I. INTRODUCTION

1. **The Superintendency of Banks in Panama (SBP) plays the key role for financial stability.** As specified in Article 5 of the Banking Law (No. 9-1998), the SBP is tasked with safeguarding the soundness and efficiency of the banking system. While there is no explicit mandate to promote the stability of the entire financial system, beyond the banking system, the SBP plays the leading role in promoting financial stability given that the banking system accounts for about 90 percent of the financial sector. There is no central bank in Panama.

2. **This technical assistance (TA) mission evaluated the macroprudential policy framework in Panama.**[1] The mission assessed (1) the institutional arrangements; (2) the framework to assess systemic risks to prepare for policy actions; and (3) took a preliminary look at the available tools ahead of the planned follow-up mission on the toolkit. The assessment was conducted based on the IMF guidance (IMF, 2014a), taking into account the country-specific circumstances in Panama. The assessments were also built on the findings and recommendations from the recent TA on Basel II/III standards and the stress testing framework, as well as the Article IV team's analyses.[2]

3. **This TA report summarizes the mission's findings and recommendations.** Section II assesses the current institutional arrangements. Section III reviews how systemic risks are assessed to guide policy decisions, for each type of systemic risks described in the IMF guidance (IMF, 2014a), and as relevant for Panama. It also evaluates the adequacy of policy tools in each of these domains, informing the planned second virtual mission on additional tools. The Appendix includes the presentation slides used by the mission members during the mission.

II. INSTITUTIONAL ARRANGEMENTS

4. **A strong institutional framework is essential for macroprudential policy to be effective.** The IMF guidance suggests three key principles. Institutional arrangements should ensure (1) the willingness to act in the face of opposition, supported by a clear mandate, organized policy process, and effective communication; (2) the ability to act, with adequate powers to take policy actions and to collect information; and (3) cooperation across all relevant agencies for financial stability. Recommendations are provided after reviewing each of these aspects of the current framework in Panama.

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[1] Panama has the two-year arrangement under the IMF's Precautionary and Liquidity Line (PLL), approved on January 19, 2021, as insurance against extreme external shocks stemming from the COVID-19 pandemic. It is important to continue efforts to safeguard financial stability, enhancing the frameworks of banking regulations, risk assessment and stress testing, and macroprudential policy.

[2] In particular, see IMF (2021) and "Towards a More Resilient Financial Sector" and "Macroprudential Policy in Panama: Implications for the Real Estate Market" in IMF (2020). The virtual missions took place for Basel standards in March 10-April 6, 2021, and for the stress testing framework in April 30–May 6, 2021.

A. Willingness to Act

5. **The SBP has a legal basis to conduct macroprudential policy.** The Banking Law (No. 9-1998) provides the SBP with the objective to safeguard the soundness and efficiency of the banking system (Article 5). Expanding the coverage of this objective from the banking system to the entire financial system could be considered in the future, because systemic risks can go beyond the banking system.[3] However, the current objective is assessed as practically sufficient at present because about 90 percent of the financial sector assets are held in the banking system, and thus, promoting banking sector stability goes a long way to ensure the stability of the entire financial system.

6. **The SBP has an effective decision-making process.** The Financial Studies Division (FSD) is a dedicated unit for macroprudential analyses, in close collaboration with the Risk Management Division (RMD), which is responsible for the analyses of microprudential issues. These analyses are discussed at the Technical Committee (TC), where the Superintendent and the Directors of the FSD, the RMD, the Supervision Division, and the Regulations Division participate. While there are no preset rules on the meeting frequency or agenda setting, the TC meets as needed, with the agenda proposed by the members.[4] The TC is a consultative body, with the Superintendent deciding on policy proposals to be raised to the Board. The ultimate policy decisions are made by the approval of the Board of Directors of the SBP, which consists of seven independent members.[5]

7. **The SBP's communication has not been active on macroprudential policy.** While the SBP states on its website that it conducts macroprudential supervision with the necessary regulations for the banking system,[6] it has not elaborated on the intermediate objectives of macroprudential policy or the approaches to achieve them. While the regulations that the SBP publishes include the explanation of their background and the policy intentions, the SBP has not actively explained such policies to the public, for example, in the annual Financial Stability Report (FSR).[7]

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[3] Please see paragraph 78 of IMF (2013a) and paragraph 10 of IMF (2013b), for example.

[4] In other words, there is no guarantee to discuss macroprudential issues regularly. The frequency of the TC meetings has been monthly or more since the onset of the pandemic, while it used to be semiannual previously.

[5] The Board consists of seven professionals and businesspersons without ties to the banking sector, five of which are elected and the other two are appointed by the Board of Directors of the Superintendence of Securities Markets and the Superintendency of Insurance and Reinsurance, respectively. Please see the current Directors at https://www.superbancos.gob.pa/en/about-sbp/board-of-directors.

[6] Please see the SBP's supervisory framework: https://www.superbancos.gob.pa/en/supervisory-framework.

[7] The SBP publishes regulations at https://www.superbancos.gob.pa/en/laws-and-reg/rules; and the annual Financial Stability Report and other analyses at https://www.superbancos.gob.pa/es/fin-y-est/estudios.

B. Ability to Act

8. **The SBP has broad powers to direct macroprudential policy tools and to collect information from the banking sector.** As per Article 11 of the Banking Law, the SBP is empowered to establish necessary regulations to achieve its objectives specified in Article 5. For macroprudential policy, this means that the SBP can directly introduce, repeal, or change the calibration of policy instruments, if they are deemed necessary to safeguard the soundness and efficiency of the banking system. Chapter IX of the Banking Law grants the SBP the right to request information from banks and banking groups.

C. Interagency Cooperation

9. **The Financial Coordination Council (FCC) was established in 2011 for domestic interagency cooperation.** The FCC consists of six domestic supervisory agencies (Table 2), with the main objective to strengthen information exchange and coordination on regulatory policies across supervisory agencies. The FCC Board is chaired by the Superintendent of Banks and meets quarterly.[8] As per Article 9 of Title I of Law No. 67, the FCC has power to make recommendations to its members ("soft power"). So far, the FCC's role has been mostly information sharing.[9]

Table 2. Members of the FCC

- Superintendence of Banks in Panama
- Superintendence of Securities Markets
- Superintendence of Insurance and Reinsurance
- Panamanian Autonomous Cooperative Institute
- System of Savings and Capitalization of Pensions of Public Servants
- National Directorate of Financial Companies of the Ministry of Commerce and Industry

Source: Title I of Law No. 67 of September 1, 2011.

10. **The SBP has also been involved in cross-border cooperation for financial stability.** The SBP is part of the Central American Council of Superintendents of Banks, Insurance, and other Financial Entities (CCSBSO), which aims to facilitate cooperation and to promote financial stability in the region.[10] The SBP also participates in the committee for regional financial stability (Grupo de Estabilidad Financiera Regional, GEFR), consisting of the central banks and the superintendencies in Central America, and collaborates on the Regional Financial Stability Report.

