Indonesia: Financial Sector Assessment Program-Technical Note on Macroprudential Policy

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FINANCIAL SECTOR ASSESSMENT PROGRAM

TECHNICAL NOTE ON MACROPRUDENTIAL POLICY

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TECHNICAL NOTE

MACROPRUDENTIAL POLICY

Prepared By
Monetary and Capital Markets Department, IMF

This Technical Note was prepared in the context of a joint IMF-World Bank Financial Sector Assessment Program (FSAP) mission in Indonesia during March 2024 led by Ranjit Singh, IMF and Ilias Skamnelos, World Bank, and overseen by the Monetary and Capital Markets Department. IMF, and the Finance, Competitiveness and Innovation Global Practice, World Bank, World Bank. The note contains the technical analysis and detailed information underpinning the FSAP assessment's findings and recommendations. Further information on the FSAP program can be found at http://www.imf.org/external/np/fsap/fssa.aspx.

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Glossary

BCBS	Basel Committee on Banking Supervision
BI	Bank Indonesia, the Central Bank
BIS	Bank for International Settlements
BUST	Bottom-Up Stress Test
CCyB	Countercyclical Capital Buffer
CET1	Core Equity Tier 1
DKMP	The Department for Macroprudential Policy at Bank Indonesia
EM	Emerging Market
FASBI	Financial Account and Balance Sheet
FSAP	Financial Sector Assessment Program
FSB	Financial Stability Board
FSR	Financial Stability Review
FSI	Financial Soundness Indicator
FSOL	Financial Sector Omnibus Law
FSSI	Financial System Stability Index
FKMM	Macroprudential Microprudential Coordination Forum
FX	Foreign Exchange
GDP	Gross Domestic Product
HQLA	High Quality Liquid Asset
IMF	International Monetary Fund
KSSK	Financial System Stability Committee
LaR	Loan at Risk
LCR	Liquidity Coverage Ratio
LPS	Lembaga Penjamin Simpanan (Indonesia Deposit Insurance Corporation, as the Deposit Insurer and Resolution Authority)
LTV	Loan-to-Value
MCM	Monetary and Capital Markets Department, IMF
MI	Market Intelligence
MSMEs	Micro, Small, and Medium Sized Enterprises
MoF	Ministry of Finance
MoU	Memorandum of Understanding
NBFI	Non-Bank Financial Institutions
NFC	Non-Financial Corporations
NIM	Net Interest Margin
NPL	Non-performing Loans
NSFR	Net Stable Funding Ratio
OJK	Otoritas Jasa Keuangan, (the Financial Services Authority)
SME	Small and Medium Size Enterprise
TA	Technical Assistance
TDST	Top-Down Stress Test

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EXECUTIVE SUMMARY[1]

The 2017 FSAP focused its recommendations around strengthening and clarifying the mandates of the authorities. The FSAP noted that the multiple objectives of the organizations, together with the fact that there was no defined framework for cooperation and the separate control over prudential tools, created the risk that policies implemented by both agencies might come into conflict or have undesirable consequences and blur accountability lines.

The Financial Sector Omnibus Law (FSOL), which was established in 2023, has substantially clarified the objectives of the institutions and delineated responsibility as well as establishing a more formal framework for coordination between the authorities. The FSOL divided macroprudential and microprudential responsibilities. BI has macroprudential responsibility for the banking sector while OJK has strengthened sectoral powers for nonbank sectors. The designation of systemic non-bank financial institutions (NBFI) lies under OJK, as microprudential authority, in coordination with BI and LPS. In practice, both authorities take a systemwide approach to their analysis—both authorities analyze the system as whole and consider sectoral interlinkages. Macroprudential policy under BI covers the banking sector taking into consideration the assessment of the overall financial system. FSOL mandates OJK as the sole authority in dealing with the NBFI sector. The KSSK can play a role in coordinating and discussing matters related to the NBFI sector; but it does not participate in decision-making. To ensure effective coordination between authorities, BI and OJK maintain a formal coordination forum, which facilitates policy discussions, harmonization, and cooperation on policy implementation, as well as data exchange.

Systemic risk analysis is in line with international practice, supported by good data collection powers although some data gaps remain. BI use indicators developed by the Financial Stability Board (FSB) to examine potential vulnerabilities to the financial system and has recently benefited from IMF Technical Assistance on stress testing and household analysis, and is implementing the findings. The regular corporate analysis is focused on less than 700 listed companies and companies which borrow externally—but the authorities are supplementing their data with surveys, focus groups and outreach to industry organizations. There are substantial data gaps and data exchange issues remain between authorities, but considerable progress has been made since the last FSAP. Following the 2017 FSAP recommendations, BI and OJK conduct a joint stress test—both top down and bottom up and have made a number of methodological improvements.

Indonesia's current overall level of macrofinancial vulnerabilities is low. While few indicators of vulnerabilities increased during the pandemic these are now falling. Household debt is low at about 17 percent and unlike many economies Indonesia has not experienced a housing boom during the prolonged low interest rate environment or build up in debt. Corporates have largely recovered from the pandemic, with moderate average debt levels and rebuilding cash buffers.

During the COVID-19 pandemic, BI relaxed many of its macroprudential measures; and in contrast to many other countries Indonesia has not yet started to revert some instruments to

[1] This technical note was prepared by Rhiannon Sowerbutts, Technical Expert on Macroprudential Policy, Bank of England.

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its pre-pandemic stance and actively took action to boost credit in 2022 and 2023. BI has announced that its macroprudential policies will remain accommodative until at least 2025 taking into consideration the financial cycle. Although Indonesia has been one of the fastest growing countries in the world in 2023, some sectors of the economy have not yet recovered from the pandemic. The macroprudential intermediation ratio has returned to pre-pandemic levels, the macroprudential liquidity ratio was tightened in the pandemic and has been loosened—but not to its pre-pandemic level, but LTV limits are still accommodative. To support the recovery and inclusion, BI introduced the macroprudential liquidity incentives and macroprudential inclusive financing ratio, although the latter is a more structural tool. The credit gap continues to close and bank lending standards—as measured by the lending standards and requirements—are looser than before the pandemic. The actions to boost credit have mainly been targeted at the priority sectors—which are determined by several factors including the authorities' assessment of sectors' positive spillovers to the rest of the economy (e.g., to employment)—and promote inclusive financing (MSMEs).

Most large banks hold considerably higher capital and liquidity levels than is required by regulation—suggesting many of the macroprudential measures are not binding for most of the system—and the accommodative stance does not pose near-term risks to financial stability (in particular the CCyB and macroprudential liquidity buffer). Banks hold large levels of capital: at an average of over 25 percent of Tier 1, these are well above both minimum requirements and add-ons required by Pillar 2. On average, banks are holding around 20 percent of their assets as government securities when the required ratio is 5 percent. These average numbers hide a lot of heterogeneity: for a few small banks the requirements are binding. Banks have generally limited their extension of high LTV loans to small sectors of the market such as government employees or employees of firms which pay their payroll directly to the bank. However, the liquidity incentives appear to be driving lending towards the incentivized sectors.

BI should start preparing to tighten its macroprudential instruments. This does not mean tightening policy immediately—if policies are tightened in a way that financial market participants are not expecting, credit might be withdrawn in a disorderly manner. BI should provide guidance about how it intends to tighten. BI should restore pre-pandemic settings for the LTV limits (property and car loans), re-assess (and potentially reduce) the liquidity incentives for lending to certain sectors and review the macroprudential intermediation ratio corridor.

While BI's current policy is applied to the financial cycle in all its stages, frequent adjustments to manage time-varying risk can be costly and less effective if they are seen as temporary. The financial cycle in Indonesia can shift rapidly as was seen in 2016. Currently BI is researching the merits of a positive cycle neutral rate for the countercyclical capital buffer (CCyB) and it should consider the overall strategy for its instruments at the same time. A more strategic and pre-emptive use of the instruments will increase their effectiveness, lower the potential economic cost—in terms of inclusion and growth—of building a resilient financial system. This is very timely with the plan to develop macroprudential policies with the FSOL mandate.

The MPP framework employs a three-pronged strategy under the FSOL: (i) balanced and sustainable intermediation; (ii) financial system resilience; and (iii) to financial inclusion and

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green finance. The latter is not a usual objective of macroprudential policy—which should be focused on reducing sources of systemic risk or financial imbalances. BI have argued that the third objective builds financial stability in the long run—and in line with their objective to address structural sources of systemic risk—but this is an indirect effect of the policies of directing credit to specific sectors. The FSOL does not formally set out the way in which these objectives are managed but BI, in the near future, aligned with the FSOL implementation timeline, will publish the regulations to explain the central bank policy mix including the mandate, policy strategies, instruments and policy operationalization.

The authorities should clarify that the ultimate objective of macroprudential policy is to maintain financial stability. In addition to financial resilience, communication of macroprudential policy has focused on growth and credit supply, reflecting the conjuncture, as the economy is recovering from the pandemic. BI has stated that in the early stages of the recovery it has adopted a policy mix whereby monetary policy is aimed at preserving price and exchange rate stability while its other instruments—including macroprudential policy in the context of contained financial risk—are pro-growth.

To the extent possible under the FSOL: BI should separate and differentiate the inclusive financing ratio and the liquidity incentives from the macroprudential toolkit, underline the safeguard measures in place, and regularly assess their impacts. It would be helpful to classify or differentiate these two instruments, for example, something like "economic growth tools or "inclusive financial system tools" to reflect their effect—which go far beyond any potential long-term structural reduction in systemic risk. Such a reclassification would be in line with the BI's remit and part of their policy mix where monetary, macroprudential and payment system tools work together to provide sustainable economic growth—and also reflect the effect that these instruments have on other BI objectives. It would also be in line with the way the tools are currently being used—for example in the recent FSR the liquidity incentives are described as going from "Fostering post pandemic recovery" to "Refocusing: synergy driving economic leverage for sustainable economic growth." The liquidity incentives are part of a more holistic package of other measures which have been taken by other authorities—and separation would aid the credibility and communication of macroprudential policy and reduce potential inaction bias. To the extent possible the authorities should try to develop methods to ensure that they are not creating a "bubble" in these sectors.

