation of responsibilities within the CBS for managing each step. The process requires drawing expertise from multiple divisions to assess the request and prepare a proposal, which must be approved by the CBS Board of Directors in accordance with the CBS's current organizational arrangements. The assessment process comprises three key elements: (i) evaluating the applicant's eligibility; (ii) formulating the conditionality of the ELA loan; and (iii) calibrating the financial parameters. Preparatory steps—such as drafting funding plans, ELA requests, and ELA master agreements—can be prearranged and published on the CBS website. ELA disbursement may proceed only after these elements have been satisfactorily addressed by the CBS's decision-making body.

Figure 8. ELA Request Assessment: The Steps



Source: IMF staff.

60. To ensure clarity and efficiency in ELA decision making, the CBS must designate the ultimate decision-making authority and document this in internal procedures. The

¹⁰ In cases involving external supervisors, Tucker's [REGIMES FOR LENDER OF LAST RESORT ASSISTANCE TO ILLIQUID MONETARY INSTITUTIONS: LESSONS IN THE WAKE OF CREDIT SUISSE](#) highlights the potential for incentive misalignment between supervisors and the central bank. Supervisors may be inclined to avoid potential blame if the applicant fails in case of ELA refusal, which could result in the central bank's bearing both the financial risk and reputational cost. Tucker concludes that "the decision to lend needs to be based on hard-headed assessments of solvency. Supervisors should be involved but should not decide." While this risk is subdued in Seychelles, where bank supervisors are part of the central bank, it cannot be entirely ruled out.

decision-making responsibility concerning the ELF is attributed to the Board. According to the CBS, this does not impair the timeliness of the decisions, as there are effective arrangements in place to ensure that the Board can make decisions on short notice. For ELA, this arrangement can be retained. ELA requests require prompt responses. Additionally, the decision-making process should be collegial. Given the discretionary nature of ELA decisions with potential significant repercussions for the central bank, assigning sole responsibility to the Governor could raise concerns over favoritism and unnecessarily expose the Governor.

Table 2. Division Responsibilities for Evaluation of an ELA Request

Evaluation Step	Responsible Division/Unit
Solvency assessment	Financial Surveillance
Viability assessment	Financial Surveillance
Systemic risk assessment	Financial Surveillance
Unavailability of alternative sources of funding	FMD and Financial Surveillance
Funding to banks in resolution: to provide input on solvency assessment and exit strategy	Resolution Unit
Preparation and implementation of funding plans, including conditionality and escalation triggers	FMD and Financial Surveillance
Prescription of conditionality in the ELA agreement	Financial Surveillance and Legal Unit
Calibration of ELA envelope	FMD
Preparation of ELA master agreement, collateral agreements, and indemnities	Legal Unit
Implications of ELA for monetary policy	FMD, Financial Surveillance, and Research and Statistics
Information exchange with the MoF in relation to indemnities	EWG Chair—Head of FMD
Communications strategy	EWG and Communications Unit
CBS disclosure	EWG
Collateral policy	Risk Management Unit ¹¹
Preparation of the proposal to the CBS decision-making body	EWG
Preparation of the response to the counterparty's request	FMD, under the control of the EWG

Source: IMF staff.

61. To enhance preparedness, the CBS should regularly conduct ELA simulation exercises.

ELA operations are relatively rare, and even well-documented procedures may prove ineffective when needed, due to crisis-induced panic, high staff turnover at central banks—resulting in potential loss of institutional knowledge—and evolving institutional frameworks and financial sector dynamics. Accordingly, annual simulations following the internal procedures and rules of the ELA framework are advisable while mindful of resource implications. Over

¹¹ It is preferable for collateral procedures (selection, valuation, risk mitigation) to be handled by the same unit.

time, these exercises may also involve banks, thereby strengthening their own preparedness. To preserve the CBS's necessary discretion and mitigate moral hazard, information on critical policy parameters—such as collateral policy and the assessment of solvency and viability—should be disclosed solely on a nonbinding basis.

- 62. The mission successfully institutionalized a simulation framework at the CBS.** This framework was tested through a comprehensive ELA simulation involving the actual balance sheet of a systemically important bank, a subsidiary of a foreign institution. The mission team acted as the ELA applicant. At the time of the simulation, the bank's funding mix consisted of approximately 61 percent sight and callable deposits and 12 percent fixed-term deposits. Around 30 percent of its assets were held in FX, the majority of which was located abroad. Additionally, the bank held roughly 15 percent of its assets in government securities, which could be used to collateralize the SCF. The simulation assumed a large-scale deposit withdrawal triggered by concerns about the parent bank, which was unable to provide liquidity support. The exercise focused, inter alia, on assessing whether funding should be provided in FX and evaluating the implications for exchange rate exposure and the NOP limit.
- 63. The simulation exercise provided an opportunity to implement the guidelines and procedures discussed during the mission.** Key steps included: (i) assessing the bank's lender-of-last-resort situation and the exhaustion of alternative funding sources; (ii) evaluating forward-looking solvency and viability; (iii) assessing the funding plan and calibrating the ELA envelope; (iv) determining whether ELA should also be provided in foreign currency, also considering exchange rate exposure under different scenarios; (v) calibrating assistance parameters (e.g., maturity and rates) and designing ELA conditionalities; (vi) preparing an ELA master agreement and the loan contract; (vii) managing real-time communication around ELA; and (viii) collateralizing the ELA envelope in accordance with the discussed collateral policy.
- 64. The FMD spearheaded the exercise and prepared the presentation for the ELA case.** A proposal was developed and presented to the mission team, who served as the ELA decision-making board and provided detailed feedback. The exercise was attended by approximately 12 CBS employees.
- 65. Additional ELA crisis preparedness involves pre-positioning collateral and conducting regular tests for its mobilization.** Pre-positioning includes identifying, verifying eligibility of, and validating collateral—without transferring legal title to the central bank during this stage. Once due diligence is satisfactorily completed, the collateral is considered pre-positioned and ready to be drawn against, subject to the central bank's approval. Additionally, the CBS can leverage this process to improve reporting standards in the banking sector, enhancing market functioning. Pre-positioning also aids in identifying asset features relevant to their valuation and the design of risk control measures, leading to better market intelligence at the central bank. Participants should update their list of pre-positioned collateral monthly. The CBS could hire external legal counsel to inspect the loan documentation. Many central banks ask the banks to hire external firms to conduct and report on due diligence on pre-positioned collateral.
- 66. Mandatory pre-positioning of collateral is generally not recommended but may be encouraged for institutions with deteriorating liquidity buffers.** In jurisdictions facing systemic scarcity of marketable assets—such as government and corporate bonds—mandatory collateral pre-positioning may be appropriate for standard monetary policy operations. However, applying such a requirement to ELA operations is more complex. Counterparties that pre-position collateral under normal conditions may interpret the ELA-

related requirement as a pre-commitment by the central bank to provide support, irrespective of the nature of the idiosyncratic stress they may encounter.

- 67. The CBS could further strengthen its crisis preparedness by conducting testing exercises with counterparties focused on the identification and mobilization of nonstandard collateral, particularly credit claims.** To reduce lead times and mitigate operational risks, counterparties should assess and ensure their legal and operational readiness to mobilize such assets. The CBS could support this process by sharing minimum procedural and eligibility requirements for credit claims. Nonbinding information sharing on eligibility criteria for nonstandard collateral would enable counterparties to identify available and unencumbered assets in advance. Communication by the CBS in this regard should remain carefully calibrated, as successful participation in the exercise and disclosure of eligibility parameters must not compromise the CBS's discretion in the event of an ELA request (see also Section III.B for transparency on collateral policy).

III. Collateral Frameworks

- 68. The amended CBS Act provides the legal foundation for the CBS lending activities in support of its mandates for price and financial stability.** Section 29(2) authorizes the CBS to extend credit to counterparties for monetary policy purposes. Similarly, Section 29B(1) establishes the legal basis for collateralized lending under the ELA framework, which serves as a financial stability instrument. For both objectives, the Act (see Section 29(3)(b) and Section 29B(1)(b)) empowers the CBS to determine the adequacy of collateral. This section outlines guidance for operationalizing these provisions in line with international best practices.

A. Current Collateral Policy

- 69. The current collateral framework is narrow, with the CBS using the same collateral framework for monetary policy and financial stability instruments.** The CBS's collateral policy is specified in two different documents and can be summarized as follows:
- *Eligibility:* Eligible assets are restricted to DAA of the CBS and SCR-denominated government securities. These eligibility criteria are specified in Section 8 of the Monetary Policy Framework.¹²
 - *Valuation:* Per the Operational Guidelines for Policy Tools,¹³ government securities are marked to market by determining their net present value, summing the discounted cashflows. DAA are taken at face value.
 - *Risk mitigation measures:* Haircuts are set by asset category and duration (Figure 9). The CBS applies Conditional Value-at-Risk (CVaR) for haircut calibration, mainly to capture market risk that is price volatility risk. Haircuts are calibrated for different maturities, to account for duration risks.

¹² https://www.cbs.sc/Downloads/publications/MonetaryPolicy/Monetary%20Policy%20Framework_2018.pdf.

¹³ [Values of Collaterals and Applicable Haircuts - August 2023.pdf](#).

Figure 9. Haircuts on Eligible Collateral

	Residual Maturities (months)			
	> 0 to 3	> 3 to 6	> 6 to 9	> 9 to 12
DAA	0.0%	0.0%	0.0%	0.0%
Treasury Bills & Treasury Bonds	0.30%	0.75%	1.05%	1.35%
	Residual Maturities (years)			
	> 1 to 3	> 3 to 5	> 5 to 7	> 7 to 10
Treasury Bonds	1.50%	1.65%	1.75%	1.90%

Source: IMF staff calculations.

- 70. The remaining part of this section discusses the best practices for the collateral policy.** It assesses the current situation and provides recommendations for a comprehensive collateral framework, differentiating between collateral policies for monetary policy and ELA.

B. Establishing an Overarching Collateral Policy

- 71. A coherent collateral framework comprises several key components:** (i) eligibility requirements; (ii) valuation methodologies; and (iii) risk control measures, including haircuts, margining provisions, concentration limits, and overcollateralization procedures. For each component, policy parameters should be calibrated to contain financial and operational risks within the central bank's defined risk appetite while minimizing price distortions across asset classes that could adversely affect credit allocation. Additionally, the framework should support market development, for instance, through the adoption of standardized approaches.
- 72. While the principles underpinning collateral frameworks are similar—for monetary operations and ELA—there are some key differences (Table 3).** Monetary operations involve counterparts that are not under stress, and so, generally, the risk of lending is lower. Consequently, eligible collateral is predefined, publicly communicated, and generally of a higher quality. The valuation methodologies and risk mitigation measures will also be public. In contrast, for ELA, the counterparty is under stress and has normally used all its monetary operations-eligible collateral—meaning, lower credit quality and less liquid collateral must be used. While transparency must be high in the case of monetary operations—because participants need certainty on the modalities of all monetary instruments—the same is not true for ELA, since some ambiguity may minimize moral hazard and wider system risks. While discretion is permitted, it is not mandatory. The central bank may choose to disclose additional policy parameters and pre-commit to accepting collateral under specified conditions. However, given the local context of market shallowness, such pre-commitments could pose significant risks for most types of ELA-eligible collateral.