D. Recommendations

11. **The SBP is encouraged to institutionalize the decision-making process for macroprudential policy.** While the TC has been facilitating internal discussions on financial

[8] Additional *ad hoc* meetings can be also held at the request of any FCC members (Article 3 of the FCC Resolución #1). The SBP serves as the technical secretariat of the FCC (Article 16 of the FCC Resolución #1).

[9] In addition to the FCC, interagency information sharing has been facilitated via mutual representation of some directors at the Boards of the Superintendencies of Banks, Insurance, and Securities, respectively.

[10] Please see the CCSBSO website.

stability, especially during the COVID-19 pandemic, it is important to maintain good practice even after the crisis. This is particularly true for macroprudential policy because it needs to act when systemic risks are building up in good times. In this regard, it would be useful to set up terms of references for the TC to ensure that macroprudential issues are regularly discussed (e.g., quarterly at least) so that the SBP can take any policy actions on a timely basis. Alternatively, the SBP could create a dedicated macroprudential committee, with a clear delineation from the role of the TC. Under either option, terms of references for the TC should be clearly set up. Also, the FSD should be responsible for setting the meeting agenda, and the meeting minutes should be kept when policy proposals are discussed so that minority voices are also recorded. In addition, the Board should have regular meetings dedicated to macroprudential policy (e.g., semiannually), including a meeting where the annual FSR is discussed and approved.

12. Clarifying a dedicated process for macroprudential policy will enhance the "willingness to act." It will help ensure regular and timely discussions on macroprudential issues. It will also foster open discussion when tensions arise between microprudential and macroprudential perspectives (e.g., paragraph 32, IMF 2013a), while the current close collaboration on both perspectives across divisions at the SBP should be kept.

13. The SBP should consider establishing a macroprudential policy strategy to be shared with the public. An increasing number of macroprudential authorities publish a strategy document (Table 3), which elaborates their policy framework. The strategy document should explain the goals, the indicators followed, and how they are mapped into policy instruments. Publishing such a strategy document helps counter the "inaction" biases that can arise in the face of opposition, by promoting public understanding of the need for macroprudential measures.[11] The SBP can start drafting a strategy document for internal use first, and eventually publish it after refining the strategy over a few policy cycles.

Table 1. Examples of Macroprudential Policy Strategy Documents

Finansinspektionen (Sweden)	https://www.fi.se/contentassets/be52777b45194e2892a243793817b7ff/fi-och-finansiell-stabilitet-20191219.pdf
Financial Policy Committee (UK)	https://www.bankofengland.co.uk/quarterly-bulletin/2013/q3/macroprudential-policy-at-the-boe
Czech National Bank	https://www.cnb.cz/en/financial-stability/macroprudential-policy/
Central Bank of Malta	https://www.centralbankmalta.org/macro-prudential-policy
Reserve Bank of New Zealand	https://www.rbnz.govt.nz/regulation-and-supervision/oversight-of-banks/standards-and-requirements-for-banks/macroprudential-policy
National Bank of Serbia	https://nbs.rs/en/ciljevi-i-funkcije/finansijska-stabilnost/finansijska-stabilnost/

[11] For example, please see paragraphs 57 and 79 of IMF (2013a) and paragraph 51 of IMF (2014a).

14. Communication can be further strengthened on macroprudential policy, particularly through the FSR. The SBP is encouraged to make more use of the FSR to explain policy decisions and to provide the underlying analysis. Systemic risk analyses should be linked to the policy objectives specified in the strategy document, so that any need for policy responses can be assessed. Ex-post evaluation of the macroprudential measures taken could also usefully be discussed. Periodic updates on risks and policies, consistent with the macroprudential strategy, help demonstrate the SBP's commitment to take policy action as needed, as well as build policy credibility (e.g., paragraph 52 of IMF 2014a).

15. The SBP should also continue its efforts to reach to a broader audience when delivering the FSR. The recent high-level press conferences by the Superintendent at the FSR publication are a good practice that should continue.[12] The SBP could consider complementing them with a press release, and an expert-level presentation with a Q&A session with market analysts and financial journalists. The SBP could also consider publishing the FSR in English as well as in Spanish, especially given Panama's importance as a financial hub.

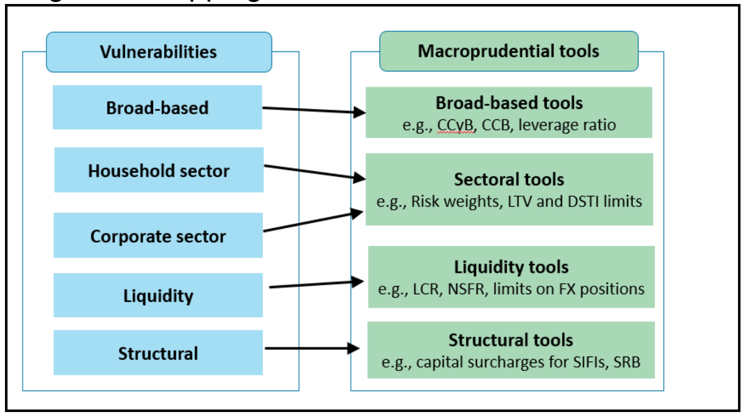
16. Continued efforts are encouraged to foster domestic interagency cooperation. While being mindful of different capacities across supervisory agencies, especially given the different size of each financial sector, the FCC could consider strengthening its roles beyond information sharing. For example, the FCC could identify financial stability issues that are relevant for FCC members and form a working group of technical-level staff from the member agencies to assess systemic risks for policy discussions. Also, consideration could be given to review and amend the Internal Rules and Regulations (Resolución #1) of the FCC, or its underlying Law as needed, so that it can issue recommendations to its members with a "comply-or-explain" clause, moving the FCC from "soft power" to "semi-hard power." This could help the SBP to fulfill macroprudential responsibilities when any policy actions are needed to be taken by other supervisory agencies for financial stability, e.g., in the case of regulatory leakages.[13]

[12] The presentation materials are accessible via: https://www.superbancos.gob.pa/es/presentaciones.

[13] For example, please see paragraph 87 of IMF (2014a).

III. Systemic Risk Assessments for Policy Decisions

Figure 1. Mapping between Vulnerabilities and Tools



References: IMF (2014a) and IMF (2014b).

17. Continuous assessment of evolving risks is key to macroprudential policy making. There are different types of systemic risks, which are best addressed by different policy instruments (Figure 1). Since the prominence of each systemic risk changes over time, it is prudent to keep all types of risks on the radar screen by monitoring indicators of each type of risks. When indicators suggest emerging vulnerabilities, the need for any policy responses should be assessed on a timely basis, with deeper analyses conducted as needed. This multi-dimensional nature of systemic risks and tools highlight the importance to establish a macroprudential strategy, with clear links between policy objectives, risk assessments, and tools.