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Table 1. Indonesia: 2024 FSAP Key Recommendations

Recommendations	Authorities	Time[1]
Macroprudential Policies		
Institutional Setting		
Mitigating and managing systemic risk should be the primary objective of macroprudential policy. BI should provide clarity about the three-pronged policy strategy and provide clarity to the general public.	BI	ST
Monitoring		
As the FSOL has substantially expanded the remit and powers of all institutions to contribute to financial stability: take into account systemic risk and macroprudential policy when building the framework for nonbank institutions.	BI, OJK, LPS, MoF	LT
BI should consider making the FSR more succinct to build a more effective communication to the public. The FSR should focus on key vulnerabilities, risks, and issues of financial system stability.	BI	ST
The authorities should find a way to publish, or make more widely available, the information in the stress test—in an aggregated format—to an expert audience.	BI	LT
Toolkit and Current Calibration		
BI should start preparing to tighten its macroprudential instruments, this includes issuing guidance as to under what conditions it will tighten, and which instruments will be tightened. BI should restore pre-pandemic settings for the LTV limits (property and car loans), re-assess (and potentially reduce) the liquidity incentives for lending to certain sectors and review the macroprudential intermediation ratio corridor.	BI	ST
Given the large toolkit, BI should think comprehensively and strategically about how frequently it wishes to adjust the calibration of its toolkit and the merits of a preemptive strategy.	BI	MT
To the extent possible: BI should separate the inclusive financing ratio and the liquidity incentives from the macroprudential tool kit as these have wider effects, including on BI's other objectives, which can be larger than the effect on financial stability.	BI	MT/LT
The authorities should make the safeguards that it has put in place on the liquidity incentives and the inclusive financing ratio clear. These safeguards should be supplemented with careful analysis of the barriers to credit supply to these sectors and ensure that the targets are achievable without creating a credit bubble.	BI	ST

1/ "ST-short-term" is 1–2 years; "MT-medium-term" is 2–5 years; and "LT-long-term" is over 5 years.

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CONTEXT

1. **This technical note (TN) reviews the domestic macroprudential policy framework in Indonesia and offers recommendations to strengthen it.** The assessment is based on the IMF "Staff Guidance Note on Macroprudential Policy" (IMF 2014a), its supplement "Detailed Guidance on Instruments" (IMF 2014b), and other IMF policy papers. It outlines the legal and institutional framework; examines the authorities' monitoring of systemic risk and assesses the toolkit and how it is being used to reduce potential systemic risks. The TN acknowledges that there are differences in macroprudential frameworks enacted in different jurisdictions, including, inter alia, between advanced and emerging market economies. Yet the guiding principle in assessing those frameworks lies on assessing how the overarching objective of macroprudential policy—to preserve financial stability—is being maintained.

2. **Financial stability in Indonesia is the shared responsibility of four agencies.** The Financial System Stability Committee (KSSK) comprising the Minister of Finance (as the coordinator), the Governor of BI, the Chairperson of the OJK, and the Chairperson of the Indonesia Deposit Insurance Corporation (LPS) collectively ensure financial stability. In practice, and in line with other policy areas, close cooperation and synergies between the agencies are highly valued and effective.

3. **Bank Indonesia (BI) has the remit on macroprudential policy to contribute to maintaining financial system stability—as one of the BI's multiple objectives.** The objectives of BI are to achieve the stability of the rupiah, maintain the stability of the payment system, and contribute to maintaining financial system stability in order to support sustainable economic growth. BI has adopted a policy mix which combines monetary policy, macroprudential, exchange rate intervention, and capital flow management to achieve the objectives of price stability, financial stability, and external stability.

4. **The Indonesian economy has emerged from the pandemic performing strongly but confronts an increasingly uncertain global economic environment.** This has informed BI's policy stance: Indonesia's policy stance tries to dampen the spillover effects of global shocks on both macroeconomic stability as well as growth. BI faces multiple challenges with the global backdrop affecting inflation and exchange rate stability, with macroprudential policy being part of a coordinated framework to deliver on BI's objectives rather than acting in isolation.

5. **Financial stability and macroprudential policy in Indonesia are in a pivotal position due to the new FSOL.** This has been a major undertaking: integrating 17 institutional and sectoral laws into one with the aim to strengthen financial sector efficiency and resilience. There is also a multi-agency push towards financial deepening, sustainable finance, and digital innovation. Bearing this in mind, some recommendations in this FSAP take a very forward-looking approach and consider how the authorities in Indonesia might best leverage the position they are in.

LEGAL AND INSTITUTIONAL FRAMEWORK

6. **A strong institutional framework is the cornerstone for ensuring the effective conduct of macroprudential policy.** This note assesses the domestic institutional arrangements based on

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three aspects: (i) the willingness to act, which makes sure there is sufficient timely actions by dedicated institutions through a clear mandate and an accountability framework, including communication tools; (ii) the ability to act, which includes obtaining necessary information, activating regulatory constraints, and changing regulatory perimeters when necessary; and (iii) effective cooperation in risk assessments and mitigation across domestic and international agencies.

A. Willingness to Act

7. The 2017 FSAP focused its recommendations around strengthening and clarifying the mandates of the authorities and there has been substantial progress in this regard since the last FSAP. The FSAP noted that the multiple objectives of the organizations together with the fact that there was no defined framework for cooperation and the separate control over prudential tools created the risk that policies implemented by BI and OJK might come into conflict or have undesirable consequences and blur accountability lines.

8. The 2023 FSOL has substantially clarified the objectives of the institutions and delineated responsibility as well as establishing a more formal framework for coordination between the authorities. This is a substantial change since the last FSAP and the law makes the legal basis for macroprudential policies considerably stronger than under the previous arrangement, where BI only had the mandate as a result of it being stated in the OJK law. There is also now an explicit rule for OJK to follow macroprudential policy set by BI, while in the past it was implicit.

9. The FSOL has also set out the objectives for macroprudential policy: maintaining financial resilience, managing balanced and quality and sustainable intermediation, and promoting financial inclusion. As set out in (Staff Guidance Note on Macroprudential Policy Countries; IMF Policy Paper, November 6, 2014) a well-defined objective is essential to foster willingness to act and help counter pressures to use macroprudential policy as a substitute for policy action in other areas, such as fiscal and structural policy. The law does not formally set out the way in which these strategies are managed. This will be addressed by the upcoming BI operational regulations to support the FSOL arrangement on macroprudential policy. The objectives may complement or compete with each other depending on the state of the world and the policy stance.

10. Many Central Banks have a remit which includes economic growth or inclusion, but it is part of their wider remit, rather than in the macroprudential remit. Promoting sustainable economic growth is a common objective for central banks: India has an objective which includes fostering economic growth, Malaysia, Singapore and South Africa have an explicit objective for the promotion or support of "sustainable" economic growth or development. In a survey undertaken in 2016 over half the central banks surveyed included a financial inclusion goal. This number has likely expanded substantially, especially as a common goal of Central Bank Digital Currencies is to promote financial inclusion. However, it is part of the wider remit or objective of the Central Bank rather than being specifically nested within macroprudential policy. This is likely to be because financial inclusion has implications for both monetary and financial stability if the composition of savers and borrowers' changes.

11. In contrast in Indonesia, the FSOL stipulates that financial inclusion is a part of the macroprudential policy framework under the central bank's financial stability objective. The

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authorities' argument is that financial inclusion supports a more diverse customer base both in terms of lending and deposits—which can provide more stable funding and risk distribution, especially during economic downturns. While this may be the case and there is some recent evidence at the individual bank level for emerging markets—it is important to recognize (for example as in BIS (2015) that the relationship can go in both directions—particularly if it comes with an expansion of credit, fall in lending standards or insufficient understanding of the risks involved, and that the relationship is conditional on the macro environment. BI should do more to demonstrate that they recognize the effects on other objectives and the potential tradeoffs and conflicts and show how they are being managed.

12. Recommendation: The authorities should clarify that the ultimate objective of macroprudential policy is to maintain financial stability. The MPP framework has three 'prongs' under the FSOL: (i) balanced and sustainable intermediation; (ii) financial system resilience; and (iii) to promote inclusive and green financing. The objective in the remit of "balanced and sustainable intermediation" is helpful in providing policymakers with an impetus to take action against credit and asset price bubbles and address macrofinancial imbalances—e.g., overly leveraged borrowers, helping with the financial stability objective. This supports the overall objective of macroprudential policy reducing systemic risk and limiting the effect of financial cycle downturns. Having long run growth and inclusion as supporting objectives can be helpful in recognizing the trade-offs in macroprudential policy and to ensure that policymakers do not go too far in the pursuit of stability—compromising long-term growth and reducing welfare. Given that financial crises typically have the most negative impacts on the most marginalized—mitigating systemic risk also supports the inclusion agenda. However, given the length of time it takes for inclusion initiatives to improve the financial landscape—likely considerably longer than the financial cycle—the ranking of objectives should be defined clearly to avoid pressures to extend credit to sectors which may conflict with the primary MPP objective of achieving financial stability; and ideally the tools to promote inclusive and green financing should be differentiated from the other instruments in the macroprudential toolkit.

13. The FSOL clearly defined the objectives of BI and OJK and delineated macroprudential and microprudential responsibilities at the sectoral level: BI has macroprudential responsibility for the banking sector while OJK has some sectoral powers for nonbank sectors and is the microprudential supervisor for the banking sector. Macroprudential policy under BI covers the banking sector. The banking sector is by far the largest part of the financial system (about 80 percent depending on the mode of measurement) and contributor to systemic risk, which is why the FSOL and macroprudential efforts have focused in this area. In practice, both authorities take a systemwide approach to their analysis—both authorities analyze the system as whole and consider sectoral interlinkages. FSOL mandates OJK as the sole authority in dealing with the NBFI sector. The KSSK can play a role in coordinating and discussing matters related to the NBFI sector; but it does not participate in decision-making. As financial deepening occurs, financial innovation accelerates, and the nonbank sector grows in importance and becomes more interlinked it will be important to clarify and strengthen the framework for nonbank financial institutions.

14. Each of the four authorities (BI, OJK, LPS, and MoF) who contribute to financial stability had their powers increased and clarified with the introduction of the FSOL. Article 7 of

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the Omnibus Law notes that the BI's objectives are to achieve stability in the value of the rupiah, maintain payment system stability and participate in maintaining financial stability in order to support sustained economic growth. The FSOL means that Bank Indonesia is authorized to carry out macroprudential regulation, macroprudential supervision and coordinate with the other authorities. The responsibility of OJK has been expanded too, in particular with respect to insurance companies and enhanced powers to supervise financial conglomerates.