Table 3. Monetary Policy versus ELA Frameworks

	Monetary Policy Operations	ELA
Objective	Price stability	Financial stability
Eligibility	High-quality and liquid assets	Broader collateral acceptance
Collateral preference	None (asset selection by banks)	Defined by the central bank
Rule versus discretion	Rules	Central bank discretion
Valuation	Disclosure of key methodological elements	Nondisclosure to the public
Haircuts	Public	Nonpublic
Concentration limits	(Generally) None	Applicable

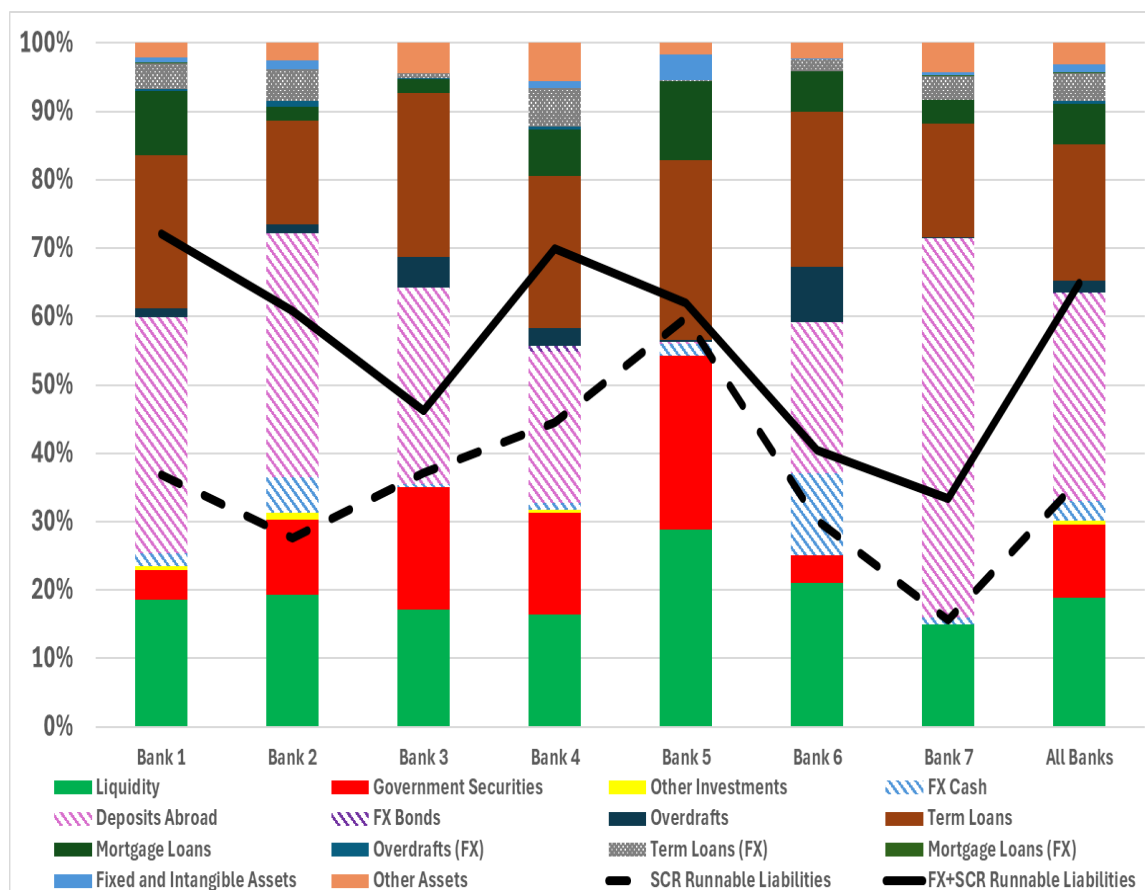
Source: IMF staff.

C. Collateral Eligibility

- 73. The CBS should establish a methodology for determining the preference order for each collateral.** It is assumed that any asset on a bank's balance sheet, unless explicitly prohibited by law, is a priori acceptable as collateral. The central bank controls financial risks by defining and imposing a hierarchy of collateral acceptance, prioritizing assets of the highest credit quality and liquidity, and applying haircuts. An algorithm provided in Annex V orders collateral based on several characteristics, including liquidity, legal certainty, valuation, volatility, total volume on issue, and distribution in the financial sector. This methodology is flexible and scalable across asset characteristics. The established preference order should be used to determine the eligibility scope for a diverse set of central bank liquidity-providing operations, including monetary policy and ELA.
- 74. The CBS should demarcate between collateral accepted in normal times (for monetary policy operations) and that accepted in a stress situation (i.e., ELA).** Based on the established order, the collateral for monetary policy operation is the most preferred, that is, it is of less risk across the assessed dimensions. How deep on the ranking list the demarcation line should be drawn is determined by finding the proper balance between banks' refinancing needs for monetary policy operations and, in contrast, the required quality and transparency of the monetary policy collateral framework. The refinancing need for monetary policy operations may increase in crisis, and this should be considered when deciding the demarcation since material changes in collateral eligibility should be infrequent, as they may induce portfolio shifts in the banking system.
- 75. The mission assesses that collateral eligibility restricted to DAA and government securities is appropriate for monetary operations.** As of May 2025, SCR-denominated government securities are sufficiently abundant in the banking system—about SCR 4.5 billion—relative to the usage of the SCF, requested five times in 2024 (maximum amount SCR 100 million) (Figure 5). While the aggregate amount is appropriate, the distribution across government securities across counterparties needs to be monitored. As depicted in Figure 10, Bank 7 doesn't hold government securities; such a bank will not have access to central bank money (although the bank holds a significant amount of liquid assets). Furthermore, in the long run, banks' ability to access regular CBS operations and facilities may be increasingly constrained by the dearth of eligible collateral. The Government of Seychelles is altering its debt composition toward external debt in foreign currency. As a result, the stock of domestic debt in rupees is declining. Since the beginning of 2024, it has dropped by around SCR 1.5 billion based on CBS data.
- 76. For ELA, the CBS should broaden its collateral pool, employing collateral scanning to assess banks' resilience to liquidity stress and the adequacy of collateral eligibility.** This process compares banks' short-term liquidity needs against available collateral (Figure 10). It informs assessments of banks' resilience to liquidity stress and the adequacy of the breadth of collateral eligibility. It provides input into a central bank's decision about the trade-off between a narrower framework and a broader one with more risk, recognizing that, inherently, it will need to be quite broad to mitigate financial stability risks.
- 77. Although, in aggregate, banks' liquid assets—including government securities—appear sufficient to cover runnable liabilities (Figure 10), several institutions exhibit collateral-related liquidity gaps.** Runnable liabilities comprise checking, savings, and interbank deposits, with Seychelles rupee liabilities shown by the broken line and total liabilities (local and FX) by the solid line. Liquid assets include balances, coin holdings, and FX deposits (domestic and abroad), represented in hatched regions. Illustratively, for Bank 1 and Bank 4,

the gap between runnable liabilities and liquid assets, including SCF-eligible government securities, is approximately 10 percent, driven primarily by local currency exposures. These gaps would widen further under mark-to-market valuation and haircut application.¹⁴ Additionally, the significant share of deposits held abroad introduces interest rate and legal mobilization risks, underscoring the need for enhanced liquidity monitoring and risk controls.

Figure 10. Collateral Scanning versus Runnable Liabilities



Source: CBS and IMF staff calculations.

Note: Based on end-June 2025 balance sheet data.

78. In collateralizing ELA, the CBS should apply the established collateral preference order outlined above. Unlike standard lending facilities, where central banks provide unconditional liquidity support subject to predefined terms and conditions, ELA constitutes a conditional lending. It allows the central bank discretion over key policy parameters, including the scope of collateral acceptance.

D. Collateral Valuation

79. A fair collateral valuation framework is essential for safeguarding the central bank's balance sheet while minimizing its market footprint. In collateralized lending, central banks

¹⁴ Figures are expressed as a percentage of bank balance sheets, i.e., ((liquid assets + government securities)–runnable liabilities)/total assets.

must be prepared to assume ownership of pledged assets in the event of counterparty default, making sound valuation practices critical. Collateral should therefore be marked-to-market, based on robust and consistent valuation principles. Although central banks possess unlimited capacity to intervene in local currency markets, the lending operations discussed in this report—both monetary and ELA—are designed to address residual liquidity risks without distorting market pricing of risk. Accordingly, central banks rely on market-based valuations wherever feasible, resorting to theoretical models only when necessary.

80. The mission assesses that the current valuation methodology for government securities is appropriate, given the shallowness of the domestic securities market. The Seychelles secondary securities market is effectively nonexistent, limiting price discovery. However, government bills—issued with maturities of three months, six months, and one year—are auctioned weekly, allowing periodic price observation at a relatively low but satisfactory frequency in the primary market. In this context, the theoretical valuation method—based on discounting the nominal value of zero-coupon instruments—is effective and suitable for marking government bills to market. Regarding the valuation of government bonds, they are issued on a quarterly basis,¹⁵ which limits opportunities for effective price discovery. The existing approach—based on summing discounted cash flows—remains adequate for valuation. The method used to determine yields, which relies on the yield from the last issuance, is the Nelson-Siegel-Svensson methodology, a widely used analytical framework for estimating sovereign yield curves through term-structure interpolation.

81. The CBS should leverage the yield curve it already calibrates to support the pricing of corporate securities. In the context of market shallowness, a well-estimated sovereign yield curve could serve as a benchmark for pricing corporate fixed-income instruments. By capturing the level, slope, and curvature of the term structure, the sovereign yield curve can enhance market transparency and contribute to the development of domestic capital markets.

82. The CBS should establish robust methodologies for valuing illiquid and nonmarketable assets, such as loans and mortgages, which are critical for the effective use of collateral in ELA operations. The efficient mobilization of such assets significantly enhances the operational effectiveness of ELA. As discussed in Section II.F, collateral pre-positioning is a useful tool for managing nonmarketable assets. Once assets are pre-positioned, the CBS will have access to sufficient data to support accurate pricing. To develop valuation methodologies, the CBS may need to engage an external valuation agent to define approaches for each asset class, along with a clear specification of required input data. These methodologies should then be validated and operationalized within the CBS to ensure consistency and reliability in collateral valuation.

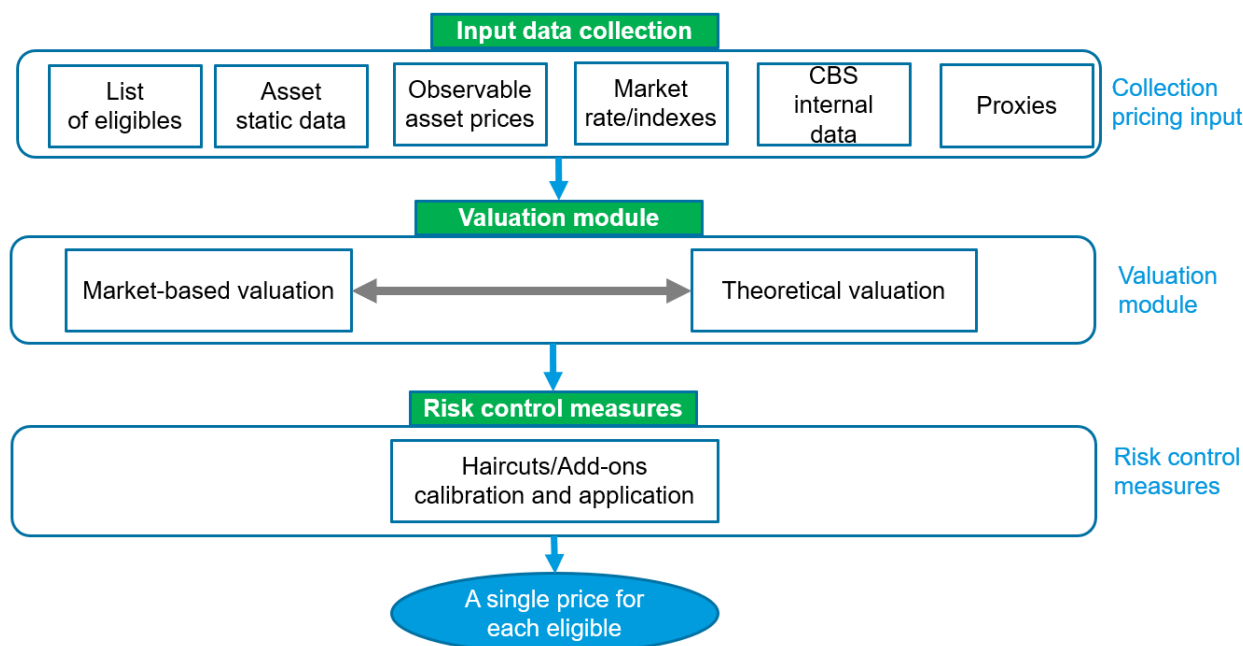
83. Integrated pricing hubs can be implemented to value each eligible asset (Figure 11). A pricing hub needs to be tractable to accommodate potential expansions of the collateral framework, thereby increasing its effectiveness during crises.

- The *input data collection module* includes (i) observable asset prices and market yields; (ii) asset static data covering characteristics such as maturities, rates, and coupons; (iii) the list of eligible assets; and (iv) market indexes, including rates in money and foreign exchange markets.

¹⁵ In 2024, the issued schedules were: March (five-year bond), June (three- and five-year bonds), September (five- and seven-year bonds), and December (five-year bond).

- The *valuation module* implements a predetermined and validated pricing methodology for each asset. The price of the eligible asset represents its mark-to-market value, which is computed to ensure the central bank's market neutrality. Market prices or reliable appraisals should be used when available, and if not, theoretical valuations will be required.