A. Analyses and Mapping in Panama

18. The FSD, in close collaboration with the RMD, conducts systemic risk assessments using a rich set of analytical tools and data. Regular monitoring tools include a heat map of risks, a cobweb diagram, liquidity stress tests, and solvency stress tests.[14] The set of risk indicators in the heat map is rich, including credit indicators (e.g., growth of credit, share of risky credit), banking sector indicators (e.g., solvency and liquidity indicators), and market indicators (e.g., volatility of sovereign bond yields, the emerging markets bond index).[15] The FSD also rightly exercises expert judgement when interpreting indicators—for example, for the credit-to-GDP gap analysis, they explored alternative filtering techniques (e.g., Yogo 2008, Hamilton 2018), when faced with the statistical drawbacks of mechanically applying the standard HP filter, which generates an artificial credit boom before the large drop in GDP in the wake of COVID-19.

19. The FSD also conducts in-depth analyses for specific vulnerabilities, while they are not always tied to the discussion of specific policy tools. The FSD provides useful insights into systemic risks through tailored analyses (e.g., household indebtedness, real estate sector), which are discussed at the TC and some of which are publicly available.[16]

[14] FSD is upgrading the solvency stress test model under the ongoing MCM TA.

[15] The definitions of indicators are consistent with those used in the GEFR with regional peers.

[16] Some analyses are available at the SBP website.

Such analyses could also be used to discuss the need for policy actions, such as any adjustments to the existing policy tools or the need for additional tools (Table 4).

Table 4: Policy Objectives and Instruments

Objective	Instrument
1. Attenuate and avoid excessive credit growth and leverage	Dynamic Provisions
	Capital Conservation Buffer*
	Limits to the leverage ratio
	Sectoral risk weights for mortgage loans
	Sectoral risk weights for corporate loans
2. Attenuate and avoid excessive maturity mismatches or market illiquidity	Minimum requirement on liquid assets
	Liquidity coverage ratio requirement
	Net stable funding ratio requirement*
3. Limit the concentration of direct and indirect risk	Limit to large exposures
4. Limit systemic effect of inappropriate incentives to reduce moral hazard	Capital surcharges for systemically important institutions*

Source: The SBP and the IMF Macroprudential Policy Survey.

Notes: Instruments with asterisk (*) are currently not in place but under consideration by the SBP.

20. **Few of the existing tools are intended to be used in a time-varying manner, which limits the SBP's ability to actively tighten and loosen the macroprudential stance to lean against and mitigate the risks of financial cycles.** The main anticyclical tool is dynamic provisioning, which follows a formula depending on the growth of risk-weighted assets and special provisions in individual banks. Its accumulation and release are therefore automatic and do not require policy decisions. However, after the onset of COVID-19, the SBP made a discretionary decision to release 80 percent of dynamic provisions as a pre-emptive measure, well before the increase in special provisions would have started to decrease it automatically. This can be considered as a macroprudential decision, to loosen the stance in the wake of an unprecedented GDP contraction in order to mitigate the risk of a credit crunch and the emergence of a vicious circle between credit and real activity. That said, the SBP made it clear to the mission that it does not intend to adjust the parameters of other tools in its toolkit (such as the sectoral risk weights for mortgages and corporate loans) actively, in a time-varying manner.

21. **The SBP has made continuous efforts to ensure adequate data for analyses, including micro-level data.** The SBP has established an internal database that contains granular data of all loans from all banks in Panama. It includes the loan-to-value (LTV) ratio at the origination and subsequent repayment performance for each loan, as well as total debt service payments for each borrower. The SBP plans to add a new field to the database for the income of the borrower at the time of loan origination, which banks already collect, so that a debt-service-to-income (DSTI) ratio at loan origination can be calculated, possibly not just for new loans, but also for existing ones.

B. Recommendations

22. The SBP is encouraged to clarify and tighten the links between policy objectives, assessments, and tools. Specifically, the SBP can organize main indicators and analyses for each type of systemic risks to assess the need for policy actions with appropriate tools (Figure 1). This will help the SBP take timely actions with the policy tools tailored to emerging systemic risks. Also, as discussed earlier, the SBP should consider explaining the mapping in the macroprudential strategy document, as done by Finansinspektionen (e.g., page 25) and other macroprudential authorities.

23. The SBP should continue the preparatory work to introduce borrower-based tools at an appropriate time, as part of developing a strategy. The SBP is considering introducing borrower-based tools (e.g., caps on the DSTI and LTV ratios) at an appropriate time, and conducting preparatory work (e.g., analyses and data collection). Adding such tools would be valuable because Panama has experienced vulnerabilities from growing household sector loans before the pandemic[17] and because existing tools would not be best suited to address cyclical risks that are specific to the household sector (Table 4). The SBP should develop a strategy in addressing the household sector risks, by specifying the main risk indicators and designing appropriate tools. The authorities could find useful the detailed guidance in IMF (2014b) in producing the strategy.[18] A follow-up TA mission is planned to assist this work.

24. The SBP should refine the current strategy for existing tools, reflecting the planned addition of the Basel III tools. In line with the recommendations of the TA on Basel standards, at an appropriate time, the SBP plans to implement some macroprudential tools, including the Capital Conservation Buffer (CCoB).[19] In this context, it becomes more important to clarify the main objectives of each tool. For example, with clarified objectives, the SBP is encouraged to assess the need to adjust any parameters of the dynamic provisions (e.g., its floor and cap) when the CCoB is fully implemented. Likewise, the merits of introducing a Countercyclical Capital Buffer (CCyB) should be carefully assessed, especially whether, if implemented, it should complement or replace the existing dynamic provisioning tool. Similar assessments are also encouraged for liquidity tools, clarifying the strategy.

25. The timing of any activation of additional tools should be guided by the strategy. The SBP should determine the appropriate timing and modality of each measure, assessing macro-financial developments based on its strategy (i.e., objectives, main indicators). For

[17] Please see "Macroprudential Policy in Panama: Implications for the Real Estate Market" and "Towards a More Resilient Financial Sector" in IMF (2020), as well as the Staff Report of the 2021 Article IV consultation.

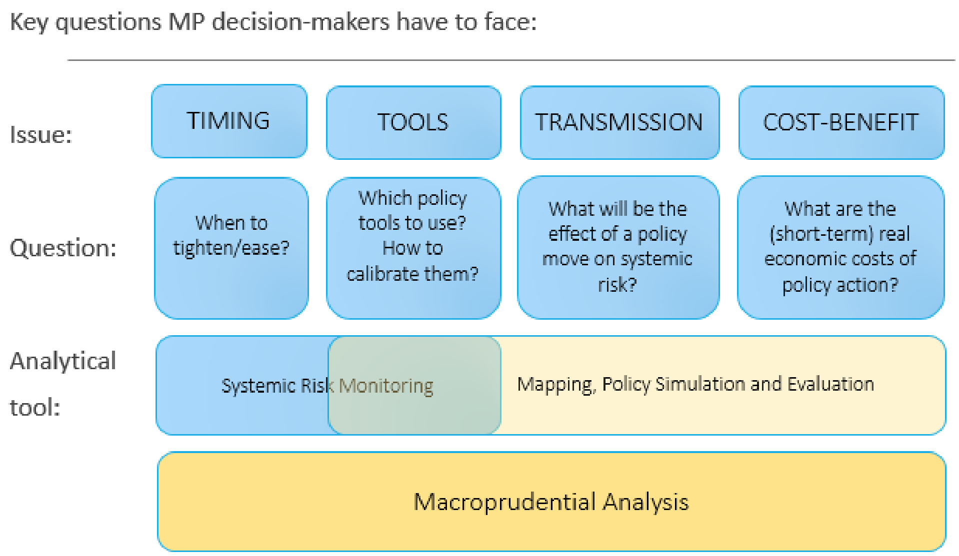
[18] It would be also useful to check Section III of the IMF Macroprudential Policy Survey to study what borrower-based tools are implemented in other countries to address household sector risks.