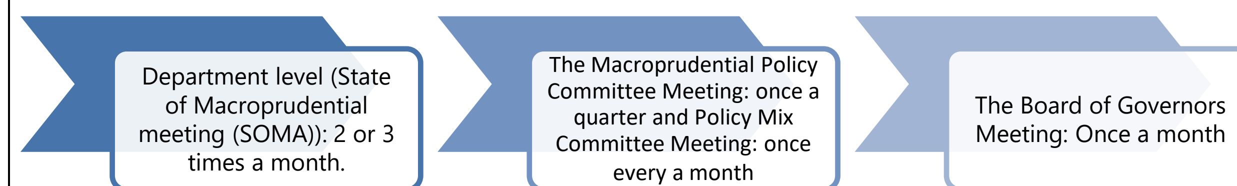
15. **Coordination between the authorities was enhanced and formalized with the FSOL and established a formal committee for coordination.** The KSSK is a formal committee for coordinating broader financial stability policy—including macroprudential policy. It can create task forces and working groups, define criteria for assessing financial stability, and establish coordination mechanisms. The Minister of Finance assumes the role of committee coordinator, with the critical support of the KSSK secretariat. The quarterly meeting format—rather than monthly—facilitates coordination, more in-depth discussions, and focused topical issues, for example the KSSK has recently had in depth discussion on conjunctural and cross cutting issues such as global monetary policy normalization and the potential spillover effects from the uncertainty in the financial sector including the 2023 banking turmoil. For the purposes of macroprudential policy it functions primarily as a coordination group and one of the four members can request policy alignment from another.

Accountability

16. **Unlike monetary policy, there is no requirement for BI to publish a Financial Stability Review, but it chooses to do so to improve accountability.** This is covered more extensively in paragraphs 67 to 79 but BI undertakes an extensive effort to explain its policy actions to multiple stakeholders. Following each KSSK meeting a unified press release, representing the consensus of the committee, is issued by the KSSK members. Additionally, the findings are formally communicated through a report to the President, and each member issues its own press release focusing on the issues which are most pertinent to each member.

17. **Within BI, decisions are made at the Board level but are subject to considerable internal scrutiny.** Decisions at BI on macroprudential policies are made by the BI board following the process outlined in "Figure 1. Indonesia: The Policy Process at BI," below. Before being discussed in the monthly board meeting, policies are discussed at the department level and with multiple committees within BI to gain views from other departments. This includes a "policy mix" committee which coordinates with monetary policy and payment system policy—these policies receive roughly equal discussion time. In formulating macroprudential policies BI gains input from banks and the OJK.

Figure 1. Indonesia: The Policy Process at BI



Source: Discussion.

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B. Ability to Act

18. The FSOL gives BI a clear mandate to take action on macroprudential policy. To support the mandates, BI is authorized, amongst other things, to issue macroprudential policy and instruments, conduct macroprudential examination, impose sanction and coordination with the related authorities. The discussions of macroprudential policy take place in various coordination forums, including macroprudential-microprudential coordination forum with OJK, trilateral party with LPS, and under the KSSK forum. The authorities have said that there have not been conflicts in getting the powers to take action, given the mandate from the FSOL and that policy changes can be enacted quickly.

19. BI and OJK have access to a wide set of instruments for macro- and micro-prudential purposes. The toolkit includes the countercyclical capital buffer and borrower-based measures such as LTV instruments. However, the more binding instruments or—alternatively put—instruments which appear more likely to affect banks' behavior are liquidity rather than capital instruments—OJK implements Basel instruments such as the net stable funding ratio (NSFR) and the liquidity coverage ratio (LCR) while BI has used reserve requirements to manage systemic liquidity issues. Given that the reserve requirements appear to be the more binding instrument for banks as well as being explicitly releasable in a stress scenario, it makes sense for the macroprudential institution—BI—to have the power over it. The LCR and NFSR also do not have a time-varying element.
Having the mandate to also ensure stability of the payment system and rupiah stability has also been an important source of synergies in policy implementation; for example, BI has a regulation which requires non-financial corporates to hedge a minimum of 25 percent of the negative difference between maturing FX assets and liabilities in the next 3-months and 3- to 6-months, and meet a minimum FX liquidity ratio of 70 percent for maturing foreign currency liabilities maturing in less than 3 months. This regulation is part of BI's mandate on rupiah stability—and not legally considered part of the MPP toolkit—but there are also systemic risk benefits to having this instrument available and the macroprudential department and monetary policy department coordinate on its use.

C. Coordination Between Authorities and Internationally

The KSSK (Financial System Stability Committee)

20. Coordination and harmonization between the authorities has substantially improved since the 2017 FSAP, and the FSOL has formalized and advanced this improvement. Formally BI, the OJK, and the LPS (Indonesia Deposit Insurance Corporation) coordinate macroprudential, microprudential and bank policies through a specific coordination forum, as mandated by the FSOL. The results of this coordination are periodically and when needed reported back to the KSSK. Financial stability is a shared objective between the authorities of the KSSK with BI having the macroprudential mandate for the banking system. The FSOL has contributed to structural change in coordination at multiple levels within the different authorities including at principal, deputy, and technical level.

21. Coordination and agreement are heavily emphasized in the FSOL, which specifies that decisions should ideally be reached through consensus during committee meetings. Based on

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the FSOL, each member has a voting right. If consensus cannot be achieved, the next step is to attempt a decision based on a majority vote. If a majority vote also fails to resolve the decision, then the Minister of Finance, as the coordinator of the KSSK, is authorized to make a decision on behalf of the committee. The practice within the KSSK has been to prioritize reaching decisions through consensus, avoiding the need for voting as the committee prefers unified decision making and agreement. To date, the KSSK has not needed to vote to make decisions. This approach ensures that all decisions, regardless of the method through which they are reached, are binding, and must be signed by all committee members.

22. KSSK is a coordination forum on macroprudential issues rather than having powers, but it is an important forum to facilitate the coordination between the authorities who share responsibility for financial stability. The secretariat responsible for the KSSK appears to be well run and well resourced. It has 25 people—although only a portion of these cover macroprudential issues—and representatives from each institution in order to have a wide range of expertise and perspectives. They also do their own research and analysis as well as receiving it from the relevant institutions, and the authorities have mentioned that the secretariat plays a key role in aggregating information, as well as avoiding overlaps or gaps. The authorities have commented that the process of preparing the material has continually improved over the last few years, that they feel well supported and that the preparation is comprehensive.

23. The KSSK discussion is a multilayered process with several meetings at different levels before the final meeting; and authorities mention that it appears to have improved the risk assessment process. For example: on risk assessment before the regular meeting the secretariat will get updates on the market and the macroeconomy and have a discussion with the chief economist from each institution to get their perspectives and share their insights on potential systemic risk. There is also a discussion at the deputy level which the secretariat considers to be very important as an enhancement to the technical discussion. Authorities have commented that the KSSK has improved the risk assessment process and moved it towards more thematic discussions.

Coordination Between BI and OJK

24. Reflecting their pivotal roles in macroprudential and microprudential policy, there is additional formal coordination between the BI and the OJK. At the Board level, one BI deputy governor is on the board of OJK. BI and OJK have a Memorandum of Understanding (MoU) on coordination that takes into account the FSOL, which covers both policy design and implementation. If an instrument is implemented, it must be discussed at the "Macroprudential Microprudential Coordination Forum" (FKMM). This forum has the objective of providing policy discussions by OJK and BI, facilitating the harmonization and cooperation on implementation of each institution's policies and data exchange and the discussion of topical issues. Both the BI and OJK have said that they do not find it difficult to discuss or coordinate on instruments.

25. Sharing data and analysis at the working level appears to be working well between BI and OJK and the joint stress test is a good example of coordination between macroprudential and microprudential authorities. The joint stress test is covered more in paragraphs 55 to 59. BI and OJK have a specific protocol for sharing data or information to ensure confidentiality and accountability. There is also an integrated reporting platform "BI ANTASENA" for bank information

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that the LPS also have access to, which was built to provide consistent information and improve efficiency. Data that is not covered by the memorandum of understanding are agreed in the macroprudential-microprudential coordination forum before being exchanged by both institutions. In the existing MoU, there is a principle of equal access, meaning that certain employees of OJK and BI have access to information that has been mutually consented to be shared by each institution and both institutions are responsible for ensuring the confidentiality of exchanged data and information. Additionally, there are regular meetings between BI and OJK to exchange analysis and coordinate.

International Coordination

26. At the international level Indonesia is in a strong position: it has a seat at major international for a both globally and regionally. Currently, BI is a member of various international organizations in the field of financial stability, including the FSB, the BCBS, the Bank for International Settlements (BIS), the Executives Meetings of East Asia Pacific Central Banks (EMEAP) Working Group on Banking Supervision (EMEAP-WGBS), and the ASEAN Banking Integration Framework (ABIF). The authorities have said that they have found these fora to be valuable for international cooperation, contributing to the discussions and the development of global standards and best practices as well as information sharing. The authorities have said that their membership of these fora contribute to discussions and the development of global standards and best practices but also help to align their domestic reforms with international initiatives.

27. BI has a number of bilateral agreements with other central banks, and it is able to influence the framework for assessing systemic risk and taking macroprudential policies in the region. BI has signed MoUs with other central banks to enhance cooperation and coordination, including in the field of macroprudential policy. These collaborative efforts are primarily managed by the Macroprudential Policy department. Some of BI's MoUs with central banks from advanced economies include strengthening the authorities' capacity for assessing systemic risks and—as discussed in the section on systemic risk assessment—this capacity building has shown clear positive results. In addition, BI has also actively involved in building the capabilities of its peers in topics on the macroprudential framework including countries like Brunei Darussalam and the Philippines.

MONITORING SYSTEMIC RISK

28. Solid and continuous monitoring of systemic vulnerabilities in the financial sector is crucial for the proper and timely activation/relaxation of macroprudential policy. This section assesses the existing framework of systemic risk monitoring by a) examining the data and indicators that are used to assess systemic risks in key sectors, b) the key analytical methods to assess risks, and c) using the analysis to formulate and communicate policy.

29. The authorities have good data collection powers and analyze different sectors in line with best international practice. By law the BI is empowered to collect any data necessary for conducting its responsibilities**.** These have been clarified in the FSOL and BI has the authority to conduct surveys, obtain data from related parties and relevant authorities. BI and OJK operate an integrated banking report system. And BI holds regular meetings with relevant agencies such as the Directorate General of Customs and Excise and Indonesia Statistics Bureau.

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30. BI makes impressive use of qualitative information and surveys to supplement official data. BI conducts over 2400 liaison visits annually, greatly assisted by its regional offices, undertakes surveys, focus group discussions as well as meeting with industry associations and quarterly market intelligence rounds with financial sector participants. This heavily supplements its data collection to get a fuller picture of financial stability issues.