Figure 11. An Integrated Pricing Hub



Source: IMF staff.

E. Risk Mitigation Measures

84. Risk mitigation measures manage the financial and operational risks of holding collateral across all operations and generally fall into three categories:¹⁶

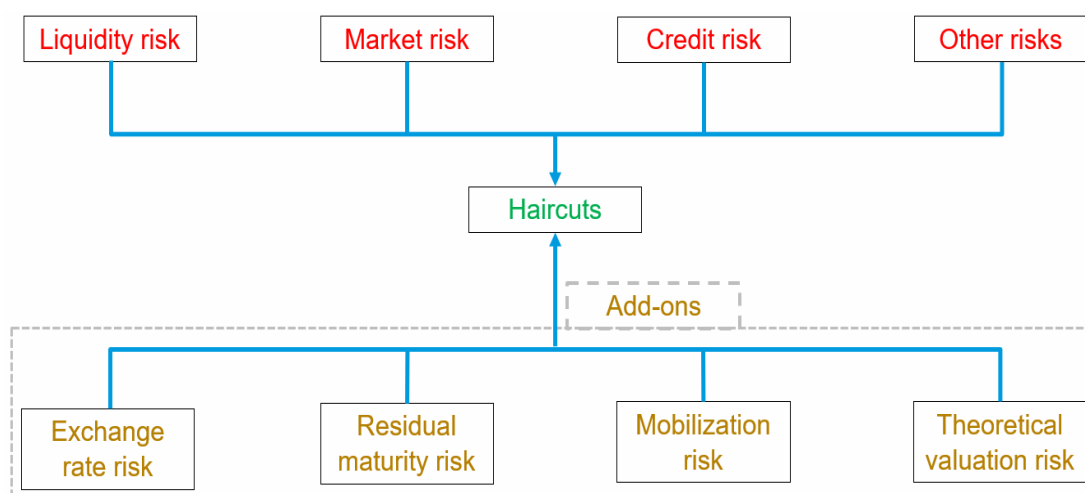
- *Haircuts* are calibrated to mitigate liquidity, market, credit, and other risks.
- *Margining provisions*, which allow for additional collateral to be requested in the event the value of the collateral falls during the period of the loan. Other things being equal, haircuts should be lower with margining provisions in place.
- *Concentration limits* limit the exposure to a certain class of assets and diversify the collateral pools.
- *Overcollateralization* requires additional collateral where there is an increased risk of counterparty default, as in the case of ELA.

¹⁶ Buessing-Loercks, M., D. King, I. Mak, and R. Veyrune. July 2020. "Expanding the Central Bank's Collateral Framework in Times of Stress," IMF Special Series on COVID-19.

85. Haircuts should be calibrated to effectively protect the CBS's balance sheet while achieving risk equivalence across asset classes. Risk equivalence seeks to equate all risks across asset classes—that is, haircuts are calibrated such that expected losses are the same for all collateral types and a given level of the central bank's risk appetite. To achieve risk equivalence, the haircut calibration should follow a model featuring key components of the financial risks (Figure 12), including:

- *Liquidity risk:* It captures the time-to-liquidation and is the expected time at which the collateral can be liquidated at a reasonable discount. The time-to-liquidation depends on the size of the position of the central bank relative to the market absorptive capacities.
- *Market risk:* The framework should allow modeling of the price volatility over the time-to-liquidation period. For a marketable security, this typically boils down to interest-rate volatility models, with the yields considered derived from the security's discount curve.
- *Credit risk:* The model should explicitly account for the eventuality of the default of the ultimate debtor during the time-to-liquidation period and the related expected losses and/or expected shortfalls.
- *Additional risks:* Examples include exchange rate risk for collateral denominated in foreign currencies, valuation risk accounting for pricing-model uncertainty for illiquid collateral, residual maturity risk where collateral cannot be sold, and mobilization risk (e.g., legal risk for assets held abroad, such as FX deposits).

Figure 12. Haircut Calibration Components



Source: IMF staff.

86. The mission notes that the existing haircut schemes applied by the CBS appear lower than those used by other central banks and recommends a comprehensive review.¹⁷ While the current calibration of haircuts on government securities is risk based, it primarily captures market risk through the Conditional Value-at-Risk (CVaR) model. However, other relevant risk dimensions—such as time-to-liquidation risk—are not currently incorporated.

¹⁷ See ECB paper for details about the applicable haircuts: Ulrich Bindseil et al. 2017. "[The Eurosystem collateral framework explained](#)," [Occasional Paper Series](#) 189. European Central Bank.

Additionally, given Seychelles's BB+ sovereign credit rating, credit risk could also be explicitly modeled. Although haircuts increase with bond maturity, the maturity add-on remains relatively modest and should be reassessed to ensure alignment with international practices and adequate risk coverage.

- 87. As a tail risk measure, the mission recommends Value at Risk (VaR) combined with duration approximation and stressed bond yield volatility (DASV).** VaR represents the maximum loss at a given confidence level and is generally easier to understand and validate compared to other tail risk measures due to its simplicity.¹⁸ The stressed bond yield change is computed using inputs such as risk-free rate volatility, spread volatility, time-to-liquidation, and a multiplier for converting volatility to VaR (see formula (1), Annex VI). This approach is typically conservative and is commonly employed by central banks, which balance operational efficiency and accuracy by setting duration buckets. Assigning a duration number equal to the upper bound of each duration bucket is a more conservative strategy. By consistently modeling these risks, the model is more likely to achieve risk equivalence.¹⁹
- 88. For risk-based haircut calibration of government bonds, the mission recommends the adoption of a Duration Approximation with Cross-country Regression (DACR) model (Annex VI).** Given the limited availability of domestic market data, the proposed DACR model enables the CBS to construct hypothetical term spreads through cross-country comparisons.²⁰ The model uses macroeconomic indicators—such as the debt-to-GDP ratio and real GDP growth—to estimate term spreads.²¹ The volatility of these estimated spreads can then be incorporated to calibrate haircuts for longer-maturity instruments (see formula (3), Annex VI).
- 89. The mission has applied the methodology, and the results provide guidance on how the current haircut proposal of the CBS should be reviewed (Figure 13).** The calibration is as follows: (i) is assumed that the CBS will need up to three months to liquidate government securities after a hypothetical counterparty default—that is, time-to-duration is set to three months. Standard deviation is set to 240 basis points, based on the volatility of the average weekly-change in government bills yields between January 2020 and May 2025.²² The time-to-liquidation is set to one quarter—to account for market shallowness. The figure shows haircuts for different levels of central bank risk appetite α ($1 - \alpha$ being the haircut percentile). A more conservative risk appetite, with an $\alpha = 1\%$ VaR, would result in a tighter haircut scheme. In times of crisis, the CBS might consider increasing its risk appetite to substitute traditional market players and effectively ease monetary conditions. Such scenarios can be evaluated using the model, as illustrated by the haircut curve for an $\alpha = 5\%$ level of risk appetite.

¹⁸ The Bank of England and the ECB use these measures to set conservative haircut rates for sovereign securities, ensuring they cover potential expected losses in the worst scenarios.

¹⁹ See ECB paper: Martin Adler et al. 2023. "The valuation haircuts applied to eligible marketable assets for ECB credit operations." Occasional Paper Series 312. European Central Bank. For exposition purpose, the mission also exposed the CBS's staff to this analytical framework recently released by the European Central Bank. This methodology, based on expected-shortfall theory, proposes a closed-form formula for haircuts, with parameters that can be easily estimated using existing data on the sovereign risk of Seychelles. This includes the country's probability of default (PD) and the related loss given default (LGD).

²⁰ Details on the model were provided during the mission, including an Excel sheet that will allow the authorities to recalibrate haircuts at appropriate intervals.

²¹ Two specifications are considered: one that includes only the debt-to-GDP ratio and real GDP growth, and another that incorporates additional control variables, such as trade openness and CPI inflation. The model's stability is ensured by using five-year averages of the coefficients, and adjustments for parameter uncertainty are made to account for potential inaccuracies.

²² The mission did not calibrate the term spread, which is set to zero.

Figure 13. Haircut Schedules

Duration range	Assigned duration	Haircut (95%-tile)	Haircut (98%-tile)	Haircut (99%-tile)
(0,0.5]	0.5	1.2%	1.5%	1.7%
(0.5-1]	1	2.3%	2.9%	3.3%
(1-3]	3	6.9%	8.5%	9.6%
(3-5]	5	11.2%	13.7%	15.4%
(5-7]	7	15.3%	18.7%	20.9%
(7-10]	10	21.1%	25.6%	28.5%
>10	20	37.7%	44.6%	48.8%

Source: IMF staff calculations.

90. Haircuts should be calibrated at a relatively low frequency—such as every two years, as currently envisioned in the CBS guidelines—to avoid introducing procyclical liquidity conditions. As shown in formula (3), Annex VI, calibrating haircuts during periods of low market volatility tends to produce lower haircuts, while heightened volatility leads to higher haircuts, even under a constant level of risk appetite. This dynamic could result in the CBS's unintentionally amplifying liquidity cycles. In addition to mitigating procyclicality, infrequent calibration supports better expectations management among counterparties regarding access to central bank liquidity. To strengthen policy predictability, the CBS should adhere to a haircut revision calendar as closely as possible, conducting reviews only at pre-announced dates (e.g., one month in advance) or under exceptional circumstances (like a system-wide crisis).

91. During the hands-on session, the mission introduced CBS staff to haircut calibration models for nonmarketable assets, which are likely to be required for ELA operations. The model presented primarily captures credit risk and can serve as a short-term workaround. To implement a more granular approach, haircuts reflecting other risk dimensions can be calibrated using standalone methodologies and then aggregated into a single figure. This process may require greater reliance on expert judgment, supplemented by international comparisons, to calibrate each risk component. Comparing standalone risks across asset classes will help inform appropriate haircut levels and support risk equivalence. For market risk, haircuts can be determined by ranking assets according to their volatility, with higher haircuts applied to more volatile instruments. This approach can be extended to other risk categories in a consistent manner.²³

92. The CBS should assess methodologies for calibrating concentration limits and overcollateralization. Concentration limits are typically employed to manage exposure to specific asset classes—such as issuers, sectors, or asset types—and help mitigate risk through collateral pool diversification. Overcollateralization should not only serve to protect the central bank's balance sheet, as currently envisioned, but also address counterparty-specific risks in the context of ELA. Furthermore, the CBS could use overcollateralization as a policy tool to incentivize compliance with ELA conditionality. Establishing clear methodologies for both concentration limits and overcollateralization would enhance the robustness of the CBS's collateral framework.

²³ The maturity add-ons could be based on the haircuts differential across maturity buckets derived from government bond haircuts (e.g., for loans, increase haircuts by 5 percent from maturity buckets 1-3 to 3-5 under a risk appetite of 1 percent).