[19] Please see the TA report (2021) "Basel II/III implementation roadmap (Hoja de ruta para la implementación de Basilea II/III)."

example, to build resilience with minimal tightening effects, many countries introduced the CCoB in a phased-in manner over several years.[20] Also, in the context of the COVID-19 pandemic, some countries postponed the planned phased introduction of capital buffers for systemically important financial institutions, because procyclical tightening of prudential policies would be counterproductive by discouraging bank lending and slowing economic recovery.[21] Developing a clear strategy would help the SBP on the planned implementation of additional tools and its communication to the public.

26. The SBP should continue building experience in evaluating policy effects. Macroprudential analysis goes beyond systemic risk monitoring (Figure 2). Policy evaluation, both ex post and ex ante (i.e., policy simulation), is also important part of the policy making process. For example, the SBP is encouraged to evaluate the intended effects of any measures taken, using the main indicators specified in the strategy, and any unintended side effects (e.g., on real GDP growth). Such an evaluation helps the SBP to assess any needs for policy adjustments, together with feedback from market participants and experiences from other countries.[22]

Figure 2. Macroprudential Analysis



Source: The Mission Team

[20] Please see Section II.B. of the IMF Macroprudential Policy Survey.

[21] Please see in MCM notes on Macroprudential Relaxation and Unwinding policies for Banking Systems.

[22] The authorities may find useful the IMF's iMaPP database for empirical analyses. Please see Alam et al. (2019), who introduced it and studied the effects and side-effects of various tools. Please also see Galati and Moessner (2018), Araujo et al. (2021), and BCBS (2021) for literature surveys.

27. Continued efforts are encouraged to fill data gaps.[23] For the borrower-level data of income that the SBP plans to collect from banks, the mission suggested checking the definition of "income" under the Labor Code,[24] which already imposes a cap on DSTI ratio. Unless there is a major issue, it is recommended to use the same definition for the potential new DSTI regulation and thus for the collection of data, with a view to minimize complexity and reporting burdens for banks. The SBP could also consider constructing indices of real estate prices, possibly in collaboration with the national statistical agency (Instituto Nacional de Estadística y Censo—Panamá).[25] Such efforts are already on their way for residential real estate prices, but would be very important to expand to commercial real estate prices as well, as construction loans make up a sizable portion (more than 11 percent) of the total loan portfolio.

28. The SBP should keep the strategy updated with evolving needs for new indicators and analytical tools. It is commendable that the FSD, in collaboration with RMD, is exploring various methods and data to assess evolving systemic risks. The SBP is also upgrading the solvency stress testing framework with the help of ongoing MCM TA,[26] which could also be useful for macroprudential decisions (e.g., to gauge the level of resilience to be targeted for capital tools).[27] The SBP should continue these good efforts and keep the strategy updated accordingly. The SBP could also consider launching a quarterly lending survey to measure changes in banks' (non-price) credit conditions and expectations of loan growth.[28] It is also encouraged to continue exploring the feasibility of constructing a contemporaneous financial stress index from market-based indicators.[29]

[23] Please also see the Informational Annex in the Staff Report of the 2021 Article IV consultation.

[24] Article 161, numerals 11 and 13.

[25] The second mission will follow up on this possibility.

[26] Please see the TA report (2021) "Stress Testing (Pruebas de Estrés)."

[27] The upgrade of the stress testing framework also involves revamping the macro forecasting model, the output of which (baseline forecasts of GDP, inflation and credit) can be used to forecast the credit-to-GDP ratio on a two-year horizon which is a very useful forward-looking indicator for macroprudential analysis. It can also help stabilize the estimated trend of credit-to-GDP, mitigating some of the statistical drawbacks of the filtering techniques used to calculate the credit gap (see Gerdrup, Kvinlog and Schaanning 2013 on this technique).

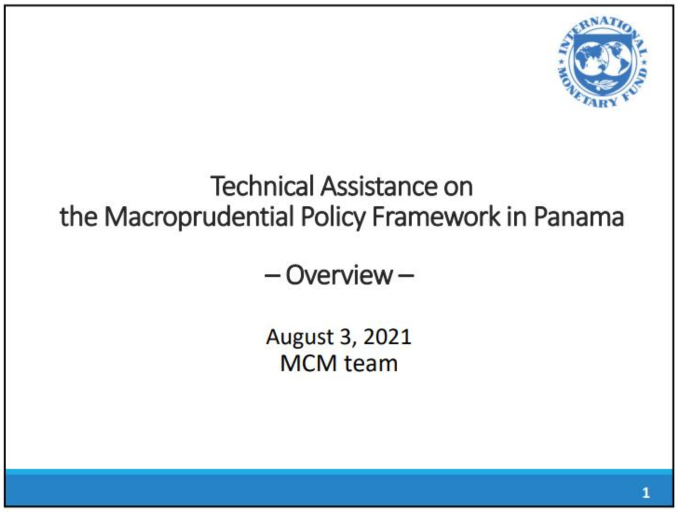
[28] For example, the ECB conducts the euro area bank lending survey (BLS), which is explained by Köhler-Ulbrich et al. (2016)—the ECB occasional paper No. 179. The ECB publishes the results with a quick analysis and interpretation on its website every quarter (e.g., Q2 2021).

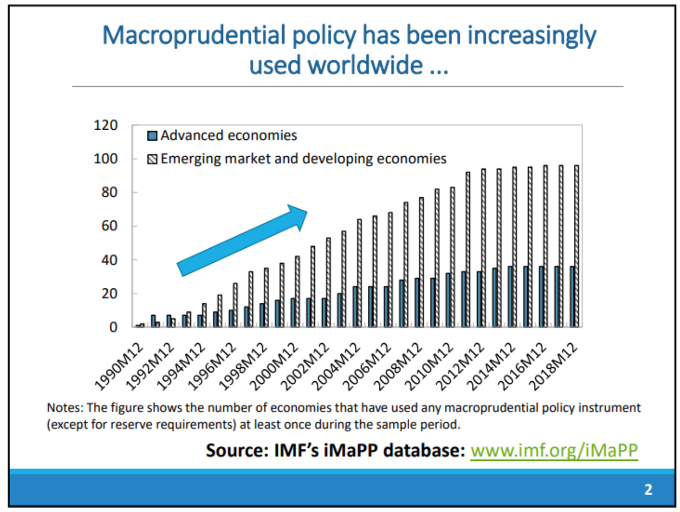
[29] Please see examples of such an index in the ESRB risk dashboard and the FSR of National Bank of Ukraine.