A. Sectoral Vulnerabilities

31. Indonesia's general level of real economy vulnerabilities is low, reflecting the authorities successful steering of the economy and financial system through the pandemic. While a few indicators of vulnerabilities increased during the pandemic these are now falling. Household debt is low at about 17 percent of GDP and, unlike many economies, Indonesia has not experienced a housing boom during the prolonged low interest rate environment or build up in debt—beyond a short-lived increase in housing prices in the pandemic. Corporates have recovered from the pandemic, though with some sectoral variations (e.g., pandemic-hit industries such as tourism), with moderate average debt levels and a rebuilding of cash buffers. Corporate external borrowing has fallen as a share of GDP over the past decade, from about 15 percent to about 9 percent, improving relative to regional and selected EM peers.[2] About 20 percent of external debt is short-term, suggesting resilience against short-term shocks. Natural hedging also helps to mitigate risks, with sectors with significant export earnings more likely to have FX debt, though with some signs of currency mismatch. Furthermore, the external borrowing requirement for corporates (see paragraph 95) has further ensured resilience from external shocks.

32. For each sector BI produces a Financial Account and Balance Sheet (FASBI) which provides an overview of each sector's position and net transaction of financial assets and liabilities. This is a helpful tool for seeing where—at the aggregate level—mismatches and potential vulnerabilities are for each sector and is used for topical analysis. BI also uses this balance sheet data to examine balance sheet mismatches and leverage at the whole system level. These are also occasionally published in the Financial Stability Review which helps transparency. Although there is a lag of just over 3.5 months, these are slow moving vulnerabilities and so the lag is not particularly detrimental to the ability of the authorities to monitor.

Corporate Sector

33. Both BI and OJK have access to data on corporates at a high frequency and at the firm level. The integrated reporting platform means both BI and OJK are able to access NPL and loan-at-risk data. Corporates report external borrowing to BI and they can get access on financial reports for firms at the quarterly level. However, the separate datasets on domestic and FX debt are not matched and putting them together would allow for more granular analysis of debt vulnerabilities.

[2] While these levels are low and could grow quickly—there is no evidence that they are likely to do so in the near term and so putting pre-emptive instruments in place—while potentially beneficial (see paragraph 128)—is not a first-order priority for the authorities to address existing vulnerabilities.

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Data is supplemented by regular surveys on business expectations, a manufacturing index, financing supply and demand as well as more in depth surveys on topical issues such as down streaming and the green transition.

34. However, the coverage of regular assessment is—as is to be reasonably expected—limited with the majority of the corporate analysis focusing on just under 700 listed firms. This compares to about 50 thousand limited liability companies which are registered on the OJK's information system and about 30 percent of current outstanding loans in the banking sector. The authorities are very well aware of this gap and feel that in general they have good sectoral coverage but are aware that many large non-listed companies are missing. It would be helpful to do a systematic review to check the extent to which the sample is representative.

35. BI has started a number of initiatives to obtain better data for firms. Since 2014, corporations with financial obligations to non-residents need to submit reporting on their borrowing, including balance sheet, income statements and liquidity hedging. BI is also promoting cooperation with the Ministry of State-Owned Enterprises to gain access to financial dashboards and reports of State-Owned Enterprises. Improving the coverage of corporate data would significantly aid the analysis of corporate sector vulnerabilities. This gap is also noted in the TN on Systemic Risk Analysis.

36. Data on MSMEs is an important data gap—especially in light of the number of initiatives to promote credit to the sector. A number of initiatives both by BI and the MoF are aimed at promoting credit to the MSME sector but there is very little data—this is not because the authorities do not have access to a data source but more the data does not actually exist given the informality and small size of much of the sector. Collecting information on MSMEs would also be helpful for understanding household consumption and resilience given that MSMEs are important in overall employment. Data on small enterprises is not readily available beyond the surveys that they conduct at a regular basis. BI's large network of regional offices helps with the surveys—but these are resource intensive. BI also reaches out to trade organization to gain insights into sectoral trends and discuss analysis.

37. The authorities use a number of indicators which are in line with international best practice to assess corporate risks. For corporate resilience they focus on measures such as debt at risk, interest coverage ratios and profitability as well as focusing on firm's demand for and ability to get finance such as internal funds, bank loans and bond issuance. All this analysis is completed at the sectoral level, in part reflecting the uneven recovery since the pandemic by different sectors.

Household Sector

38. BI and OJK use a number of indicators to monitor household risks to financial stability, in line with international best practice, and are able to cover the key transmission mechanisms to financial stability. This includes household credit data, consumption, and debt service ratios—which are helpful for monitoring potential aggregate demand externalities—as well as the direct performance of consumer loans—which affect impairments and resilience more directly. The synergies and coordination with monetary policy are important—given that households are more exposed to macro risks—BI look at consumption and expenditure every month as it affects

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economic activity and have had a thematic discussion about household spending. There are multiple data sources for data on households but BI mainly rely on the BI consumer survey to monitor income and spending indicators. BI and OJK both use the Commercial Bank Monthly Report for the performance of consumer loans—this is released with a one-month lag and has reasonably granular data on information such as type of credit, new or outstanding credit, credit limit, and currency.

39. There are some data gaps, and the issue is the time lag, as well as trying to get data on the same basis for comparability. BI and OJK rely on other institutions for the data and the gaps are long: at the aggregate level it is only about 30-40 days but for more granular data on household balance sheets—which is particularly important for understanding the most vulnerable households and the transmission mechanisms—the lag is about six months. Relying on different sources means that the authorities must adjust for different definitions and classifications. BI try to close the data gap using payment system data on household spending.

Financial Markets, Market-Based Finance, and Nonbank Financial Institutions

40. The authorities have access to considerable amounts of data on financial markets including bond issuance data and portfolio outflows and make regular use of market intelligence. They examine market risk, interconnectedness, credit risk, financial leverage, currency mismatch. Monitoring is mainly done by the OJK as they have the microprudential responsibility for Nonbank Financial Institutions (NBFIs) with BI stating that they mainly focus on credit intermediation by NBFIs the industry's soundness, and its potential spillover impacts through the interconnection to the banking sector. There are some interlinkages between sectors, for example insurance companies are guaranteeing some consumer loans. See paragraph 105 for actions by OJK to limit this interlinkage risk.

41. Capital markets are small and relatively undeveloped: making the development and deepening of financial markets a major policy initiative of the authorities. The size of market-based finance is small but developing but it is not a large source of financing and while liquidity is small most products are vanilla. Indonesia has the second highest number of listed companies in Asia. The equity market is considerably larger than for corporate bonds and sharia bonds. The vast majority of financial intermediation and borrowing occurs through domestic banks with other sectors being relatively small; NBFIs have not grown at the same rate as some advanced economies where they now constitute around half of the financial system assets—and so NBFIs are less of a pressing issue in Indonesia than they are elsewhere. At the same time the authorities are developing more vehicles for households to save outside of banks such as retail government bonds and the authorities view the developments as an opportunity for smaller and medium size enterprises to get access from the capital market.

42. The data quality for NBFIs is of a lower standard than the data on banks and should be improved. The authorities follow international guidance for monitoring pension funds and insurance and also undertake a number of onsite visits. Monitoring the insurance sector has taken an increased role for the authorities. The authorities are working on improving the granularity and frequency of the data that they have. Currently, data collection and risk monitoring on NBFIs and their interconnection with the banking system are quite limited. The level of granularity—such as data on the entity level—is also limited. The FSAP recommends authorities improve data collection

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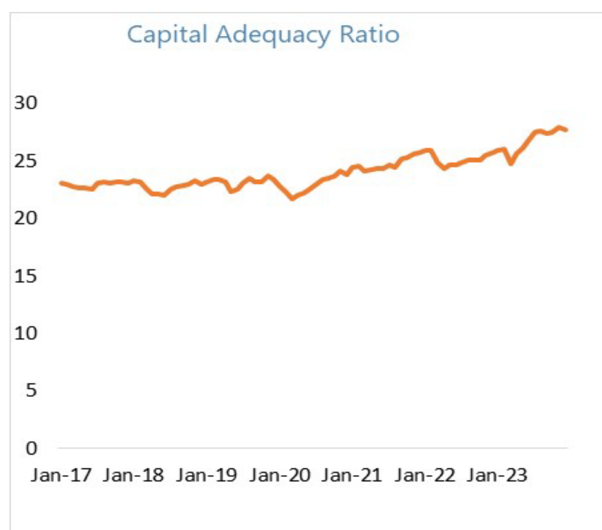
and risk monitoring on NBFI balance sheet and solvency and liquidity positions and exchange data to facilitate systemwide risk analysis. While not a pressing source of risk at the moment, continuing to build the relevant monitoring capacity will ensure sufficient supervision and risk management as the system develops. The authorities should develop methods to examine market functioning and interlinkages, as well as considering the higher potential for runs from consumers who are less familiar with the new products. They should be aware that consumers may overweight risks or failures that come at the beginning of a new regime due to a lack of familiarity.

43. Recommendation: As the authorities strengthen the framework for NBFI they should do this considering systemic risk and macroprudential issues. The impact of the FSOL and the push for financial deepening and inclusion could bring about big changes in the financial system and some sectors will become more important. The NBFI sectors will likely grow in importance—and it could be quite rapidly. It will be important to strengthen the framework for understanding and reducing systemic risk from NBFI and how these sectors interlink with the banking sector. Starting early while these sectors are still small and simple, and times are good, will likely be considerably more effective than building it later. The authorities should continue to work closely together for ensuring the stability of the whole financial system and how sectors interlink.

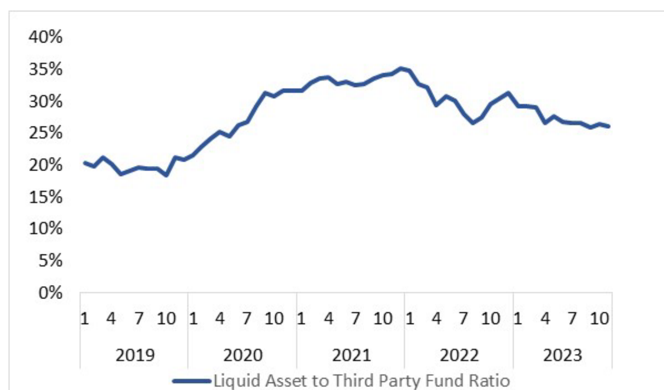
Banking Sector

44. Most larger banks in Indonesia hold considerably more capital and liquidity than is required by either regulation or supervisory addons (Figure 2. Indonesia: Capital and Liquidity Ratios). And capital ratios have been increasing over the last few years alongside an increase in risk weighted assets, which reflects high profitability. OJK have indicated that they do not ask banks to hold such high management buffers for microprudential purposes. But in conversations with the banks, they indicated that there was a tendency to be conservative for a number of reasons, including the fact that they are still risk averse after the 1998 Asian crisis.