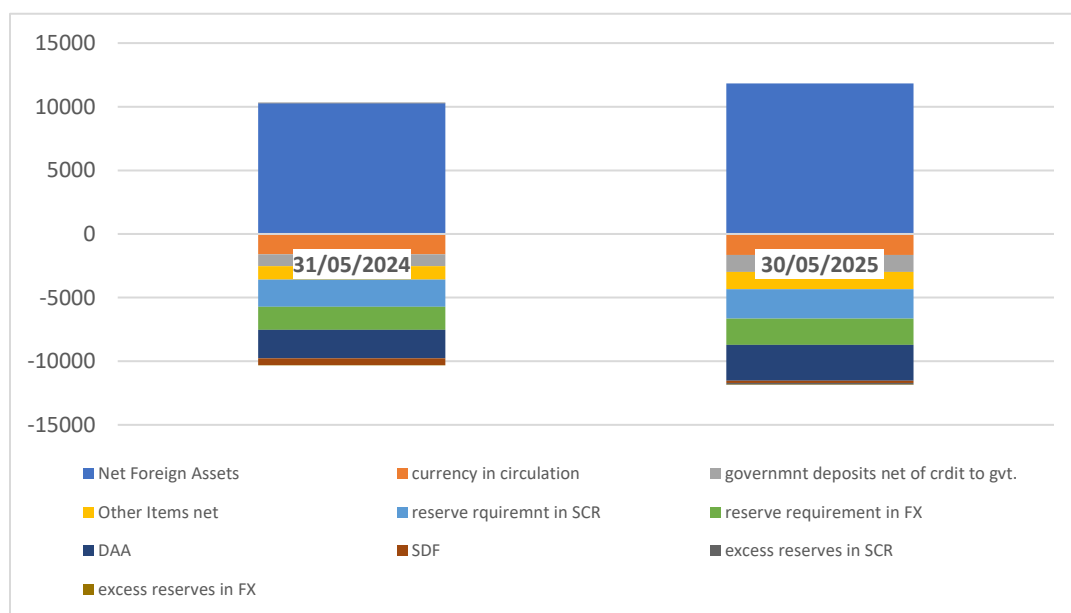
IV. Future Technical Assistance Needs

- 93. The implementation of the ELA framework will require several months of effort from multiple divisions and units within the CBS.** The CBS has demonstrated its strong commitment through active participation in mission workshops over several days, involving representatives from all relevant divisions. This commitment was further evidenced by the CBS's deep engagement in discussions and the seriousness with which it participated in the simulation exercise. It is further underpinned by its track record in the implementation of past missions' recommendations.
- 94. Brief follow-up assistance may be contemplated to sign off on the framework before its endorsement by the CBS decision-making body.** With the guidance provided throughout the mission, via the TA report, and with the templates shared, it is expected that CBS teams will be able to effectively pursue the development effort necessary to implement the framework. The mission offered its willingness to assist them, to address any questions they have during the process, and to desk-review any documents drafted by the CBS's teams. Follow-up TA might aim to ensure that the framework, including the collateral policy (specifically, haircut calibration for credit claims) and forward-looking solvency assessment, will be developed in line with the guidance provided and to address any open issue or point of internal controversy the CBS has before adopting it. TA from financial stability may be requested to develop the framework to conduct a robust forward-looking solvency assessment, if needed.

Annex I. Additional Details on the CBS Operational Framework

1. **Banks' structural excess liquidity is driven by CBS Net Foreign Assets and their changes over time.** This is evidenced by Figure A1.1.

Figure A1.1. CBS Balance Sheet Composition at the End of May 2024 and End of May 2025



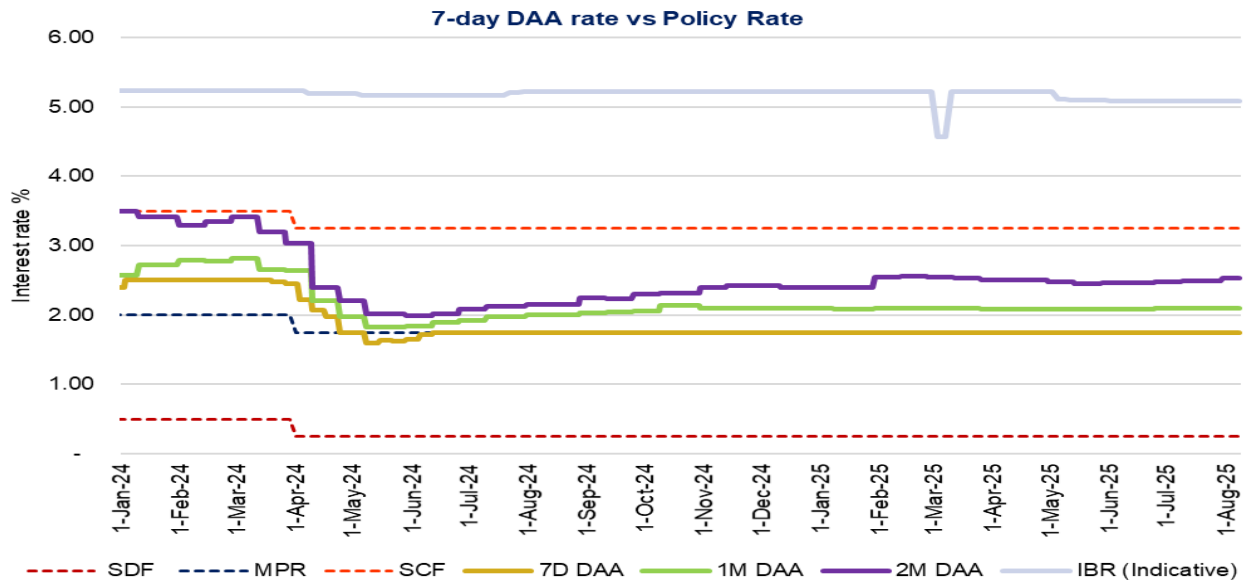
Source: CBS and IMF staff calculations.

Note: Figures in million SCR. Structural excess liquidity is equal to the amount absorbed via the DAA plus the standing deposit facility and excess reserves; actual excess after the conduct liquidity absorbing operation is equal to the standing deposit facility and excess reserves.

2. **Despite the CBS's state-of-the-art corridor system, it fails to anchor short-term interbank rates toward the middle of the corridor (Figure A1.2).** There is de facto no interbank market; the indicative interbank rate (IBR) is a few percentage points above the SCF rate. Banks with excess reserves prefer accessing the SDF rather than lending short-term to other banks in the interbank market. This is the case despite the banking system in Seychelles being solid, well capitalized, and with healthy prudential ratios.
3. **Several factors contribute to this attitude.** Borrowing in the interbank market is erroneously interpreted as evidence of financial strains so that lenders deem it justifiable to apply a penalty interest rate or for competitive reasons "do not want to help a struggling rival." Lending is uncollateralized or takes place via pledges in which the borrower retains asset ownership. Two of the seven banks operating in Seychelles are branches of foreign banks. Their liquidity management is centralized and they have little operational autonomy. In the view of the mission, however, the main reason may be cost efficiency. Developing and maintaining money market capacity entails fixed and running costs: trading platforms need to be procured and maintained; credit lines need to be established based on a credit assessment; staff at the front office and back

office level needs to be trained; and trading desks need to be staffed. Potential returns from money market transactions are not considered high enough to jolt the status quo based on passive liquidity management, use of CBS operations, and liquidity buffers to cope with liquidity shocks.

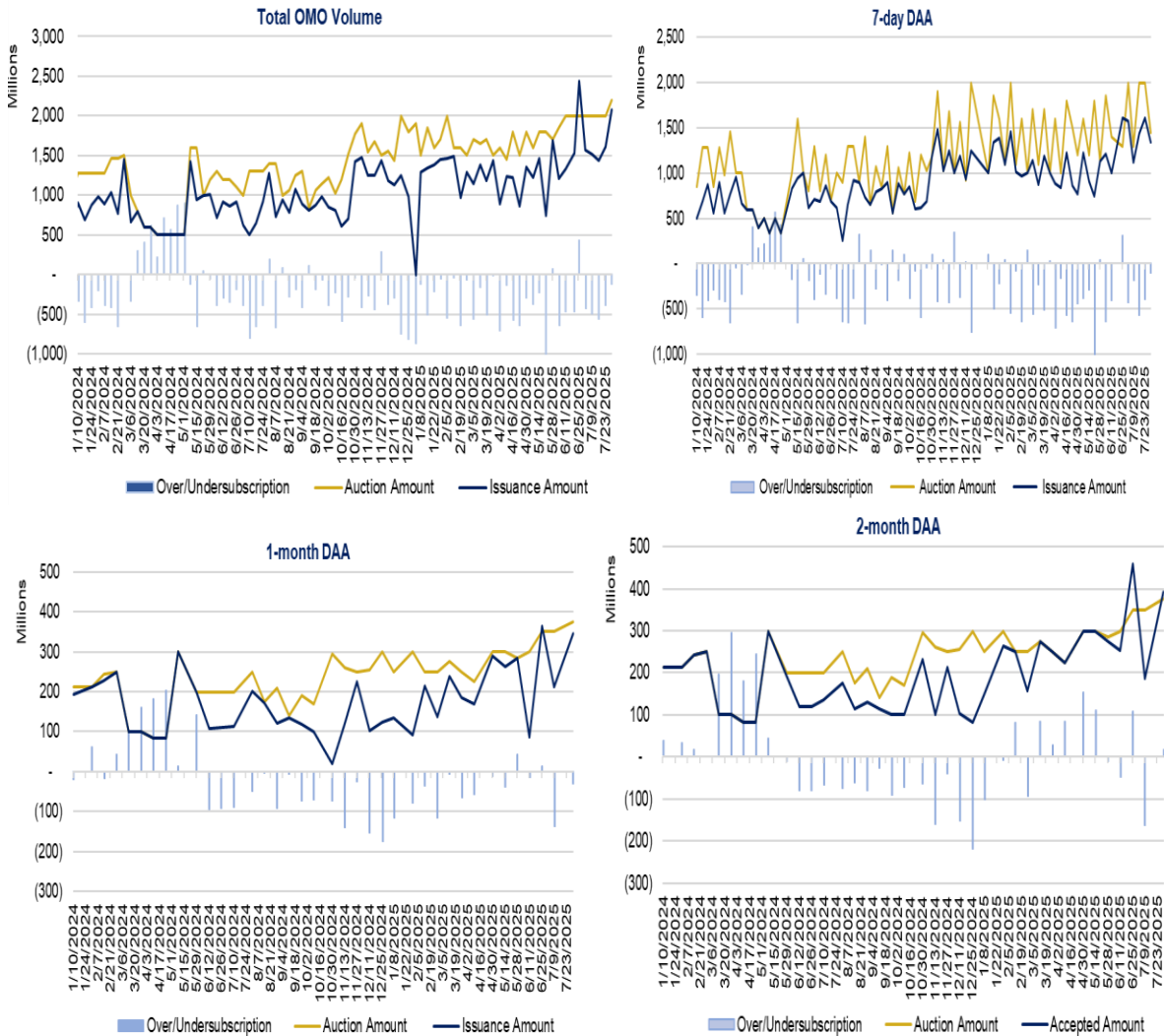
Figure A1.2. Selected CBS Interest Rates and Indicative Interbank Rates



Source: CBS.

4. Figure A1.3 provides details of banks' bidding at CBS Open Market Operations (OMOs).

Figure A1.3. Bidding at CBS OMOs from the Beginning of 2024



Source: CBS.

Note: Figures in million SCR.

- The CBS also has several additional, seldom-used instruments in its toolbox.** They include repo and reverse repo to respectively inject and withdraw term liquidity from the banking system against the pledge of eligible collateral; FX swaps; and the outright purchase or sale of securities. The CBS can also conduct FX purchases and sales. Recently, the CBS has been conducting FX purchases for reserve adequacy purposes. They are conducted via auctions for predefined amounts so that their impact on liquidity conditions is predictable. The auctions are not pre-announced and do not follow any calendar. The FX purchases and the overall increase in net foreign assets (NFA) have been the main drivers of the recent increase in excess liquidity.¹

¹ The mission understands that CBS NFA have also been bolstered by the government's increased borrowing in foreign currency. Proceeds from foreign currency borrowing are sold to the CBS for SCR.

Annex II. Public Elements of Emergency Liquidity Assistance (ELA) Frameworks

ELA frameworks should comprise public elements defining the main rules and conditions for ELA (typically published in the form of an ELA regulation/guideline/policy) and be complemented by confidential internal ELA procedures, covering organizational and confidential aspects of the framework.

This document describes **general guidance for the public elements of ELA frameworks**,¹ based on recognized international best practices. It should be seen as a checklist for the public elements of a central bank ELA framework.

The document does not provide drafting recommendations for laws or regulations. The proposed general guidance is not recommended from a legal point of view. Differences in ELA frameworks across countries may be justified by differences in national legal frameworks.²

¹ Confidential internal ELA procedures are covered in Annex III.

² In the document, the text in square brackets indicates how or why the suggested guidance may differ depending on the jurisdiction in the context of an ELA framework.

I. GENERAL PROVISIONS

1. Definition

ELA is the provision by the central bank³ of short-term liquidity support as the last resort to a solvent, viable counterparty facing temporary liquidity needs, to preserve financial stability.

2. Counterparty Eligibility

Counterparties eligible for ELA are, typically, banks: (i) with current accounts at the central bank; (ii) subject to reserve requirements (where applicable); and (iii) supervised by the central bank or a supervisory agency.

[May be extended to nonbank financial institutions (NBFIs) meeting certain operational requirements (e.g., capacity to receive liquidity from the central bank and provide collateral) and supervised by the central bank or a supervisory agency. The Law may explicitly identify the eligible categories of NBFIs.

Brief discussion on ELA for NBFIs

NBFIs are important players in the financial sector in certain jurisdictions and, faced with temporary liquidity stress, may impact the stability of the financial system. Therefore, in such jurisdictions, the possibility of providing ELA to NBFIs, as a measure of financial stability, may be envisaged.