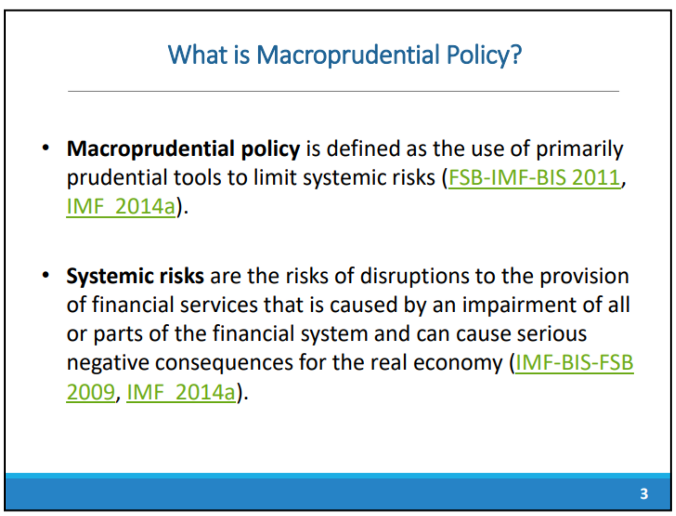
I. Appendix: Presentation Slides

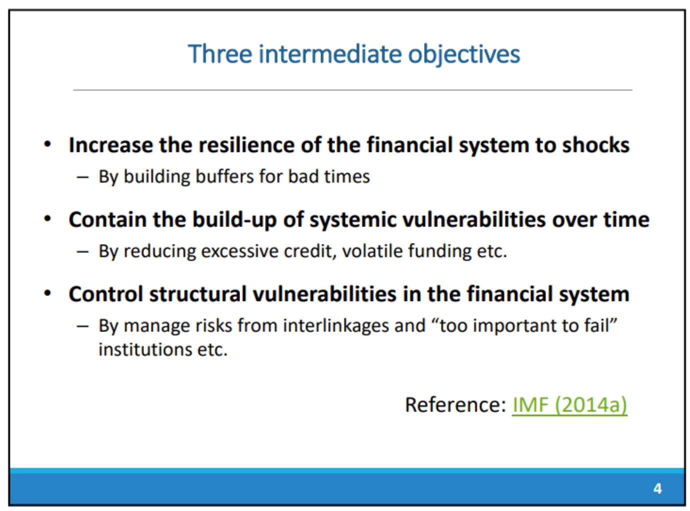
Please see below includes the presentation slides used by the mission members during the mission.

1. Overview:









A strong institutional framework is essential for macroprudential policy to be effective

No one model fits all, but it is key to ensure…

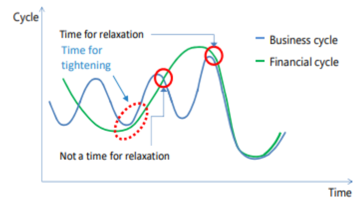
- **Willingness to act**
  - Clear mandate established in the law
  - Accountability framework
- **Ability to act**
  - Adequate powers to collect information and take actions
- **Interagency cooperation**
  - Mechanisms to elicit cooperation in risk assessment and mitigations (e.g., by sharing the financial stability objective)

References: IMF (2013a), IMF (2014a)

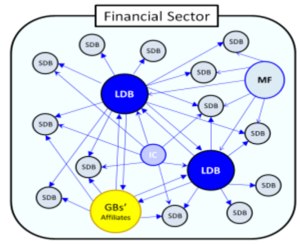
5

Policy needs to be based on analysis of vulnerabilities

Time Dimension



Structural Dimension



Assessments for each type of systemic risks are needed.

Note: Large Domestic Bank (LDB), Small Domestic Bank (SDB), Mutual Fund (MF), Insurance Company (IC), Global Bank (GB).

Reference: IMF (2014a)

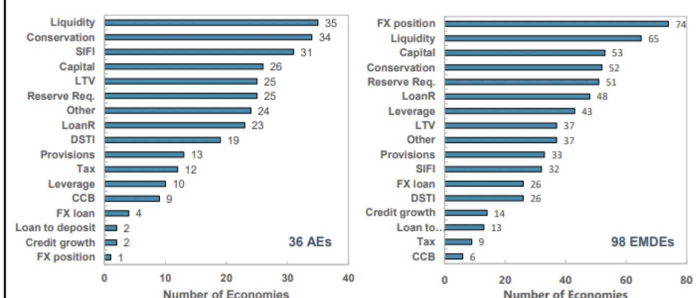
6

With mapping analysis into policies

Vulnerabilities	Macroprudential tools
Broad-based	Broad-based tools e.g., CCyB, CCB, leverage ratio
Household sector	Sectoral tools e.g., Risk weights, LTV and DSTI limits
Corporate sector	Sectoral tools e.g., Risk weights, LTV and DSTI limits
Liquidity	Liquidity tools e.g., LCR, NSFR, limits on FX positions
Structural	Structural tools e.g., capital surcharges for SIFIs, SRB

7

Many different instruments are used to address different types of systemic risks



Notes: The figure shows the number of economies that have used the specified instrument **as of December 2018.** AE = advanced economies; and EMDE = emerging market and developing economies.

Source: IMF's iMaPP database: www.imf.org/iMaPP

8

IMF's Annual Macroprudential Policy Survey

Macroprudential policy frameworks and tools in IMF member states

www.elibrary-areaer.imf.org/Macroprudential/Pages/Home.aspx

9

This TA mission

- Basel Standards
- Stress testing
- Macroprudential policy framework

10

Q&A and Discussion

Thank you!

11

References

- Nier, Erlend, 2011, "Macroprudential Policy - taxonomy and challenges"
- IMF, 2013, "Key Aspects of Macroprudential Policy"
- IMF, 2014, Staff Guidance Note on Macroprudential Policy
  - Main note
  - Detailed Guidance on Instruments
  - Considerations for Low Income Countries
- IMF-FSB-BIS, 2016, Elements of Effective Macroprudential Policy (PDF)
- The IMF's Annual Macroprudential Survey
  - Survey database
  - Objectives, Design and Country Responses
- The IMF's historical iMaPP database
  - iMaPP database
  - Alam and others (2019)

12

2. Analysis and Mapping, with the example from the Malta FSAP in 2019

Technical Assistance on
the Macroprudential Policy Framework in Panama

– Analysis and Mapping –

August 4, 2021
MCM team

1

A framework to assess systemic risks
and to map the assessments into policies

2

Get overview first and then go deeper as needed

Start with charts of **multiple indicators**

Conduct **deeper analyses** where you see risks

Reference: IMF (2014a)

3

Formulate policies to best address the systemic risks detected

Considering…
- Features of systemic risks
- Policy mix and effects
- Cross-country experiences
- … and more