Figure 2. Indonesia: Capital and Liquidity Ratios



Sources: Bank Indonesia and OJK.



Sources: Bank Indonesia and OJK.

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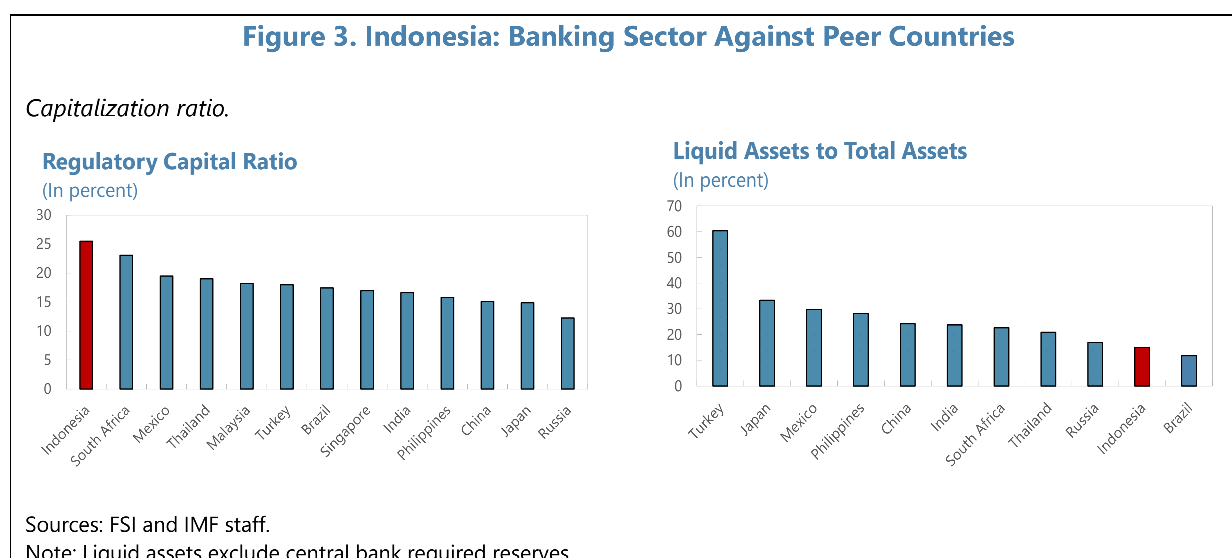
45. Both BI and OJK have good data to analyze bank resilience, and as noted in paragraph 24, share analysis. Indicators used to analyze risk coming from the banking sector includes among others: lending growth (i.e., to identify excessive lending); deposits growth (funding risks); lending and deposit rates as well as profitability indicators (i.e., net interest margin (NIM) and return on assets (ROA)); LaR and non-performing loans (NPLs) (credit risk); and liquid assets to total deposits (liquidity risk). To provide granularity, the assessment is broken down to: (i) sectors, segments, and usage for loans, lending rate and credit risk; (ii) type of deposits and depositors' segments for deposits and deposits rate; and (iii) group of banks.

46. Both BI and OJK have a number of models to understand how macro shocks affect the banking system although these are limited to relatively benign scenarios. BI runs a model every month with the baseline and some mild adverse scenarios to understand the shorter-term impact of the macroeconomy on the financial system. A different scenario agreed by BI and OJK is agreed and used and the basis as the joint or quarterly stress tests which are more severe and are discussed in paragraphs 55 to 59.

47. For Indonesian banks, liquidity is a more pressing concern than their capital ratios (Figure 3. Indonesia: Banking Sector Against Peer Countries). This is both for structural and conjunctural reasons. In part this is because banks hold high levels of capital but also because reserve requirements have a bigger effect on banks' incentives and ability to lend. In conversation some banks indicated that they have a few large depositors (for example large corporates depositing their payroll) and they keep high levels of liquidity in the event that one of these depositors decides to withdraw funds. In the conjuncture, the normalization of monetary policy and the faster growth rate of credit than deposits have increased the funding gap.

Figure 3. Indonesia: Banking Sector Against Peer Countries

Capitalization ratio.



Sources: FSI and IMF staff.
Note: Liquid assets exclude central bank required reserves.

48. OJK monitors different liquidity indicators on a daily, weekly, and monthly basis. In addition to measuring the LCR and NSFR for the larger banks OJK has developed a liquidity indicator for the non-systemic banks. While systemwide LCR and NSFR ratios are high, they are not

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collected and monitored for small banks, which are not subject to these requirements.[3] It is effectively based on liquid instruments relative to non-core deposits and based on data from the 1998, 2004, and 2008 crises.

49. Banks have limited FX exposures. However as noted in the Systemic Risk Analysis module it is important to continue monitoring foreign currency liquidity conditions to promptly identify potential liquidity gaps across all banks over the short- and medium-term horizon and to integrate liquidity analysis of non-financial firms and banks to strengthen FX liquidity risk analysis and inform relevant micro and macroprudential instruments.

B. Analytical Methods

50. This section evaluates how the authorities make use of the data and modeling capacity they have.

Analytical Methods and Data Aggregation

51. BI's indicator of the financial cycle is intensively used for policy making and uses a variant on the Basel Credit Gap. The BI variant is based on an IMF paper and uses a multivariate Kalman filter (rather than the HP filter used in the Basel version) and uses the output gap (rather than just GDP). This helps to overcome some of the well-known shortcomings with the credit gap indicator. Other shortcomings—such as it being unreliable in the aftermath of a crisis are less relevant for Indonesia given the high levels of stability over the last few years. BI continuously monitors the reliability of the financial cycle assessment, including robustness checks.

52. BI also uses a financial system stability index (FSSI) to determine the state of the financial system. The index is also one of the main quantitative indicators in the BI Crisis Management Protocol (CMP) framework. It covers banks, NBFIs, and financial markets. This has three sub-indexes: intermediation (effectively covering credit growth), resilience (covering capital, liquidity, and financial market functioning), and efficiency (effectively costs and profitability). It is used prominently in the Financial Stability Review. As it is a few indices which have then been aggregated—and which may move in different directions given the very different things which it covers—this might mean that it might never reach extreme values. It would be worth BI publishing the sub-indices to aid communication; considering whether the threshold should be based on the aggregate index or a sub-index, and also use the sub-indices as a robustness check. BI continuously reviews the FSSI. Currently, BI is enhancing the index to increase its reliability in reflecting the state of the Indonesia financial system and strengthen the CMP framework.

53. BI uses network methods to examine interconnectedness within the financial system and how shocks might transmit. It has expanded the use of these methods to go beyond interbank connections to examine interconnections between banks and corporates. BI uses these

[3] A key recommendation of the Systemic Risk Analysis is to implement the LCR and NSFR across all banks.

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methods to examine market structure—for example network centrality, and the behavior of different agents in different periods. These are important tools for understanding how stress might transmit systemwide.

54. BI also examines actual bank spillovers using a Diebold Yilmaz Index. It uses a mixture of US, UK, and HK banks to examine the potential spillovers of global banking stress. It has used this to show the risk of spillovers from the SVB failure in the US as well as other banking sector stress. This was highlighted extensively in the recent FSR and is an excellent example of data driven communication on financial stability.

Bank Stress Tests

55. Since 2017—following a recommendation in the FSAP—the authorities have been implementing a joint stress test (JST) for examining the impact on banks' capital of an extreme but plausible macro scenario. This is a considerable undertaking and is implemented in line with the 2017 FSAP recommendation. The JST usually starts in the third or fourth quarter and ends in the second or third quarter of the following year depending on the agreement between BI and OJK. BI is responsible for designing macroeconomic scenarios based on potential medium-term global and domestic economic risks. BI and OJK discuss and agree on the scenarios. BI performs the Top-Down Stress Test (TDST). OJK is responsible for coordinating the Bottom-Up Stress Test (BUST) for systemic banks (D-SIB) and other large banks. The results of the top down and bottom-up stress tests are discussed and compared in order to generate a final report that is reported to the Board Meeting of BI and OJK. The authorities mentioned that their stress tests usually find very similar results—which is to be expected given the similar scenario and modeling.

56. Following a recommendation in the 2017 FSAP, BI has changed the way it models NPLs in the stress test to fit better historical NPL developments. The model takes into account GDP, policy rate, exchange rate, commodity price, and housing price as the independent variables, and is used for the top-down solvency stress test. However, OJK have said that it is difficult to generate losses in the stress test—in part because of a lack of past losses that can be used. This is a problem faced by many countries—not least because the support that was offered in a crisis period has distorted the data on defaults. The OJK are developing other proxies for losses, such as using capital market data to understand how markets respond to credit losses or considering how to use write-offs as a predictor/input into the model for losses. OJK mentioned that they do use data from the 1997-98 crisis but find it to be of limited use due to structural changes in the economy.

57. Both BI and OJK perform a liquidity stress test which involves a proper liquidity stress and is distinct from the monthly analysis. The BI and OJK's stress test tests banks' ability to withstand both funding liquidity and market liquidity stress at multiple time periods from overnight to over one year. The scenarios are designed to be severe but plausible and can include both a systemwide or idiosyncratic event or both. The market wide scenarios include important things to test such as exchange rate volatility, yield changes as well as a dry up in funding.

58. The authorities have received a number of technical assistances to improve their stress testing capabilities. This has substantially improved their modeling of interlinkages in particular. OJK have requested a TA on the interlinkages between the policy response and how that affects

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financial institutions in stress, this will be helpful for coordination between the two institutions as to help with policy formulation BI's model includes a policy response to the crisis which mitigates some of the effect of the stress while OJK currently use the one percent tail with no policy response. For the joint stress test the same scenario is agreed on.

59. This stress test is a considerable improvement since the last FSAP and is a good example of macroprudential stress testing. The authorities have put in a number of relatively sophisticated models in to consider spillovers, for example using a model based on the contagion mapping model in Covi, Gorpe, and Kok (2019) to examine how shocks might propagate. If any of the affected banks is unable to withstand the impact either in terms of liquidity or solvency, BI runs another round of contagion analysis until there are no additional banks that fail due to the contagion impact. They do not, however, include a further macro feedback loop as the aim of the stress test is to see how the stress will affect banks. Given that only a few small banks failed with only a small capital shortfall and therefore it is likely that the impact on GDP will be very limited—this lack of feedback loop likely does not materially affect results. The authorities might wish to explore imposing specific lending paths, as is done in several other countries, to explicitly test the system's ability to keep lending sustainably in a sustainable and balanced manner in a stress. The authorities are aware that there are a few potential improvements—for example modeling further sectoral interlinkages and macro feedback loops—but these are extremely difficult to estimate in extreme events. There have been discussions of doing a full systemwide stress test, but it is not a pressing need given the size of the NBFI sector at the moment—and due to the high levels of resources this can take.