However, it is essential to emphasize that all ELA potential recipients need to be adequately regulated and supervised, i.e., they should be subject to sound prudential and supervisory regimes to avoid regulatory arbitrage, ensure a level playing field, and mitigate the central bank's operational, financial, and reputational risks. As such, the possibility of extending ELA to NBFIs and restricting ELA to banks should be reconsidered if (i) NBFIs are not adequately regulated or supervised (or if the regulatory and supervisory standards for NBFIs deviate significantly from those applied to banks); and/or (ii) NBFIs have no operational capacity to receive liquidity from the central bank or

³In some jurisdictions, this function could also be provided by a public institution other than the central bank, in accordance with the legal framework. The definition of "central bank" also covers these institutions for the purpose of this document.

mobilize collateral (for instance, if NBFIs have no access to accounts at the central bank or the central bank's payment systems).

II. GENERAL CONDITIONS

3. Central Bank Discretion

ELA is a discretionary measure by the central bank, which may decide to provide ELA to an eligible counterparty requesting it if this is necessary to fulfill its financial stability mandate.

Brief discussion on the conditions for ELA and central bank discretion

There is no “entitlement” to ELA for any counterparty, and ELA is not a facility. The central bank has the discretion to provide ELA or not, based on the rules and conditions it has defined and on its technical assessment of the request.

ELA should only be provided as a last resort, to solvent and viable counterparties, for financial stability reasons (paragraphs 4 to 7).

Furthermore, ELA should always be collateralized and provided under conditionality (paragraphs 8 and 9).

4. Last Resort

ELA may only be provided by the central bank in a last resort-situation, i.e., after full exhaustion of all alternative sources of short-term funding (including, but not limited to, money market, intragroup funding, central bank monetary policy refinancing instruments). The counterparty requesting ELA should provide evidence that it has exhausted all alternative funding sources.

5. Systemic Risk Assessment

Because the objective of ELA is financial stability, the central bank assesses the risks for the stability of the financial system of a rejection of the ELA request. This covers an assessment of the systemic nature of the counterparty and of potential contagion risks.

Brief discussion on systemic risk assessment

In most jurisdictions, ELA should not be restricted to counterparties designated as systemic ex ante. In fact, even middle- or smaller-size counterparties can present a systemic risk to the financial system, namely, for their relevance in certain segments of the market or regions, and through contagion risks. The assessment in the context of ELA thus consists of evaluating whether the applying financial institutions might be systemic in failure.

Possible elements in the assessment of systemic risk typically include:

a) Evaluation of the counterparty's systemic character on the basis of (i) its size/market share (retail/corporate deposits, loans); (ii) its connections with other domestic counterparties and other financial institutions; (iii) its role in financing the government and certain economic sectors; (iv) provision of critical financial functions; and (v) regional or industry-specific relevance.

b) Evaluation of the risk of contagion: for example, is there a flight of deposits from other local banks [financial institutions]?

6. Solvency

The central bank must be satisfied that the counterparty requesting ELA is solvent.

For the purpose of ELA, the approach to solvency should be forward looking. A typical definition of solvency for ELA is that a counterparty is deemed solvent if it has a credible prospect to maintain or restore capital adequacy (i.e., above prudential minima) within, e.g., six months.

Brief discussion on a forward-looking definition of solvency

ELA is not a solvency support measure. A central bank should not provide credit to an insolvent counterparty. This would constitute a significant financial risk for the central bank, which can impact its capital position and financial autonomy and, ultimately, its capacity and credibility to set monetary policy and ensure financial stability.

For ELA, the definition of solvency should be forward looking. A forward-looking definition of solvency, instead of a point-in-time definition, allows the central bank to extend ELA to fundamentally solvent financial institutions that may be temporarily below their capital adequacy requirement, thus contributing to the central bank's financial stability function. Based on that definition, if a counterparty temporarily does not comply with the prudential capital requirements but has a credible prospect of restoring capital ratios above regulatory minima in the near future, the counterparty should be considered forward-looking solvent and could have access to ELA if needed.

7. Viability

The central bank must be satisfied that the counterparty requesting ELA is viable.

For the purpose of ELA, a counterparty is considered viable if it is sufficiently profitable over the long term and/or can operate as a going concern without a need for recurring recapitalizations. [Other definitions of viability are possible.]

Brief discussion on viability and its interaction with forward-looking solvency

A counterparty with a positive solvency assessment may not be viable in the near future, i.e., it may not have prospects of being operationally profitable in the medium term (thereby leading to a need for repeated recapitalizations). Therefore, viability is linked to a counterparty's profitability over the long term (over a full economic cycle, e.g.).

The unviability of a counterparty may occur for a variety of reasons, e.g., as a result of an unprofitable business model, a lack of competitive advantages, or serious governance issues. In those instances, although the counterparty may comply with the point-in-time definition of solvency, the lack of viability means that such counterparty will likely be insolvent in the long run without recurring recapitalizations.

While a viability requirement is admittedly less critical, and more subjective, than the solvency requirement in the context of ELA, adding a viability criterion to its ELA regulation allows for the option to reject ELA requests from structurally loss-making counterparties, or to ask the counterparty for fundamental changes to restore normal profitability, as a condition for ELA.

8. Collateralization

The central bank must be adequately protected against the financial risks arising from the provision of ELA; therefore, ELA must be fully collateralized (as assessed by the central bank).

[More details are specified in Section IV, Collateral.]

9. Conditionality

The counterparty must present a credible action plan outlining the remedial measures aimed at restoring a sound liquidity position [within X months (this may vary across countries depending on the existence of a legal time limit on ELA—see paragraph 12)].

The action plan may include measures aimed at restoring/reinforcing capital adequacy in case of existing or potential undercapitalization, as assessed by the central bank.

[More details are specified in dedicated Section V, Conditionality.]

III. ELA PARAMETERS

10. Currency

The central bank:

- Only provides ELA in domestic currency.
- [May also provide, in exceptional circumstances, ELA in foreign currency.]

Brief discussion on ELA in foreign currencies

This varies across countries, e.g., depending on the level of dollarization of the banking system, the functioning of the FX swap market, and the availability of sufficient foreign reserves and/or external funding lines. In fully dollarization economies, ELA in foreign currency is often the only option.

11. Maturity

The central bank approves an ELA envelope for up to two weeks [one month could be considered for central banks with limited technical capacity].

Within that envelope, the ELA is provided on an overnight basis (i.e., a maturity of one day, automatically renewed up to two weeks), and the volume is adjusted daily (or weekly) according to the counterparty's liquidity needs. The ELA envelope is recalibrated every two weeks and can be rolled over until the ELA is fully repaid or the time limit for ELA (if any) is reached.

12. Time Limit

The time limit for ELA could be enforced by law or by central bank regulations. The time limit for ELA is X months, with the possibility of an extension for an additional X months, but only with reinforced safeguards (e.g., a government guarantee).

[Ultimate calibration of the time limit should be set according to the Law. Ideally, X should be six months, but this varies across countries, depending on whether the Law sets a

time limit on ELA, and on the form of the time limit. Understandably, the central bank could also choose not to set a time limit in its regulations, especially if the Law is silent on the point.] However, a time limit should be operationally enforced in the funding plan (see paragraph 31) to ensure timely repayment of the ELA by the counterparty.

Brief discussion on an ELA time limit

The existence of a time limit on the provision of ELA is a balancing act between the necessary flexibility for the central bank to address severe liquidity crises (such as systemic liquidity crises or a serious idiosyncratic liquidity stress affecting a systemic counterparty) and the necessary checks and balances in order to avoid a misuse of ELA (e.g., the undue provision of ELA to a counterparty that turns insolvent, without any prospect for full repayment).

Therefore, a time limit has pros—aligning incentives and reducing the risk of unlimited liquidity support burdening the central bank’s balance sheet—and cons—reduction of central bank leeway in systemic crises.

13. Volume

The ELA envelope granted by the central bank is calibrated by a forecast of the counterparty’s liquidity needs over the approved period (typically two weeks). The counterparty requesting ELA provides a forecast of its liquidity need (based on a template developed by the central bank), which is verified and adjusted as needed by the central bank.

14. Interest Rate

The ELA interest rate should be set at a spread above the marginal lending facility rate [or above the highest rate of instruments used to implement monetary policy].

Brief discussion on the ELA interest rate

The ELA interest rate should be set at a sufficiently high level to ensure that ELA is requested only as a last resort and repaid as soon as possible, while not jeopardizing the counterparty’s solvency in case of a prolonged need for ELA. Typically, a premium of 100–300 basis points over the marginal lending facility rate should be appropriate for most countries.

The ELA interest rate should be below the penalty rate for violation of reserve requirements, where applicable. Before breaching reserve requirements, a counterparty should be incentivized to recourse to ELA.

The ELA interest rate should be defined in the public ELA regulation/policy and should be uniform across counterparties.

IV. COLLATERAL

15. Central Bank Discretion in the Selection of Collateral

The central bank determines the minimum value of collateral needed to secure ELA as well as the assets to be mobilized by the counterparty receiving ELA.

The counterparty requesting ELA must provide an up-to-date list of its unencumbered eligible assets for possible use as ELA collateral. The assets proposed as ELA collateral by the counterparties must be unencumbered and free of any liens.

16. Eligible Assets

The central bank can define a list of eligible asset classes that can be used as ELA collateral. Such a list supports counterparties preparedness for ELA and central bank accountability.

Eligible asset classes should include most or all transferable assets (unless explicitly prohibited by law), including but not limited to:

- Securities (domestic and foreign, bonds, shares, asset-backed, etc.).
- Credit claims.
- Real estate and movable property subject to registration (and without any liens).
- Gold and other precious metals.
- [Foreign currencies.] (This varies across countries.)
- [Movables that are not subject to registration can also be taken as collateral depending on their value, marketability, and provenance, such as paintings.]

For exposition purposes, an alternative to explicitly listing eligible assets is to consider that all transferable and unencumbered assets—subject to additional legal requirements that may vary across jurisdiction—can be mobilized as ELA collateral as required by the central bank, provided that appropriate risk control measures are applied.

Brief discussion on eligible assets

Possible/recommended exclusions from the list of eligible assets include (i) nonperforming loans; (ii) loans to related parties; and (iii) recently provided loans (even if they could be admitted with a 100 percent haircut).

17. Conditions for Asset Use as ELA Collateral

The assets used as ELA collateral must be:

- The property of the counterparty requesting ELA.
- Unencumbered, free of any liens, and preserved in procedures of forced execution.
- Legally transferable/earmarked for the benefit of the central bank.
- Denominated in local currency or major international currencies (not relevant for non-financial collateral, e.g., real estate).

18. Conditions for Credit Claim Use as ELA Collateral

[Conditions for the eligibility of credit claims may vary across countries, depending on the legal framework. Nonetheless, some elements of the collateral policy related to their mobilization requirements could be publicly disclosed.]

Conditions on credit claims may be related to (i) the credit claim categories (those with irregular tenors, such as overdraft credits, letters of credit, or undrawn credit lines, should be excluded); (ii) the prudential classification of the credit claim; (iii) the currency of denomination of the credit claim; (iv) the type of debtors and guarantors; or (v) the absence of any encumbrance by another pledge and any dispute.

Concentration limits on a single debtor/guarantor or economic sector could be mentioned in the ELA regulation or kept confidential in internal ELA procedures.

19. Financial Collateral Arrangement

The establishment of collateral for ELA must be formalized through a legally binding collateral arrangement.

20. Identification of the Assets Mobilized as Collateral

To mobilize the collateral, the requesting counterparty should share with the central bank a list and the identification elements of the eligible assets available for use as collateral.

[Procedures for identifying mobilized collateral may vary across countries depending on the legal framework.]

21. Mobilization of Securities through a Pledge or Repurchase Agreement

Collateral in the form of securities may be established (i) through a repurchase agreement between the counterparty receiving ELA (as cash borrower) and the central bank (as cash lender); or (ii) through their registration in the relevant accounts, according to the rules of the central securities depositories, coordinated with the central bank, without the transfer of ownership over them (pledge).

[Ideally, the two mobilization approaches should be available at the central bank. However, in some jurisdictions, the central bank might only use one due to legal restrictions.]

Brief clarification

A repurchase agreement involves a legal transfer of ownership of the asset to the lender, whereas in a pledge, there is no legal transfer of ownership of the asset to the lender at the time of lending: the asset remains owned by the borrower, on a blocked account.