- Policy instruments
- Calibration
- Implementation

4

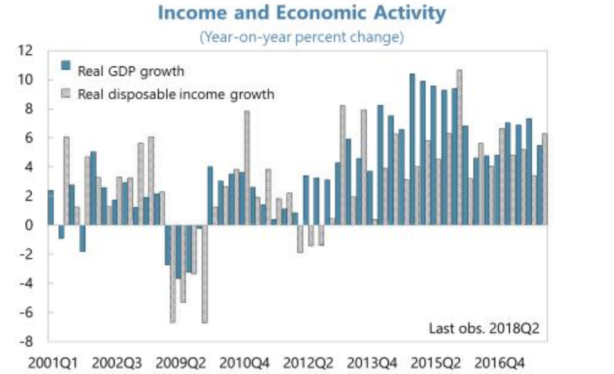
Example from Malta Article IV and FSAP in 2019

- Household sector risks and tools -

References:

- SR-Article IV(2019) – Staff Report
- FSAP-TN (2019) – Technical Note of Macroprudential Policy
- FSAP-FSSA (2019) – Financial System Stability Assessment

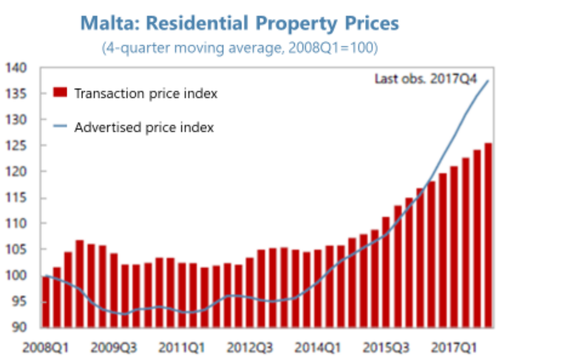
Malta's economy was strong for several years



Sources: CBM and Haver Analytics.

Reference: FSAP-TN (2019)

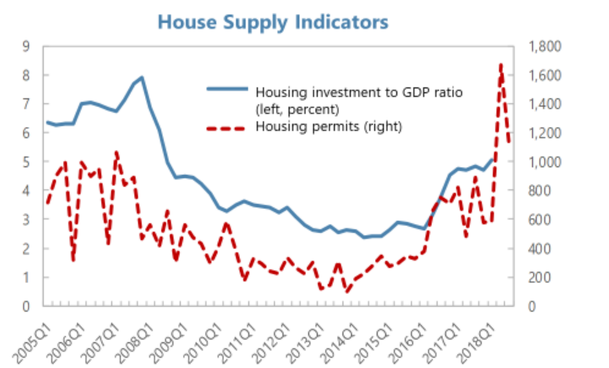
House prices were rising, reflecting strong demand…



Sources: Central Bank of Malta; Eurostat; IMF staff calculations.

Reference: FSAP-TN (2019)

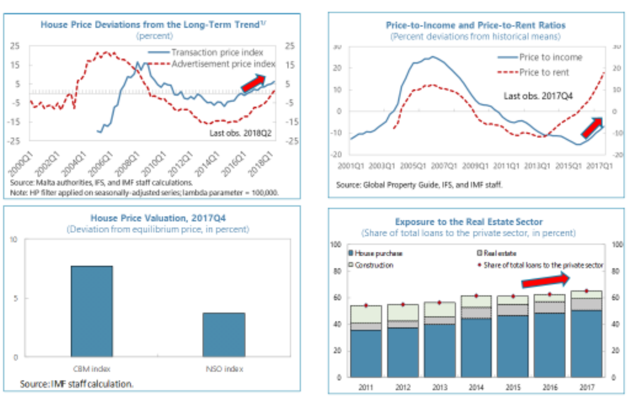
… although housing supply was also increasing



Sources: Malta authorities.

Reference: FSAP-TN (2019)

Some signs of systemic vulnerabilities were emerging…

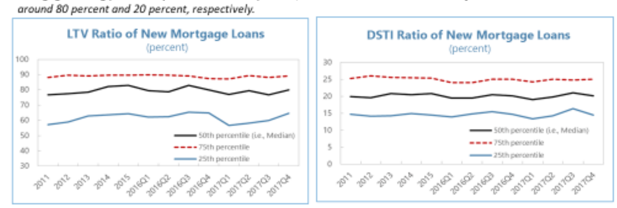


Note: Estimated overvaluation in an error-correction model.

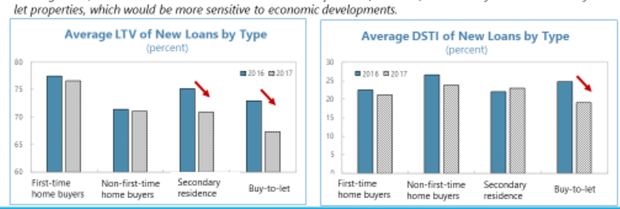
Reference: FSAP-TN (2019)

… while bank lending practices appeared prudent

Mortgage lending practices by banks have been prudent; the median LTV and DSTI ratios of new loans are stable at around 80 percent and 20 percent, respectively.



Looking closer, the LTV and DSTI ratios have become more prudent for loans for secondary residence and buy-to-let properties, which would be more sensitive to economic developments.



Source: FSAP-TN (2019)

Borrower-based measures were proactively introduced

Existing housing sector tool:

- **Stricter risk weights** for mortgage loans than those provided in the CRR

Proactive introduction:

- **Borrower-based measures** were introduced as announced March 29, 2019 and effective July 1, 2019
  - LTV limits at origination
  - DSTI limits at origination
  - Maturity limits at origination

It is quicker to adjust tools, once they are in place

Reference: FSAP-TN (2019)

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Measures were tailored to risks with some flexibility

	LTV-O limits	DSTI-O limits	Maturity limits
Category I	90% (10%) if house ≥€175,000	40% if house ≥€175,000	40 years or until retirement
Category II	1st year: 85% (20%) 2nd year: 75% (20%)	40%	20 years or until retirement

Notes: The "speed limits" for the LTV-O limits are shown in parentheses.
Category I: borrowers for **primary residential properties.**
Category II: borrowers for **2+ residential** or **buy-to-let properties.**

1. **Tighter limits to riskier borrowers**
   - Borrowers for 2+ residential and buy-to-let properties—**riskier**
   - Borrowers for primary residence < €175,000—**less risky**
2. **LTV-O exemptions ("speed limits")** to handle diverse cases
3. **Phase-in** of LTV-O limits for Category II to avoid disruptions

Reference: Box 1 of FSAP-TN (2019), and IMF survey.