C. The Policy Process and Communication

60. Using data and analysis effectively, with a clear policy process, is essential for taking actions on potential systemic risks in a timely manner. The use of macroprudential policy tools needs to be supported by clear communication. Communication with markets and the public can foster an understanding of the benefits of specific macroprudential tools which can increase their effectiveness.

The Policy Process

61. At BI there is a dedicated department for macroprudential policy. The macroprudential policy department operates within the financial system stability sector and the financial system surveillance department. There are about 80 people in the macroprudential policy department and comprises of several different teams: including a policy formulation team, assessment team, data team, AI team/modeling team, a regulations team, a crisis management team, green team, international team, and coordination as well as communication team which works with other financial system stability committee member authorities, and international, communication and coordination teams.

62. BI has a systematic approach to horizon scanning. In the macroprudential department they maintain a forward-looking list of potential shocks and vulnerabilities to Indonesia's financial system which comes from BI’s biannual Systemic Risk Survey. This survey presents a set of potential shocks and vulnerabilities that are subsequently scored by experts to generate rankings for each

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individual shock and vulnerability. The panel of experts who participate in the survey comprises bankers, economists, academics, experts from international institutions, corporates, NBFIs, and individuals. Participants are asked to rank shocks based on their impact and likelihood of occurrence; vulnerabilities, on the other hand, are ranked based on their characteristics (temporary or structural) and their potential severity of impact on the financial system.

63. Analysis plays a key role in the policy process. The performance of the key indicators is discussed each month at the committee meetings and there are clear attempts to link the conjunctural policy stance to key indicators such as the credit cycle and the FSSI. This has also been done publicly in the Financial Stability Review—which is a creditable attempt at transparency and accountability in policy making. Analysis and quantitative models are highly valued within BI as is evident from the development of models which integrate monetary policy and financial stability, including policy instruments.

64. Both BI and OJK perform monthly analysis of each sector as mandated by law. This is driven by the policy cycle where monetary policy and financial stability are discussed at the same monthly frequency and the close interactions between monetary and macroprudential policies at BI. In less turbulent times, variables which try to capture underlying vulnerabilities can be very slow-moving. In addition to the monthly board meeting, BI also holds quarterly and yearly board meetings to capture the build-up of longer-term risks. During the pandemic, the rapid pace of developments justified the need for a monthly analysis. However, it may now be prudent to reassess the intensity of the process and consider how the balance longer-term and short-term analysis needs to shift according to the policy cycle. BI has already begun to move towards a more focused assessment of financial stability issues in its monthly board meetings.

65. At the monthly meetings there is in-depth discussions of key topics and the extent to which they might impact systemic risk. Topics discussed include highly relevant issues like the impact of deposit pricing on banks' funding, banks' funding strategies, prospects for credit supply and demand, the outlook for MSMEs as well as longer term more horizon scanning issues such as the impact of demographic change.

66. The authorities should continue to focus on in-depth analysis. Recognizing the policy cycle at BI, staff have said that they are trying to shift to providing a monthly data table/chartpack for the monthly meetings and focus fuller updates for the KSSK quarterly meetings as well as focusing on more in-depth analysis of potential shocks and the relevant transmission channels. This is already underway, and this year staff have commented that they are shifting towards more topical issues—in part driven by the KSSK agenda. Staff has said that they have made considerable progress on refocusing the monthly updates to allow more time for analysis.

Communication

67. Bank Indonesia communicates on financial stability in a very wide manner, tailoring their communication considering the audience. Use of macroprudential policy tools needs to be supported by clear communication. Communication with markets and the public can foster an understanding of the benefits of specific macroprudential tools. Bank Indonesia engages in regular meetings with parliamentarians, banks and financial sector entities, academics, and other relevant

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institutions to discuss matters related to the development of the financial system, policy issue and regulations. Bank Indonesia periodically delivers speeches, public lectures, and seminars, to further communicate with the public and increase understanding of financial stability.

68. Bank Indonesia organizes "Macroprudential Education" to enhance public awareness, understanding, and innovation in macroprudential policy communication. This initiative is presented in the form of Macroprudential Talks through a podcast competition, an article writing competition, video podcasts, and public lectures. Use of social media to communicate to the public and explain the policies that it is taking is extensive and BI works with podcasters and influencers to get their message across as they have found that the message is better understood this way. The macroprudential policy education materials are widely accessible on the Bank Indonesia YouTube channel.

69. And these efforts appear to be reflected in high levels of public understanding. BI do several surveys on the understanding of macroprudential policy and consider it to be a key indicator of their performance—scoring over 5 out of 6 for the last two years—well above their target of 4. There are not many international comparators, especially as most surveys of the public understanding of Central Bank activities focus on monetary policy—BI is one of the few central banks to survey on understanding of macroprudential policy.

70. Key stakeholders are invited to the launch event of the Financial Stability Review and BI considers that the audience for the FSR is wide and includes the general public. These stakeholders include members of the previous Board of Governors, representatives of the government and related authorities or institutions (such as the Ministry of Finance, Financial Services Authority, Deposit Insurance Corporation, Bank Indonesia Supervisory Board), banks, academics, related associations and corporations, and the mass media.

71. BI is not required to produce a Financial Stability Review in the same way that it is legally required to produce a monetary policy report but considers it important to do so for transparency. It is produced by the Macroprudential Department. The outline and focus of the book are submitted to the Governor of BI through the Deputy Governor for preliminary approval; both the Governor and Deputy Governor also have final approval. In this sense it is not a staff document but an official BI document.

72. The FSR does a good job of showing how policy actions and stance link to the data. This is particularly evident in three areas: the use of the FSSI, the financial cycle and the Diebold-Yilmaz index to explain the contagion from the US SVB failure in 2023. Staff have indicated that they put the most weight on the FSSI index and the financial cycle when considering a number of policy instruments, and both the FSSI and financial cycle have clear thresholds placed on them at which action will be taken. This aids transparency and accountability of policy making.

73. Communication covers the three pillars of BI's approach: resilience, intermediation, and inclusion but it is currently tilted towards growth and credit supply. To an extent this reflects the conjuncture as the economy is recovering from the pandemic and this is the main message that BI wishes to make sure the public understand. However, this is reflected in more technical documents including the FSR.

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74. The Financial Stability Review is long—which is the BI's intention to provide a comprehensive picture and elaborate growth and inclusion initiatives in addition to financial stability. The Financial Stability Review should be more focused and succinct, and clearly explain the resilience of the financial system to the shocks that it faces, and any measures the authorities have taken. BI should improve its communication in explaining each of their three three-pronged strategies of "macroprudential policy:" (i) financial system resilience; (ii) balanced and sustainable intermediation; and (iii) financial inclusion. If BI wishes to retain the comprehensiveness of the FSR then BI should also consider the organization of its FSR to ensure that the key information it wishes to convey is clear and highlighted.

75. Recommendation: BI should consider making the FSR more succinct to build more effective communication to the public. The FSR should focus on key vulnerabilities, risks, and issues of financial system stability. In refocusing the FSR it's important to note that much of the information BI produces is a valuable public service and the data and information may not be easily available elsewhere. Any changes to the FSR should also consider and put into context the excellent other initiatives on communicating on financial stability and how to best complement them or provide easy to find information that is not available through other channels and for specialized audiences.

76. Information about the stress test is confined to one paragraph in the FSR and does not contain concrete information about the scenarios tested. The paragraph reveals a little bit of information about the scenario—for example the most recent one has—a severe macroeconomic scenario with global uncertainty, higher policy rates and a move of the loan restructuring program to become more targeted. The only information about banks is that the level of NPL would be below 5 percent and capital adequacy at above 25 percent. This is deliberate. Given how well capitalized the banking system is at the moment BI is in an excellent position to start bringing in more transparency over its stress scenario and the ability of the banking sector to withstand the stress whilst taking into account the financial literacy of users.

77. Providing concrete information about the banking system's ability to survive stress is an important pre-emptive financial stability tool which can provide significant reassurance to bank creditors in a stress. It could be helpful to establish sharing the stress test information to establish transparency and greater understanding of the financial system. This has shown to be effective in a crisis as investors have more information about the circumstances that the banking system is resilient to. Some authorities—such as the Bank of England—have also experimented with imposing lending restrictions—so that banks are forced to maintain lending through the stress—and this could be an important way to show and understand that the banking system can meet not just its resilience but also its intermediation objectives through a stressed scenario.

78. Recommendation: The authorities should explore a way to publish or make more widely available to an expert audience the information in the stress test—in an aggregated format. Including some details of the scenario would help to make it clear to investors that the system is resilient to an extreme scenario. This needs to be considered carefully: in the past the press has misinterpreted hypothetical extreme scenarios as being forecasts and this is why this is a recommendation to explore the issue rather than a recommendation to do it. Bearing in mind the

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audience for the FSR and concerns about communicating the results the authorities should carefully explore the best way to do this in the future and for key stakeholders rather than a general audience—who may misinterpret it. There are multiple possibilities such as—but not limited to—exploring it with key stakeholders and rating agencies in visits/seminars, discussing the results with the banks or in a technical section on the website and this will be up to the authorities to find if an appropriate communication channel exists.

POLICY TOOLS

79. To reduce systemic risk effectively it is important that the policymaker has access to the correct toolkit to be able to take action, both as risks vary through the cycle and on structural issues. As discussed in the section, "Ability to Act," BI has a clear mandate on macroprudential policy and work closely with the relevant authorities to ensure that its policies are effective. The FSOL set out clearly that macroprudential policy has the priority over microprudential considerations.

80. The section on the toolkit is largely descriptive. Recommendations mainly focus on the current setting which is discussed in the section, "Conjunctural Settings and Policy Stance," and recommendations on how the authorities are using the toolkit are discussed in the section, "Using the Toolkit and Policy Strategy."

A. The Toolkit

81. This section discusses the toolkit that is currently being used. If a tool is not discussed here, it does not mean that the authorities cannot use this tool in the future. BI has access to a wide toolkit and has noted that the process for acquiring new tools and regulation is relatively fast and simple due to the close coordination between the authorities as discussed extensively in sections "Ability to Act" and "Coordination between Authorities and Internationally."

Countercyclical Capital Buffer

82. BI has had responsibility for the CCyB since 2016 and it has been set at zero since that time. The main indicator BI use is the credit to GDP gap—albeit using bank loans as the definition of credit—which does not make too material a difference as credit in Indonesia is heavily dominated by bank intermediation. But they also look at various macroeconomic indicators, bank indicators and asset price indicators. BI's internal work suggests that the credit cycle is a bit different to advanced economies—being shorter and with banks mainly following the economy. In part this reflects the lack of a financial crisis (at least since 1998) which is one of the main generators of large and long financial cycles as well as robust lending in the pandemic.