22. Mobilization of Collateral in the Form of Money

Collateral in the form of money, including balances in current accounts, deposit accounts, and other accounts at the central bank, shall be established by the central bank through acquiring control over the account, from the moment the financial collateral arrangement is in force.

[The mobilization approach might depend on the country's legal framework. However, the bottom line is that the mobilization requirement should ensure the legal transfer of account ownership to the central bank in case of counterparty default.]

23. Mobilization of Credit Claims as Collateral

First step: provision by the counterparty of scanned copies of credit agreements, pledge agreements, and documents confirming collaterals.

Second step: notification by the central bank of the credit claims to be mobilized as collateral.

Third step: provision by the counterparty of the original credit agreements, pledge agreements, and documents confirming collaterals.

Some contracts for credit claims may include provisions requiring explicit consent from the obligor(s) before mobilization as collateral. In these cases, the central bank should implement additional safeguards to ensure confidentiality is maintained during ongoing ELA operations.

[These steps could vary depending on the jurisdiction and the type of contracts involved, as the mobilization of credit claims may necessitate additional due diligence and legal checks.]

Possible additional aspects regarding credit claims

Notification by the counterparty to the central bank of Changes in the Credit Claims Mobilized as Collateral: This varies across countries depending on the legal framework and the type of credit claim contract.

Replacement of Credit Claims in the ELA Collateral Pool: This varies across countries depending on the legal framework.

24. Adjustment of the ELA Collateral Pool

At any time during the provision of ELA, the central bank may require the counterparty to replace assets used as collateral and/or provide additional eligible assets as collateral, as a result of an increased ELA need, a change in the risk profile of the assets used as collateral, the end of tenor of the collateralized assets, or the application of risk management measures.

25. Onsite and Offsite Inspections

The central bank may conduct onsite and offsite inspections to verify the accuracy and completeness of the information provided by the counterparty receiving ELA, including on the assets provided as ELA collateral.

26. Collateral Valuation

The collateral valuation rules depend on the asset type and are defined by the central bank.

Additional information on collateral valuation

Clear rules on the valuation of assets should be predefined, possibly in internal central bank procedures: (i) use market prices (if available); (ii) consider indicative quotes (available on Bloomberg or Refinitiv); (iii) rely on theoretical valuation based on market parameters (e.g., mathematical asset valuation models, for instance for real estate and derivatives); and (iv) consider nominal outstanding value (namely in the case of credit claims).

27. Risk Control Measures

To protect the central bank from financial losses if collateral must be liquidated due to the counterparty's default, risk control measures should be implemented in the form of:

- Haircuts on the nominal or market value of the assets, reflecting the risks and time to liquidation on each asset.
- Concentration limits, to ensure sufficient diversification of the ELA collateral pool.
- Margin calls, which ensure the continued sufficiency of collateral while asset values change over time.

The value of the ELA collateral pool after application of those risk measures must always be at least 100 percent of the value of the ELA (including accrued interest) provided by the central bank.

Based on the ongoing assessment of the adequacy of the risk control measures, the central bank may adjust them and, when justified, require reinforcement of the collateral, its replacement, and/or the application of overcollateralization.

28. Regular Reporting of Assets Eligible as ELA Collateral

To obtain information on assets that may be used as ELA collateral, the central bank may request, at least annually, that all ELA-eligible counterparties submit data on assets meeting the eligibility criteria, in a format specified by the central bank.

This data should include, among other details, the credit quality of eligible assets—such as internal and external ratings, delinquency history, and, where available, probability of default and loss given default.

V. CONDITIONALITY

29. ELA Agreement

The provision of ELA is subject to the signature of an ELA agreement between the central bank and the counterparty receiving ELA, that defines the terms, conditions, and obligations of the parties.

The ELA agreement should also define additional information reporting requirements and corrective measures to be adopted by the counterparty receiving ELA.

Additional information on an ELA agreement

In some jurisdictions, both a counterparty agreement and a collateral agreement (i.e., two different legal instruments/contracts) may be needed, while in some others, an ELA agreement including collateral may suffice.

To reinforce ELA preparedness, central banks could develop and share with the counterparties an ELA agreement template during calm times to increase their readiness at times of stress. In case of ELA activation, the ELA agreement template could be quickly adjusted depending on the counterparty's specific challenges.

30. Corrective Measures

The provision of ELA, as well as its eventual renewal, is conditioned on the counterparty's compliance with a program of measures/actions agreed with the central bank. Those measures may include, not are not limited to:

- A suspension of dividends distribution and share buybacks.
- A suspension of salary increases and bonuses for the counterparty's management.
- A suspension or prior approval procedure for new large investments.
- Measures to limit the provision of new loans (e.g., through limits, prior notification, or prior approval procedures).
- Sale of noncore assets.
- Measures to stabilize deposits and restore market access.
- Measures to strengthen capital adequacy (e.g., recapitalization).
- An obligation to conduct asset quality reviews and external audits at the request of the central bank, at the counterparties' own cost, and to share their results with the central bank.

31. Funding Plan

The counterparty receiving ELA must, within a maximum period of two weeks after the initial provision of ELA, provide a detailed funding plan, which must be updated [monthly/quarterly] during the period of ELA. The funding plan must be drawn up according to the template and procedures defined by the central bank and properly reflect the action plan mentioned under paragraph 30, "Corrective Measures."

The funding plan reflects the measures planned by the counterparty to restore its liquidity situation. The funding plan is presented by the counterparty's management to the central bank. The central bank assesses the adequacy of the funding plan and may require adjustments by the counterparty.

Additional information on an ELA funding plan

To reinforce ELA preparedness, central banks could develop and share with the counterparties an ELA funding plan template during calm times to increase their readiness in times of stress. In case of ELA activation, the template could be quickly adjusted depending on the counterparty's specific challenges.

32. Liquidity Monitoring

A counterparty under ELA should be required to report its liquidity position, including the details on inflows and outflows, to the central bank daily.

VI. PROCESS AND GOVERNANCE

33. Request for ELA

The counterparty should submit its ELA request in writing using the form prescribed by the central bank, addressed to the Governor and copied to the Deputy Governor/Director General for Market Operations (or equivalent) and the division responsible for ELA.

34. Required Information Supporting the ELA Request

In its ELA request, the counterparty should provide an estimation of its ELA needs for the next two weeks (based on the funding plan template provided by the central bank) and a comprehensive, up-to-date table of its assets available as ELA collateral (based on a reporting template provided by the central bank).

35. Decision-Making Process

The central bank's board [alternatively, an executive board/committee of the central bank] decides to accept or reject the ELA request based on the technical assessment prepared by the central bank staff.

Brief discussion on decision-making/governance

The decision-making process should be of a collegial nature (either by consensus or majority) and ensure the speed, confidentiality, and efficiency of ELA decisions, as well as the central role of the Governor.

36. Notification of the Decision

The central bank shall notify the requesting counterparty of its decision—whether approval or rejection—on the ELA request.

37. Extension and Recalibration of ELA

If the counterparty continues to require ELA, it must submit a new request at least three working days before the expiration of the current ELA envelope. This request should be supported by an estimate of its ELA needs, based on the liquidity forecast template provided by the central bank.

VII. GOVERNMENT GUARANTEES

38. Government Guarantees

In case of (i) concerns about the counterparty's solvency; (ii) concerns about the counterparty's collateral; or (iii) concerns about the exit from an ongoing resolution, ELA may only be provided under a government guarantee, which should be provided in writing.

Additional information on government guarantees

A sound ELA framework must be effective also in critical situations in which financial stability is at extreme risk, e.g., when a severe liquidity shock affects one or several systemic counterparties, possibly affected also by temporary undercapitalization. ELA should be extended where necessary, to preserve financial stability, only with a government guarantee (as a complement to, rather than a substitute for, collateral and of credible action to restore solvency, outside or within resolution) in the three situations mentioned in paragraph 38. As is the general rule for ELA, discretion applies. All three typical cases that would necessitate a government guarantee require a case-by-case assessment by the central bank and the agreement by the government.

39. Coordination with the Treasury Function

At the initiation of an ELA operation, the central bank should coordinate with the government's Treasury function, particularly when (i) the operation may require a government guarantee; and/or (ii) the counterparty requesting ELA is systemic. This coordination is especially important given that, in most jurisdictions, the Treasury function is also responsible for financial stability.

Additional information on the relations with the government and the Treasury function:

The central bank should establish a Memorandum of Understanding (MoU) with the Treasury function defining information exchanges, safeguards, and the conditions requiring a government guarantee in certain ELA situations. The central bank should establish and operationalize strict safeguards (strict assessment of solvency and viability, strict collateralization with conservative haircuts, strict conditionality) in its ELA framework to reassure the Treasury function that the central bank's ELA policies will significantly mitigate fiscal risks, i.e., the risk that the government guarantee might need to be activated. Throughout the process and procedures, the central bank's decisional and operational independence should be guaranteed.

In the ELA cases in which a government guarantee is needed (see paragraph 38), information exchanges by the central bank to the Treasury function should provide sufficient clarity on the counterparty's situation (in particular its solvency, viability, collateral, and compliance) for the Treasury function to make an informed decision concerning a possible government guarantee.

VIII. REPAYMENT, DISCONTINUATION, AND COLLATERAL ENFORCEMENT

40. Repayment of ELA and Release of Collateral

The counterparty repays the principal amount of ELA and the accrued interests upon maturity of the ELA loan, or before maturity in the case of prepayment. The pledge relief of the collateral is subject to the full repayment of ELA, including accrued interests and any applicable penalties.

41. Discontinuation of ELA

The central bank may, at any time, discontinue the provision of ELA and require its immediate repayment by the counterparty if it determines that the conditions for ELA are no longer met.

42. Collateral Enforcement

If the counterparty fails to repay the ELA (including accrued interests and any applicable penalties) upon maturity of the ELA or when repayment is demanded by the central bank, the central bank shall enforce the collateral to recover its outstanding ELA exposure. To avoid potential legal challenges, the central bank should exercise care in liquidating the collateral in order to preserve its reasonable value.

Annex III. Building Blocks for a Public ELA Regulation/Guideline/Policy and Confidential ELA Internal Procedures

Type of Information	ELA Policy/Regulation (public document)	ELA Internal Procedures (confidential document)
ELA description	Define ELA as lender-of-last-resort support for solvent and viable banks facing temporary liquidity stress.	Describe possible ways of providing ELA (collateralized loans and repos should be the preferred forms).
Eligible counterparties	Identify financial institutions that can access ELA, i.e., only banks (no access to nonbank financial institutions at this stage).	Mention that only banks can access ELA and that they should continue complying with their reserve requirements while under ELA (rare exceptions only in some cases of restructuring/resolution).
Solvency	Forward-looking definition of solvency: in the context of ELA, a bank is deemed solvent if it has a credible prospect to maintain or restore appropriate capital adequacy ratios in the near term.	More explicit definition: (i) “appropriate capital adequacy ratios” = above the prudential minima; (ii) “in the near term” = in the next 3/6 months. Prepare a template for solvency assessment by the Banking Supervision department: (i) latest capital adequacy ratios; (ii) recent developments; (iii) track record of noncompliance with prudential requirements; (iv) forward-looking information on asset quality and solvency; and (v) prospects (credible or not) for recapitalization and any other measures to restore appropriate solvency. Summary assessment by the supervisor (“traffic-light” approach to solvency).
Viability	Definition of viability: in the context of ELA, a bank is deemed viable if its business model is sustainable, i.e., if it can generate sufficient profitability to avoid a need for repeated recapitalizations.	Template for viability assessment by the Banking Supervision department: (i) description of the business model of the bank (retail vs. corporate customers, market shares, sector positioning); (ii) recent profitability history (past 5-10 years: net margin, RoE, RoTE, RoA); and (iii) track record of undercapitalization and recapitalizations. Summary assessment by the supervisor.