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Framework for Panama

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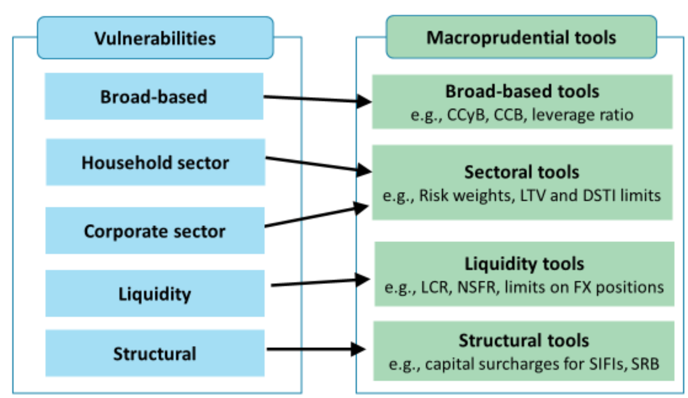
Organizing analyses for policies

Table 4 in the Questionnaire



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Appendix

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Indicators of vulnerabilities from credit booms

Core Indicators	Additional Indicators

• **Credit-to-GDP gap**	• **Credit growth**
	• **Asset prices**
	  - Real estates, stocks etc.
	  - Spreads, volatility
	• **Leverage**
	  - Individual loan level
	  - Asset or sector levels
	• **Wholesale funding ratio**
	• **Current account deficit**

References: Tables 1 and 2 of the Staff Guidance Note; Detailed Guidance.

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Indicators of vulnerabilities in the household sector

Core Indicators	Additional Indicators
• **Household credit** - Growth - Share in total credit • **House prices** - Growth - Price-to-rent ratio - Price-to-income ratio	• **Household credit by type** - FX loans (share, growth) - Interest-only loans • **House prices by …** - Region - Property type • **Borrower-based info** - Loan-to-value (LTV) ratio - Debt-service-to-income (DSTI) ratio

References: Tables 1 and 2 of the Staff Guidance Note; Detailed Guidance.

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Indicators of vulnerabilities in the corporate sector

Core Indicators	Additional Indicators
• **Non-financial corporate (NFC) credit** - Growth - Share in total credit • **Commercial real estate (CRE) prices** - Growth	• **NFC credit by type** - FX loans (share, growth) - Interest-only loans • **CRE prices by …** - Region - Property type • **Borrower-based info** - Corporate leverage - DSTI ratio - LTV ratio on CRE

References: Tables 1 and 2 of the Staff Guidance Note; Detailed Guidance.

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Indicators of vulnerabilities from systemic liquidity

Core Indicators	Additional Indicators
• **Loan-to-deposit ratio** - for the banking system • **Non-core funding to total liabilities ratios** - Wholesale, short-term, and FX funding - at the banking system	• **Liquidity asset ratios** • **Maturity mismatch indicators** - Net stable funding ratio • **FX positions** - Gross/net open positions • **Short-term capital flows**

References: Tables 1 and 2 of the Staff Guidance Note; Detailed Guidance.

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Tailoring policies

- Assess if **existing tools** are enough to address the identified systemic risks
  - IMF survey: Country Reports
- Check tools in **peer countries**
  - IMF survey: Data Query
  - IMF's iMaPP: policy action indicators (website)
  - Cerutti et al. database: policy use indicators (website)
- Consider **any key data gaps**
  - e.g., borrower-based data for LTV and DSTI limits

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3. Policy Evaluation

Technical Assistance on
the Macroprudential Policy Framework in Panama

– Policy Evaluation –

August 4, 2021
MCM team

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Evaluation of policy effects

- Intended effects observed?
- Any undesired side effects?
- Any policy adjustments needed?

Figure 1. Macroprudential policy cycle

Source: Central Bank of Ireland "A Macro-Prudential Policy Framework for Ireland."

2

Multiple approaches

- **Indicators** (e.g., simple changes, event study regressions)

Intended effects	Unintended effects
Core and additional indicators (Table 4 of the questionnaire)	Real GDP, cross-sector or cross-boarder leakage effects etc.

- **Feedback** from financial institutions
  - Bank-level data, survey, dialogue etc.
- **Research** on policy effects (e.g., international experience)
  - Empirical analysis (e.g., Alam et al. 2019, Araujo et al. 2021)
  - Model analysis on transmission channels (e.g., BCBS 2021)

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4. Mission's findings and recommendations at the concluding meeting

Technical Assistance on the Macroprudential Policy Framework in Panama

– Concluding Meeting –

August 9, 2021
MCM team

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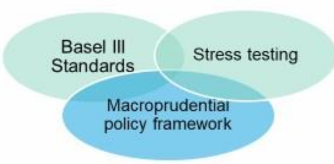
Outline

- Background
- Mission objectives
- Main findings and recommendations
- Next steps

IMF | Monetary and Capital Markets 2

Background

- This Technical Assistance (TA) is part of the IMF's Precautionary and Liquidity Line (PLL) Program.
- Three areas were identified in which work would be done to diagnose the current state of the Superintendency of Banks of Panama (SBP) and opportunities for improvement:
  a) Implementation of Basel III
  b) Solvency stress model
  c) **Macroprudential policies**
- These 3 areas are closely linked:



- Some Basel III capital buffers are macroprudential in nature
- Stress testing is key to macroprudential analysis

Mission Objectives

- **Assess the overall macroprudential framework in Panama** to identify gaps and opportunities for improvement
- **Focus on the institutional set-up and analytical capacity**
- **Preliminary look at the policy instruments** (separate mission in December for a detailed TA on instruments)

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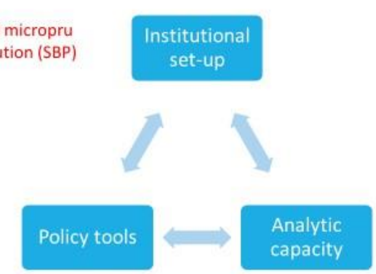
Main elements of a macroprudential framework
and their key features in Panama

Macropru and micropru in same institution (SBP)



A number of available macropru tools, but few of them time-varying

Strong in systemic risk monitoring, less experience in mapping risks to tools, policy simulation and evaluation

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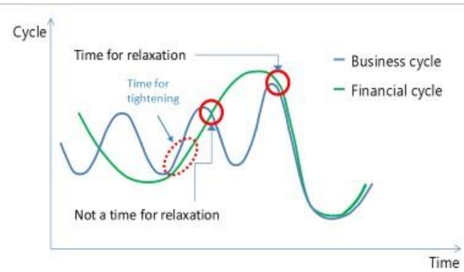
The time-varying nature of macroprudential policy



A relaxation of macroprudential policy tools should be considered if systemic risk materializes.

- As financial conditions tighten, this can drag down real economic activity with it, creating a vicious feedback, with financial and real cycles moving in lock-step.

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Multitude of tools at SBP – but few time-varying

Objectives	Instrument
1. Attenuate and avoid excessive credit growth and leverage	✓Anti-Cyclical Buffer
	Conservation Buffer
	✓Leverage ratio
	✓Ratio of loan to collateral value
	✓Ratio of loan to income (Labor Code)
2. Attenuate and avoid excessive maturity mismatches or market illiquidity	✓ Legal liquidity index
	✓LCR liquidity coverage ratio
	Net Stable Funding Ratio NSFR
	✓Collateral valuation cut
3. Limit the concentration of direct and indirect risk	✓Limit to large exposures
4. Limit systemic effect of inappropriate incentives to reduce moral hazard	Systemic Buffer

Notes: The instruments with a check mark are already in place and those without a check are not yet in place but under consideration.