83. Most banks have high levels of excess capital, and their reserve requirement ratios are more likely to be the binding ratio. This is why BI have paid more attention to the use of liquidity instruments in their macroprudential setting rather than capital instruments. BI consider that the CCyB is a countercyclical measure, which is loosened in the downturn to provide room for banks to recover and tightened in the upswing to mitigate excessive lending.

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84. BI is currently doing research into the merits of a positive cycle neutral rate. This is a positive development: a positive cycle neutral strategy will reduce the cost of building resilience. This should be considered as a part of their overall strategy for using their macroprudential toolkit as discussed more in paragraph 40. It is a country specific choice, and important factors will include the speed at which the credit cycle builds up, the capital necessary to support lending in a stress considering expected depletion and banks' ability to generate capital.

LTV and Downpayment Limits

85. BI has used minimum downpayments for vehicles and LTV limits on housing as a macroprudential instrument since 2012. Currently the limits are set at 0 percent (Downpayment) and 100 percent (LTV) There is considerable scope for differentiation and different LTV limits exists for flats and houses of different sizes as well as for home businesses/shops. Similarly, downpayment limits for cars differentiate by the type of vehicle.

86. The limits have been adjusted several times but mainly with a loosening trend even before the pandemic. These have gradually been amended loosened in 2018 and 2019 before being loosened to 100 percent in the pandemic. While loan growth in the property and automobile sector has been strong, there was no obvious signs of excessive loan growth in the property sector following the loosening in requirements; and compared to other countries Indonesia has not seen a sustained boom in property prices. However, there are some indications of a rebound in automobile lending in 2020 but the evidence is tentative.

87. The ability to lend at 100 percent has a safeguard—it is pegged to a bank's NPL ratio and banks with high NPLs are not able to lend at this high LTV. Only banks with NPLs below 5 percent are able to lend at the loosest LTV or downpayment ratio. For banks which do not meet these requirements the maximum allowed LTV ratio is 5 percent or 10 percent tighter depending on the property. This sector has, on average, NPLs below 3 percent and so this safeguard is not binding on average.

88. Banks have expressed little appetite to lend at these limits. The policies do not appear to be binding for banks Getting granular LTV data is difficult and the authorities implemented a change in the reporting in 2022 which has made it difficult to get data on high LTV loans. But in conversations with market participants and the authorities they indicated that loans at 100 percent were generally beyond banks' risk appetite with the exception of people who worked for either the government or a corporate that paid salaries directly to that bank—in which case the bank would be able to take the repayment for the loan directly.

Macroprudential Liquidity Buffer (MPLB)

89. The macroprudential liquidity buffer is effectively a liquid asset requirement. Banks hold a certain level of assets—which meet certain liquidity requirements—currently securities in rupiah issued by central bank and governments. The objective is to support banks' liquidity resilience and ensure that they have enough high-quality liquid assets to be used in the event of needing liquidity assistance. It is set at 5 percent for conventional banks and 3.5 percent for sharia

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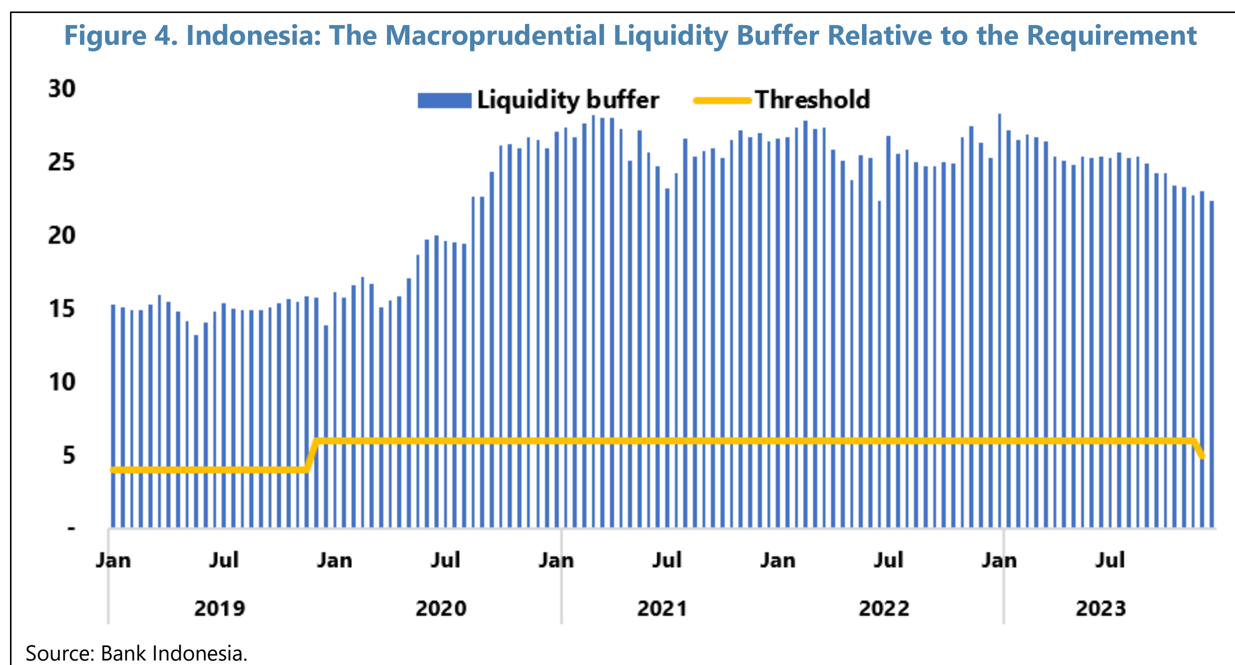
banks. In practice banks hold well above this level (Figure 4. Indonesia: The Macroprudential Liquidity Buffer Relative to the Requirement) but some small banks have a buffer that is below 10 percent.

Figure 4. Indonesia: The Macroprudential Liquidity Buffer Relative to the Requirement



Source: Bank Indonesia.

90. **It is a time varying instrument.** It was set at 6 percent during the pandemic to ensure that banks had sufficient liquidity but has since been loosened to 5 percent in line with Indonesia's accommodative macroprudential policy stance. It is difficult to understand the effectiveness of this—at the system level—beyond sending a signal given that banks are holding well above this level of liquid assets and the changes are small.

Macroprudential Intermediation Ratio

91. **The macroprudential intermediation ratio (MIR) is like a loan to deposit ratio but with an extension to allow a bank to purchase corporate securities and collect funding from securities and loan issuance.** This addition was added in 2018 as previously it was effectively a credit to funding ratio. The ratio is calculated as "Credit + corporate securities"/ "Third party funds + issued securities + received financing." The extension to allow for the purchase of corporate securities is to allow banks to meet the criteria even if they do not have the capacity to expand lending in a prudent manner.

92. **Unlike most macroprudential instruments the target is set in a corridor with both upper and lower limits.** The lower limit exists to ensure banks intermediate funds and make loans rather than holding too many government securities. This has been a cause of concern in Indonesia as banks make a reasonably high return on the holding of government securities, which can reduce the incentives to do lending—which can be riskier. It is not the explicitly intended effect, but this can also help reduce risks arising from the sovereign-bank nexus. The upper limit exists to act ensure that banks do not engage in excessive lending behavior.

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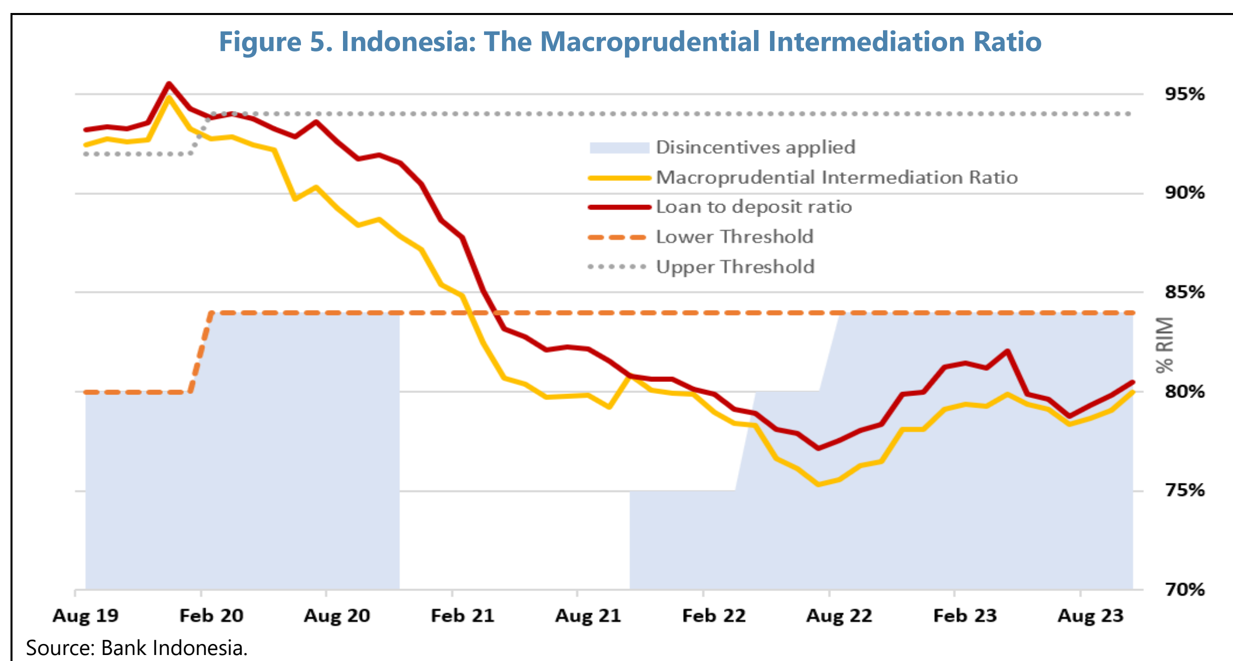
93. A bank has to keep funds at BI if it breaches either the upper or lower limit—and these depend on the bank's capital ratio and level of NPLs. If a bank has high capital ratios and low NPLs then BI considers that it is able to safely intermediate more lending and so provides a disincentive if the bank is below the lower bound. This disincentive increases if the bank has a higher capital level. If a bank has high NPLs then BI does not require the bank to keep funds at BI as a disincentive as BI does not want to encourage the bank to do more lending. BI has been explicit that as the economy recovers there will be no disincentive on the upper bound in order to encourage lending.