Financial stability perspective	Mention that risks to financial stability are considered when deciding on the provision of ELA.	Template for financial stability assessment by the Banking Supervision department (or future Financial Stability department): (i) systemic nature of the bank (based on size, interconnectedness, position in servicing key sectors of the national economy, etc.); and (ii) assessment of contagion risks in case of the nonprovision of ELA, considering the current environment.
Price	Establish a minimum price, which should be between 100 and 300 basis points above the highest monetary policy lending facility rate.	Recall why the ELA interest rate should not be differentiated across counterparties: (i) risk of controversies and legal challenges; and (ii) risk of public perception that a higher ELA rate (if it becomes public knowledge) may reflect a lack of confidence by the central bank in the beneficiary bank's soundness, undermining the financial stability objective of ELA.
Maturity	Define the maximum maturity: 2 weeks. At the maturity of an ELA loan, the central bank reassesses the need for further ELA and recalibrates the ELA envelope based on a short-term forecast on the bank's liquidity needs.	Recall why the maximum maturity of an ELA loan should not exceed 2 weeks: (i) need to carefully calibrate the ELA envelope, based on a short-term forecast of the banks' liquidity needs (a longer forecast period would translate into more risks for the central bank); and (ii) need to regularly reassess the bank's progress in remedial measures (thereby reducing moral hazard). Define a timeline for ELA loans rollover/recalibration: the ELA proposal (with revised ELA envelope) should be submitted to the Board of Directors, at the latest, 2 working days before its meeting.
Time limit	Mention that ELA should be given for a maximum duration of, for instance, 180 days, renewable once for another 180 days (this must be aligned with the central bank statute/act).	Up-to-date funding plans should be submitted and analyzed every 1 or 3 months.
Collateral	State that ELA must be collateralized based on the central bank's instructions. A list of the types of assets that may be used as ELA collateral may be mentioned (debt securities, credit claims, etc.).	Detail eligibility criteria for ELA collateral, and the priority order for mobilization: a priori, (i) central bank bills; (ii) government debt securities; (iii) private debt securities; (iv) other securities (equities); (v) gold; (vi) high-quality credit claims; (vii) lower-quality credit claims; and (viii) real estate (if legally possible).

	The bank requesting ELA must provide the central bank with a detailed, up-to-date list of its unencumbered assets. The central bank decides which assets will be mobilized as ELA collateral and instructs the bank accordingly. The central bank applies appropriate risk control measures, including haircuts, overcollateralization, and concentration limits, without detailing them (they should remain confidential).	Risk control framework: (i) haircut schedule and haircut add-ons for all eligible asset classes (based on credit risk and liquidity risk indicators, residual maturity, operational risks); (ii) concentration limits (e.g., by issuer/debtor, by economic sector of the debtors); (iii) significant haircut add-on (e.g., 50%) for loans to related parties; and (iv) overcollateralization (which may vary across counterparties, based on perceived risks, in particular the risk of noncompliance).
Conditionality	Before any ELA can be provided, the beneficiary bank must sign an ELA agreement. It is legally binding and engages the bank's highest authorities. Mention the common conditionality enshrined in the ELA agreement: i. More detailed and frequent reports to be submitted to the central bank ii. Report of the detailed list of assets (including encumbrance status), at the central bank's request iii. Suspension of dividends as long as ELA is provided • Possible restrictions (e.g., on significant new loans and investments, etc.) iv. Submission of a funding and capital plan v. Daily report of the liquidity situation	Annex the ELA master agreement to the internal ELA procedures. The ELA master agreement should include additional conditionality, such as: i. Asset quality reviews (at the request of the central bank and at the cost of the bank) ii. Prohibition of loans to related parties iii. Enhanced reporting obligations iv. Prior communication on asset sales v. Freeze on salaries (in particular for management) vi. Enhanced obligations on anti-money laundering

Funding plan	A bank under ELA will be required to submit a credible funding plan outlining the remedial actions it will take in the near term to return to a sound liquidity situation.	The funding and capital template with instructions should be included as an annex. Another annex could be added to provide guidelines for the assessment of funding plans, e.g., the analysis of endogenous vs. exogenous causes for deviations between realized vs. projected.
Decision making	Specify the decision-making process, for instance, by establishing that the decision regarding the provision of ELA is made by the central bank's board or the central bank's executive committee, based on a technical assessment prepared by central bank staff.	
Liquidity monitoring	A bank under ELA will be required to report its liquidity position, including the details on inflows and outflows, to the central bank daily.	A template with instructions should be included as an annex. Present a methodology to calibrate the ELA envelope based on the bank's liquidity needs forecast in the next 2 weeks. Key information includes (i) the pace of recent deposit outflows and (ii) the maturity profile of interbank borrowings/loans.
Internal organization	-	Establish a clear task allocation. Define the departmental composition of the central bank's ELA team: Banking Supervision, (Financial Stability), Monetary Policy and Credit (including Risk Management), and Legal departments. The ELA team should be coordinated by the Monetary Policy and Credit department. Define key deliverables and deadlines: (i) the Banking Supervision department should be able to provide a solvency and viability assessment of a bank within 24 hours (ideally less) of notification; (ii) the Legal and Banking Supervision departments should be able to provide a proposed ELA agreement (based on the ELA master agreement and tailored to the bank's specific challenges) within 24 hours (ideally less) of notification; and (iii) the Monetary Policy and Credit department should be able to calibrate the ELA envelope, define the list of ELA collateral for a bank,

		and, after applying the relevant risk control measures set by the Risk Management team of the Monetary Policy and Credit department, give the mobilization instructions to the bank, within 24 hours (ideally less) of notification.
Communication	-	Establish under what conditions the central bank may communicate on ELA under various scenarios and the type of information that can be disclosed. Clearly distinguish communication while an ELA operation is ongoing (which should be exceptional and limited to critical cases, e.g., resolution, widespread negative rumors, etc.) from ex-post communication.
Government role	Mention that in case of (i) ELA longer than 180 days; (ii) doubt about the bank's solvency; (iii) concern over the appropriate collateralization of ELA; or (iv) ongoing resolution process, the central bank will only consider providing ELA with a sufficient government guarantee.	Define a Memorandum of Understanding (MoU) between the central bank and the Ministry of Finance (MoF) and annex it to the internal procedures. The MoU should (i) define the information exchanges between the central bank and the MoF in cases of ELA (e.g., regarding the central bank's intentions to provide ELA or not, and the state's intentions to provide recapitalization or not); and (ii) the conditions in which the central bank will consider ELA only with a government guarantee.

Annex IV. ELA Transparency

Figure A4.1. ELA Transparency Code Applied to ELA

ELA Framework	ELA case, in real time	ELA case, after closure (e.g. Annual Report)	
ELA definition & key principles	ELA beneficiaries	ELA beneficiaries	
ELA conditions (solvency, systemic nature, temporary nature of liquidity stress)	ELA individual volumes	ELA individual volumes	Full transparency
	ELA aggregate volumes	ELA aggregate volumes	
ELA interest rate	ELA collateral pool	ELA collateral pool	Limited transparency
ELA collateral	ELA haircuts	ELA haircuts	Confidential / secret
ELA haircuts	ELA conditionality (specific conditions)	ELA conditionality (specific conditions)	
ELA conditionality (ELA Master Agreement)	ELA request assessments	ELA request assessments	
Funding plan template	Funding plans & assessments	Funding plans & assessments	
Liquidity monitoring template	Liquidity monitoring reports	Liquidity monitoring reports	

Source: IMF staff.

Annex V. Collateral Acceptance Ordering

1. **A granular classification of assets along desirable characteristics informs an acceptance order for all collateral.** This is only relevant for ELA, since monetary operations counterparties have the right to choose from any eligible collateral. Asset classes are rated (1 = most desirable, to 5 = least desirable) along nine characteristics, and a standalone rating aggregate provides an overall rating (last column). While rating with respect to qualitative characteristics (e.g., legal certainty, confidentiality of mobilization) would require expert judgment, rating along quantitative properties like volume, liquidity, or volatility could be more data based. Once the collateral classification exercise is complete, then the whole collateral framework can be depicted.

Table A5.1. Collateral Classification

Concepts	High quality (low credit risk/low volatility)	Liquidity	Observable/re liable market prices	Legal certainty/trans ferability	Low operational costs/operatio nal simplicity	Abundance in banking system	Volume	Discretion/co nfidentiality of mobilization	Low correlation with bank	Total
DAA	1	1	1	1	1	5	4	1	1	16
FX deposits abroad	3	2	2	3	2	3	2	3	4	24
Domestic FX deposits	3	1	2	1	1	2	3	2	4	19
FX bonds	4	4	4	2	2	5	5	2	2	30
Government securities	2	2	2	1	1	5	2	1	2	18
Government stocks	2	2	2	2	2	5	5	2	2	24
Overdrafts	3	2	3	3	3	3	3	2	3	25
FX overdrafts	3	2	3	3	3	2	5	3	4	28
Term loans	3	3	3	3	4	1	2	4	4	27
FX loans	3.5	4	4	3.5	3.5	2	2	4	4	30.5
Mortgages	3	3	4	5	4	2	3	4	4	32
FX mortgages	3	4	4.5	5	4	2	3	4	4	33.5
Loans and advances	3	3	3	3	4	3	3	3	3	28
Fixed assets	5	5	5	5	5	5	5	5	3	43
Intangible assets	4	4	5	4	5	5	5	5	3	40
Financial lease	4	5	5	4	5	5	5	5	5	43

Source: IMF mission.

Table A5.2. Collateral Eligibility and Preference

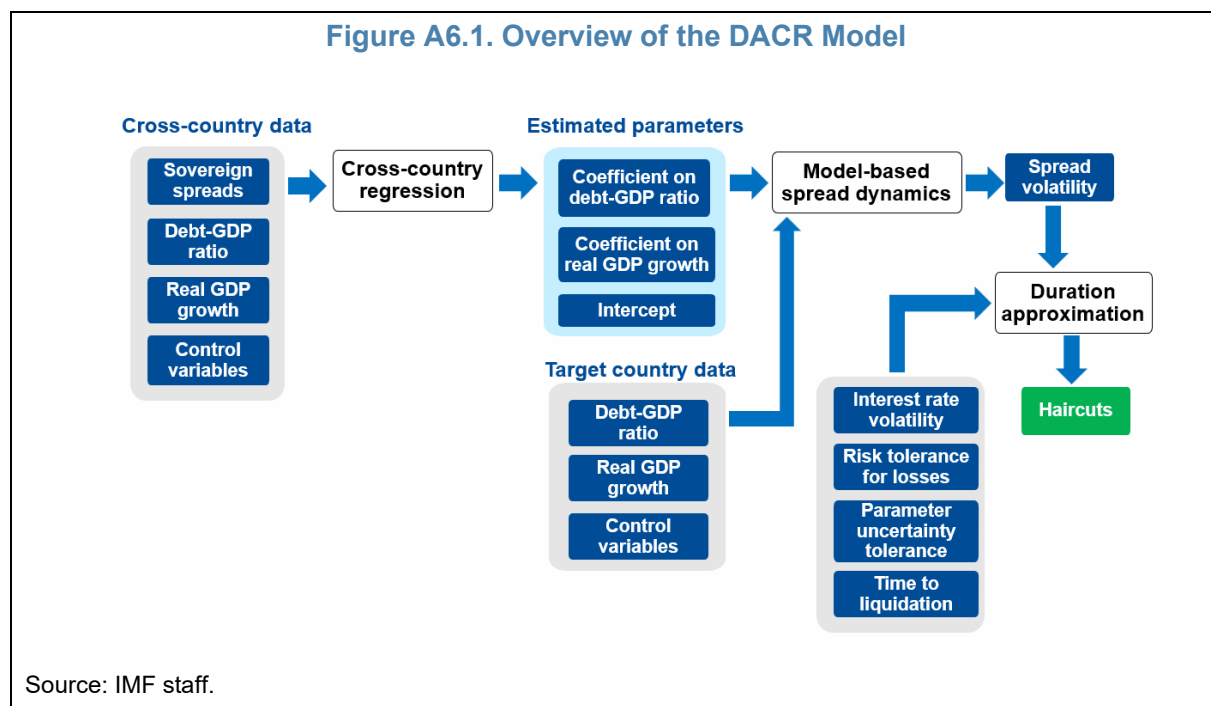
Collateral	Score	Operations
DAA	16	Monetary instruments (No preference order and transparency)
Government securities	18	
		 Financial stability instruments (With preference order and discretion)
Domestic FX deposits	19	
FX deposits abroad	24	
Government stocks	24	
Overdrafts	25	
Term loans	27	
FX overdrafts	28	
Loans and advances	28	
FX bonds	30	
FX loans	30.5	
Mortgages	32	
FX mortgages	33.5	
Intangible assets	40	
Financial lease	43	
Fixed assets	43	

Source: IMF mission.