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Main findings: Policy tools

- Multitude of tools implemented at SBP, but few of them are time-varying
- Dynamic provisioning (DP) is time-varying, but (normally) automatic, not requiring policy decisions
- However, SBP made the important pre-emptive decision at the onset of COVID-19 to release DP before it would have started to decrease automatically ← a macroprudential decision

Main recommendations:

- Introduce borrower-based tools, such as LTV caps, DSTI caps and maturity limits and be prepared to use them in a time-varying manner as counter-cyclical tools
- Evaluate the merits of implementing the Basel III counter-cyclical buffer (in place of DP or complementing DP)
- Consider introducing the Basel III conservation capital buffer and a systemic capital surcharge for D-SIBs
- The timing for the activation of these tools should be carefully considered (not appropriate in the current financial downturn)

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Main findings: Institutional set-up – Mandate and powers

- **SBP legal mandate** (securing the soundness of the banking system) **sufficiently strong** basis to conduct macroprudential policy in a 90% bank-dominated financial system
- Banking Law gives power to SBP to design and apply a **broad scope of tools** (that can be used also for macropru purposes)
- SBP has gained relative **independence** from political influence
- With independence comes **accountability** for policy decisions, and the need to explain and justify them clearly

Main Recommendations:

- Prepare and publish a **macroprudential strategy document** to explain the goals, the indicators followed and how they are mapped to policy instruments
- Strengthen **communication**: make more use of the Financial Stability Report (FSR) to explain policy decisions and to provide the underlying analysis

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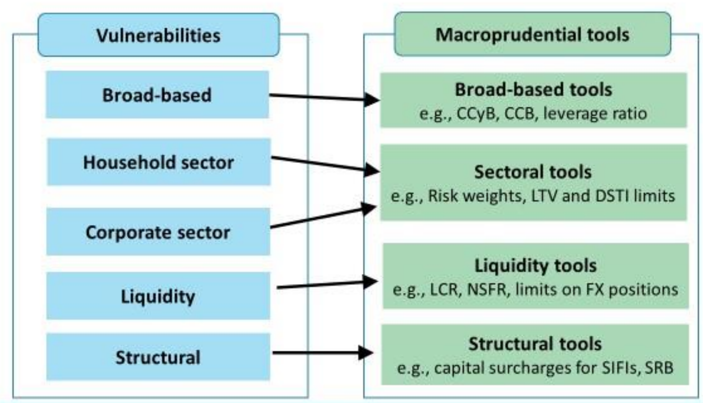
Mapping analysis into policies (to be reflected in the strategy)



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Main findings: Institutional set-up – SBP

- FSD, in close collaboration with RMD, is leading the work on systemic risk monitoring in SBP
- SBP Technical Committee (TC) provides a good platform to share information and views with microprudential side (BSD) and the Superintendent
- Regular presentations to the Board

Main Recommendation: Make more distinction between macro- and microprudential decision making

- Consider renaming the TC as Macroprudential Committee
- Formalize TC governance in a Terms of Reference (TOR) document:
  - Make FSD responsible for setting the TC agenda
  - Keep minutes of meetings with regulatory decisions
  - Keep at least quarterly meetings even after COVID
- The Board should have regular meetings dedicated to macroprudential policy

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Main findings: Institutional set-up – Interagency coordination

- Mutual representation of Directors across the SBP, the Insurance and the Securities Superintendencies on their Boards is conducive to effective information-sharing
- Financial Coordination Council (FCC): consultative body, no regulatory power of its own
- Its main roles are to foster sharing of information and analysis; avoid regulatory leakage; recommend broadening the regulatory parameter if necessary
- 6 member agencies with very different institutional capacity and willingness to cooperate – little activity at the moment

Main Recommendation (not imminent):

Review and amend the Internal Rules and Regulations (Resolucion #1) of the FCC, so that it can issue recommendations to its members with a "comply-or-explain" clause ← moving the FCC from "soft power" to "semi-hard power"

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Macroprudential analysis goes beyond systemic risk monitoring

Key questions MP decision-makers have to face:

Issue:	TIMING	TOOLS	TRANSMISSION	COST-BENEFIT
Question:	When to tighten/ease?	Which policy tools to use? How to calibrate them?	What will be the effect of a policy move on systemic risk?	What are the (short-term) real economic costs of policy action?
Analytical tool:	Systemic Risk Monitoring		Mapping, Policy Simulation and Evaluation	
	Macroprudential Analysis			

Main findings: Analytical capacity

- Rich set of analytical tools used by the FSD to monitor systemic risk: heat map of risks, cobweb diagram, solvency stress tests (ongoing TA to update), liquidity stress tests
- In-depth occasional sectoral analyses (e.g., on household indebtedness, real estate sector, agricultural sector, etc.)
- Very good cooperation with banking supervision to catch risks emerging bottom-up, from individual institutions
- Less focus on a top-down, "big picture" assessment of the financial cycle (credit and asset prices) and financial conditions
- Not much use of potential market-based indicators of financial stress
- Not much experience in mapping identified risks to policy actions, calibrating time-varying tools, doing policy evaluations

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Analytical capacity – key recommendations

- Use broad-based credit cycle indicators, such as the credit-to-GDP gap more prominently
- Utilize features of the new stress testing model (projections of GDP, inflation and credit) to forecast the credit-to-GDP gap
- Consider building an aggregate Early Warning System with indicators like credit-to-GDP gap, aggregate debt service ratio and house price gap
- Consider launching a quarterly lending survey to measure changes in banks' (non-price) credit conditions and expectations of loan growth
- Continue exploring the feasibility to construct a contemporaneous financial stress index from market-based indicators
- Gradually build capacity in calibration and policy evaluation

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Data gaps – key recommendations

- Continue efforts to collect and consolidate data on household income and indebtedness (for future calibration of a DSTI tool)
- Continue collecting house price and rental price data, in collaboration with the statistical agency
- Make efforts to obtain data on commercial real estate prices (← construction loans are 11% of total loan portfolio), possibly in collaboration with the statistical agency

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Communication via the FSR – key recommendations

Content:

- Heatmap of risks: very good practice, but give more interpretation in the text
- More prominent role to a broad-based assessment of the credit cycle (e.g. credit-to-GDP gap and other broad indicators)
- Provide an assessment of how credit conditions have changed (e.g. lending spreads, LTVs or other non-price conditions)
- Use the FSR to explain the macroprudential policy decisions made by the SBP, provide the analysis to support/justify them

Delivery:

- The recent high-level press conferences by the Superintendent at FSR publication are good practice. Complement them with a press release and an expert-level presentation and Q&A discussion with market analysts and financial journalists.
- Consider publishing the FSR in English as well (especially given Panama's importance as a financial hub)

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Next Steps

- Aide-memoire (in Spanish)
- Followed by final TA Report with recommendations
- Next TA mission on policy tools – targeted for December 2021

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