Annex VI. DACR Model

1. In this appendix, the **Duration Approximation with Cross-country Regression (DACR) model is proposed for setting haircuts on government bonds with different maturities, given data limitation**. It consists of two components: the duration-based approximation and the cross-country regression model. The duration-based approximation is a standard approach for setting haircuts on bonds using historical data on bond prices. The cross-country regression model is needed when historical data on sovereign bond prices is not available to the model developer due to data limitations or a limited number of transactions executed in the secondary market.
2. There are two approaches to compute the value at risk (VaR) or expected shortfall (ES) for the government bond securities: **duration-based approximation and Monte Carlo simulation**. In both approaches, the goal is to estimate the tail of the distribution of the bond price to assess the potential losses. In the latter approach, the price of each specific bond is simulated. It is accurate but computationally costly and operationally intensive.
3. We propose the **DACR model for setting haircuts on government bonds with different maturities**.⁵ This section explains how the duration approximation formula produces haircuts. The next section describes the cross-country regression models. Figure A.1. provides an overview of the DACR model.

Figure A6.1. Overview of the DACR Model



4. There are two advantages of the duration-based approximation approach: **simplicity and modularity**. First, the formula is simple and thus easy to implement. Second, by using

⁵ A duration-based approximation formula is used for setting haircuts for bonds at the European Central Bank, as described in Alder et al. (2023).

this formula, each element can be analyzed and validated separately in a modular way. Note that the DACR model can produce haircut rates based on both VaR and ES.

5. **The duration-based approximation captures the losses from the bond price changes given a pre-estimated duration, as described below.** h_a is the haircut rate on the bond with duration T given the stress in bond yield $\Delta y_{\alpha,t}$.

$$h_a = T\Delta y_{\alpha,T} \quad (1)$$

6. **Computing the duration for the government bonds is not difficult.** The first method is to take numerical differentiation of the net present value (NPV) of the bond with respect to the interest rate or bond yield.⁶ The second method is to apply an analytical formula such as modified duration. The third method is to use the remaining maturity, which is conservative in the case of coupon bonds.⁷

$$T = -\frac{1}{P} \frac{dP}{dy} \quad (2)$$

7. **The stressed bond yield change is computed with four inputs: (i) risk-free rate volatility; (ii) spread volatility; (iii) time to liquidation; and (iv) the multiplier for converting volatility to VaR or ES.** The stressed bond yield change is computed using one of the two equations below (the stressed volatility with predetermined risk tolerance parameter α). Models for estimating stressed volatility are discussed in the next subsection. The time to liquidation is denoted with Δt . In the empirical application in the next section, we set the time to liquidation equal to 10 business days for liquid collateral and 20 business days (=one month) for illiquid collateral, following Basel III regulation ($\Delta t = 10$ or 20) but it can be longer if the securities of interest are even more illiquid. For analytical tractability, the normal distribution is employed.⁸ The multipliers for VaR and ES can be computed easily under the assumption of the normal distribution.
8. **The stressed bond yield change arises from the risk-free rate shock and spread shock.**⁹ In the equations below, σ_I^α is the risk-free interest rate volatility, which can be set equal to the historical volatility of policy rate under data-scarce environment. σ_S^α is the volatility of the sovereign spread, which is discussed in the subsequent subsection. The index α indicates that these two volatilities capture stressed environment. $\Phi^{-1}(\cdot)$ is the inverse function of the cumulative distribution function of the standard normal distribution. $\phi(\cdot)$ is the density function of the standard normal distribution.

⁶ For example, the duration is numerically computed as: $T = -\frac{1}{P} \frac{P(y+\delta y) - P(y-\delta y)}{\delta y}$

⁷ The duration for fixed coupon bonds is shorter than the remaining maturity when the principal is paid back.

⁸ It is possible to use a fat-tailed distribution such as Student t distribution, although the estimation becomes more difficult. As a robustness check, we estimated EGARCH with t distribution. The result shows that the estimated degree of the freedom is quite large, indicating that the EGARCH model with a normal distribution is acceptable.

⁹ We assume that $\Delta y_T = \sigma_I \epsilon_{I,t} + \sigma_S \epsilon_{S,t}$ where $\epsilon_{I,t}$ and $\epsilon_{S,t}$ are sampled from the bivariate standard normal distribution. The volatility of the yield is given by $Vol(\Delta y_T) = \sqrt{\sigma_I^2 + 2\rho_{IS}\sigma_I\sigma_S + \sigma_S^2}$. We assume the correlation equal to one for simplicity. Then we obtain $Vol(\Delta y_T) = \sigma_I + \sigma_S$.

$$\text{VaR: } \Delta y_{\alpha,T} = \Phi^{-1}(\alpha) \cdot (\sigma_I^\alpha + \sigma_S^\alpha) \cdot \sqrt{\Delta t} \quad (3)$$

$$\text{ES: } \Delta y_{\alpha,T} = \frac{\phi(\Phi^{-1}(\alpha))}{1-\alpha} \cdot (\sigma_I^\alpha + \sigma_S^\alpha) \cdot \sqrt{\Delta t} \quad (4)$$

- 9. Duration-based approximation is conservative in general.** The duration is the first order derivative of the bond price with respect to the interest rate. The second order derivative, called convexity, is typically positive except for specific types of bonds such as mortgage-backed securities, which are out of scope in this mission. Since the convexity is positive, taking the convexity into account leads to a less conservative estimate for haircuts. Therefore, duration-based approximation is reasonable.
- 10. It is a common practice among central banks (CBs) to set duration buckets by balancing two key criteria: operational efficiency and accuracy.** For operational efficiency, less granular buckets are preferred, as this simplifies management. However, for accuracy, more granular buckets are preferred to precisely match the risk of potential losses. Balancing these criteria helps central banks optimize their duration bucket setting effectively. Note that in terms of conservativeness, assigning a duration number equal to the upper bound of each duration bucket is better. For example, consider the maturity bucket from one year to two years. Assigning two years as the duration for this maturity bucket is more conservative than assigning one year.
- 11. We develop a cross-country regression model to construct hypothetical sovereign spreads for those countries where neither the sovereign credit rating nor the secondary market of sovereign bonds is available.**¹⁰ Specifically, we formulate the cross-country regression model where sovereign spreads is a linear function of macro variables. We estimate the coefficients on the macro variables using the data of those data-available countries. The estimated model allows us to construct sovereign with the macroeconomic variables that are available for those data-scarce countries.
- 12. In the cross-country regression models, key macroeconomic variables are the debt-to-GDP ratio and the real GDP growth.** Two specifications are considered. In the first specification, only the debt-to-GDP ratio and the real GDP growth are set as regressors, as in Equation (5). In the second specification, other macro variables are included as control variables, as in Equation (6). Note that $Debt_{i,t}$, $GDP_{i,t}$, and $Z_{i,t}$ are the debt-to-GDP ratio, the real GDP growth, and a vector of the control variables for the i -th country, respectively. $Z_{i,t}$ consists of trade openness, GDP per capita, FX depreciation, and CPI inflation ($Z_{i,t} = (Trade_{i,t}, PerGDP_{i,t}, FX_{i,t}, \pi_{i,t})'$). The economic intuition is that a higher debt-to-GDP ratio and more negative real GDP growth are associated with larger sovereign spreads ($\beta_{Debt,t} > 0$ and $\beta_{GDP,t} < 0$).

$$Spread_{i,t} = \alpha_{i,t} + \beta_{Debt,t} Debt_{i,t} + \beta_{GDP,t} GDP_{i,t} + \epsilon_{i,t} \quad (5)$$

¹⁰As discussed during the mission, comparable regression could be computed for the term spread to calibrate haircuts for government bonds of longer maturities.

$$Spread_{i,t} = \alpha_{i,t} + \beta_{Debt,t} Debt_{i,t} + \beta_{GDP,t} GDP_{i,t} + \beta_z Z_{i,t} + \epsilon_{i,t} \quad (6)$$

- 13. To ensure the stability of the key parameters, the five-year averages of the coefficients are used as the input of the haircut model.** This approach helps avoid instability and provides a more reliable basis for constructing the hypothetical spreads. The model's robustness is further enhanced by this averaging technique. It is noteworthy that taking the five-year average is chosen as a balanced approach to ensure the stability of the key parameters while allowing the estimated cross-country regression model to reflect the most recent global macroeconomic environment.
- 14. The adjustments for parameter uncertainty are also considered to be robust against the model risk of the cross-country regression model.** The cross-country model may be misspecified, and the parameter estimates could be inaccurate due to an insufficient number of countries or length of time in the data. This adjustment is crucial for maintaining the model's reliability.
- 15. The adjustment for parameter uncertainty makes the model-based sovereign spread changes more dynamically, resulting in a higher spread volatility.** Specifically, the coefficient on the debt-to-GDP ratio could be adjusted to become larger, while the coefficient on the real GDP growth could be adjusted to become more negative. The standard deviations of the key coefficients, σ_{Debt} for the debt-to-GDP ratio and σ_{GDP} for the real GDP growth, are used to account for the uncertainty that the coefficients may not be accurate. In Equations (7) and (8) below, $\overline{\beta_{Debt}}$ and $\overline{\beta_{GDP}}$ are the five-year average of the coefficients on the debt-to-GDP ratio and the real GDP growth. σ_{Debt} and σ_{GDP} are the standard deviations of the coefficients on the debt-to-GDP ratio and the real GDP growth, respectively.¹¹ θ is the risk tolerance for the parameter uncertainty. The coefficients on control variables could also be adjusted similarly to increase the spread volatility in a conservative manner.

$$\beta_{Debt}^{adj} = \overline{\beta_{Debt}} + \Phi^{-1}(\theta) \cdot \sigma_{Debt} \quad (7)$$

$$\beta_{GDP}^{adj} = \overline{\beta_{GDP}} - \Phi^{-1}(\theta) \cdot \sigma_{GDP} \quad (8)$$

- 16. The risk tolerance for the parameter uncertainty adjustment needs to be higher if the model is less frequently re-evaluated.** In general, the frequency of updating the haircuts depends on how much new data has been accumulated and the operational cost involved. However, additional consideration is needed for the cross-country regression model. As the model is less frequently re-evaluated, there is a higher parameter uncertainty, indicating that the risk tolerance parameter needs to be higher.¹²
- 17. The estimated cross-country regression model can produce the time series of hypothetical sovereign spreads for any country if the macro variables used as regressors are available.** Suppose that the first specification of the cross-regression model (Equation (5)) is established. In the equation below, $\bar{\alpha}$ is the five-year average of the intercept. β_{Debt}^{adj} and β_{GDP}^{adj} are explained above. Then, by inputting the time series of the debt-to-GDP

¹¹ These standard deviations are obtained as the outputs of the cross-country regression.

¹² For example, if θ is assumed to be $\theta = 1 - \frac{1}{1+N}$ where N means the model is updated once in N years, then annual revaluation ($N = 1$) leads to $\theta = 0.5$. If the frequency is 4 years ($N = 4$), then $\theta = 1 - 1/(1+4) = 0.8$.

ratio and the real GDP growth of the data-scarce country, the model-based sovereign spreads are produced.

$$Spread_{Seychelles,t} = \bar{\alpha} + \beta_{Debt}^{adj} Debt_{Seychelles,t} + \beta_{GDP}^{adj} GDP_{Seychelles,t} \quad (9)$$

18. **The model-based sovereign spreads need to be assessed and compared with other relevant indicators if available.** As explained above, several modeling assumptions are made for constructing the model-based sovereign spreads for those countries with a data-scarce environment. Therefore, the user needs to review whether the sovereign spreads are reasonable or not, based on the knowledge of the macroeconomy of the country.
19. **The five-year volatility of the spread changes is computed as a key input for the haircut model.** With the time series of the model-based spreads, we can easily compute the standard deviation of the spread changes over the past five years. It is noteworthy that the intercept $\bar{\alpha}$ does not impact the computation of the spread volatility, which is often highly sensitive to the model specification and thus difficult to rely on. Similarly to the coefficients of the cross-country model, the volatility is computed from the five-year model-based sovereign spreads as a balanced approach to ensure the stability of the key parameter while allowing the model-based sovereign spreads to reflect the most recent macroeconomic environment in the country.
20. **Key parameters that need to be decided by the authority are as follows:** (i) VaR percentile for the spread shock; (ii) VaR percentile for parameter uncertainty; (iii) spread volatility calculated as the five-year standard deviation of model-based sovereign spreads; (iv) risk-free interest rate volatility based on the time series of the actual policy rate set by the authority or short-term rate in Seychelles; and (v) the time to liquidation. The duration bucket can also be set by the authority for operational efficiency.