94. This is one of BI's most binding policies—both at the lower level and at the upper level (Figure 5. Indonesia: The Macroprudential Intermediation Ratio). Only about a quarter of banks are within the upper and lower bounds with roughly equal numbers below and above. The bounds are evaluated twice a year and have been changed frequently since it was introduced in 2018. It is challenging to distinguish the effects of the policy from the natural increase in intermediation as Indonesia recovers from the pandemic.

Figure 5. Indonesia: The Macroprudential Intermediation Ratio



Source: Bank Indonesia.

Corporates

95. BI also has a tool which has limited systemic risk stemming from the corporate sector although it is a monetary policy instrument. BI has this tool under its statutory mandate on regulating foreign exchange rate system and capital flows management and it is principally a tool to support maintaining rupiah stability. But there is harmonization and discussion between the monetary and macroprudential departments on this instrument which is appropriate as exchange rate fluctuations are growingly recognized as an important potential source of systemic risk. BI requires all corporations who have financial obligations to non-residents to maintain liquidity measures and to cover their upcoming obligations due in the next 3 and 6 months with hedging instruments. This has been in place since 2014 and non-financial corporates are required to hedge at least 25 percent of their open foreign exchange positions that are due in the next 3 and 6 months.

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Non-financial corporates must also maintain a minimum liquidity ratio of 70 percent (current assets to current liabilities which are also due within the respective 3– or 6–month periods).

Green LTV and Downpayment Limits

96. BI sets a structurally looser LTV and downpayment limit for "green" houses and vehicles. This was introduced in 2019 with the intention that the regulation would be structurally looser for more environmentally sound housing and cars to encourage lending to this sector. Currently the limits are set at 100 percent (LTV/FTV housing limit) and 0 percent (car down payment) as the overall LTV/FTV and downpayment policy is accommodative to encourage recovery (see paragraphs 109 to 115).

97. This tool is not directly aimed at reducing systemic risk and instead aims to encourage households to consume green products by making them more affordable without the need for a down payment. The green transition is important and there is a growing body of evidence highlighting climate risk as a potential systemic risk for the financial system—and should be considered as an initial effort to target these climate risks.[4] The proportion of green automotive financing remains relatively low and poses limited risk to the stability of the financial system and there is a lower NPL rate for green property and automobile lending (1.98) than for overall property and automobile lending (2.59) but this evidence should be treated extremely tentatively and there was nothing done ex-ante to relate the tool to systemic risk.

Macroprudential Inclusive Financing Ratio (MIFR)

98. This policy aims to ensure that the banking system makes at least a certain fraction of their loans to MSMEs and low-income individuals. The primary purpose is to accelerate the economic recovery while strengthening financial inclusion rather than limit systemic risk. The authorities consider this to be a macroprudential policy as for them in the long-term a more inclusive financial system and a stronger and more balanced economy lowers systemic risk as discussed in paragraph 9.

99. The 30 percent MIFR target is an aim of the authorities for the banking system as whole. Although there is an industry target there is not target for individual banks. It is now considered a structural ratio rather than expected to vary more over time but was introduced gradually to allow banks time to transition. The instrument appears to have influenced banks' lending as the proportion of inclusive financing has increased considerably as can be seen in Figure 6. The inclusive financing ratio is adjusted to the expertise and business model of each respective bank in accordance with risk management and prudential principles, as well as the bank's contribution to improving financial inclusion. There are exceptions to having to meet this target if the bank is already under special supervision measures.

[4] Even if they do not target the main causes of climate change or sources of systemic risk as a result of climate change, it can still be considered as a novel approach and adapting existing instruments.

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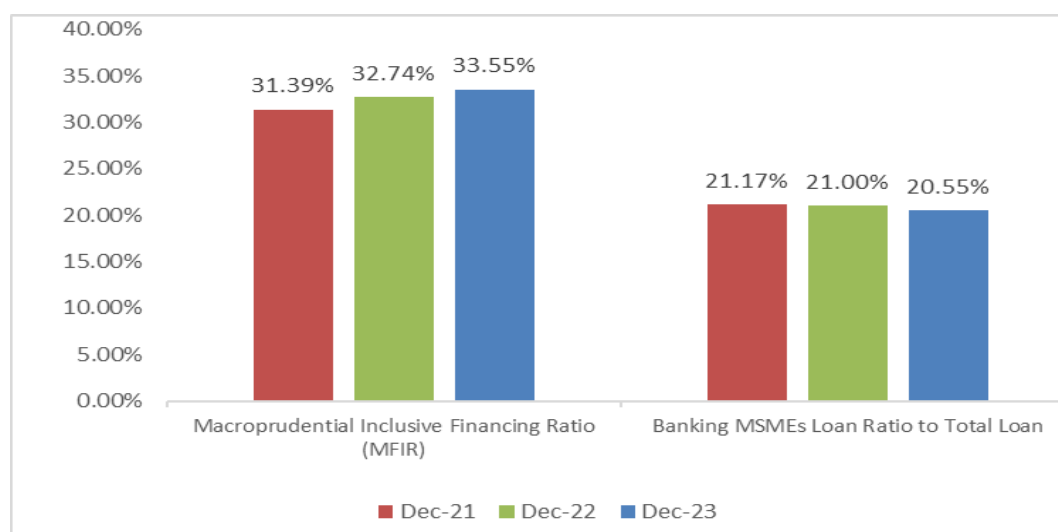
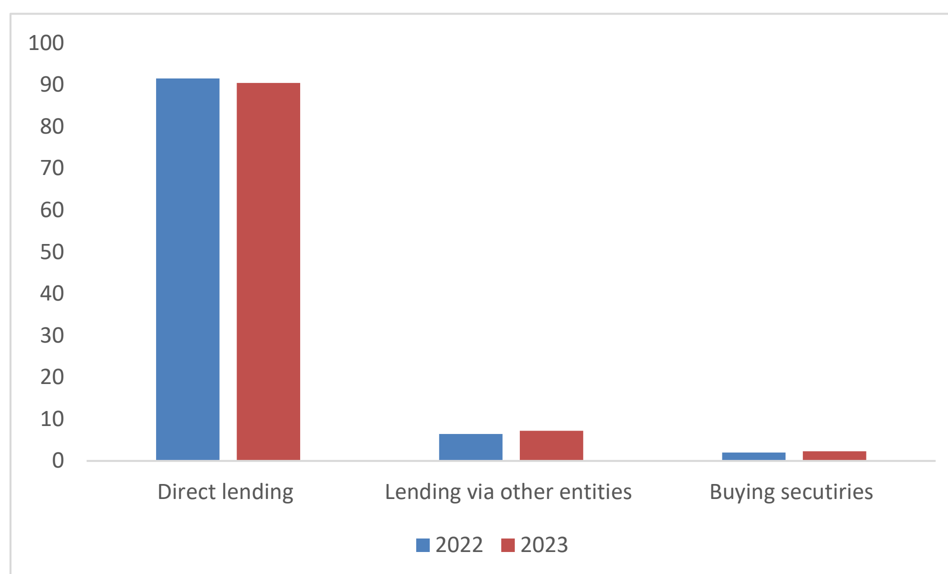
Figure 6. Indonesia: The Inclusive Financing Ratio: Actual Lending



Source: Bank Indonesia.

100. A number of innovative features enable it to be a "system-wide" policy despite it applying to individual banks. This is to recognize that many banks do not currently have the expertise to lend directly to some of these sectors. Banks can meet the ratio by buying securities issued by firms in these sectors rather than lending directly. In addition—in a move reportedly inspired by green initiatives and carbon trading—banks which lend more to these sectors are able to issue green/inclusive bonds which can be acquired by other banks which do not have expertise. The ways in which banks can meet these targets are set out (slightly simplified) as (i) direct lending; (ii) lending through other entities; and (iii) buying securities. Although the vast majority of the financing is done directly (Figure 7) the other two methods are important for developing deeper and inclusive financial markets. And foreign banks are making use of the ability to finance through business units.

Figure 7. Indonesia: Ways in Which Banks Meet the Inclusive Financing Ratio



Source: Bank Indonesia.

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Liquidity Incentives

101. The liquidity incentives tool was introduced in 2022 and currently eases reserve requirements by up to 400bps for banks' lending to priority sectors (including inclusive and green sectors). Initially, it provided a maximum reduction of 100 bps in reserve requirements to banks which lend to certain sectors and met the inclusive financing ratio. This was soon increased to expand the number of sectors and offer a larger liquidity incentive, with maximum reduction of 200 bps for lending to those sectors. Subsequently green finance sectors were added, and the maximum reduction in reserve requirements for lending to these "priority and inclusive sectors" were increased to a total 280 bps. Since then, the main change has been to increase transparency over the criteria for choosing the sectors which BI feels merit stimulus.

102. The authorities have indicated that these incentives will be tightened as the recovery progresses considering these to be part of their countercyclical tool kit to help financial stability; that should be communicated more clearly in the FSR. The authorities expanded the incentives as the credit recovery got underway in 2023: both allowing larger reductions in reserve requirements and expanding and refining the sectors. The authorities have stated that they view the liquidity incentives as financial stability tools. Currently the communication on these tools focuses on growth such as: "seeking to nurture growth in targeted sectors with higher leverage for economic growth and create job opportunities" and "Inclusivity was nurtured through macroprudential policy incentives for banks extending green financing" without an overall explanation of the effect on financial stability. The emphasis is on the intermediate effect—which makes the purpose of the tools less clear. The authorities should be clearer that the objective is financial stability, and they should explain the channels through which these instruments affect financial stability.

103. The criteria for inclusion are based on their idea that diversifying the financial system will mitigate systemic risk but are also intermingled with other objectives. The refocusing was based on five principles, to quote directly from the FSR: "(i) providing economic growth leverage by increasing/strengthening value added in sectors with strong backward/forward linkages and supporting the economic structure, job market, business opportunities and food security; (ii) boosting recovery momentum in specific sectors, including contact-intensive sectors and sectors impacted by the scarring effect of the pandemic; (iii) supporting green and inclusive finance; (iv) implementing targeted financing to specific sectors/commodities; and (v) aligning and synergizing with government policies and programs." The main sectors benefiting are down streaming, housing, tourism and inclusion and green finance. Details are provided in Figure 8. Criteria (i) and (ii) have the potential to reduce systemic risk by reducing unemployment and increasing business income thereby reducing impairments. However, the policy is now blurred between the objective of ensuring optimal credit and helping the recovery—which in turn helps reduce systemic risk in the downturn—and other criteria which do not and may actually increase systemic risk. The policy also affects other BI objectives—such as monetary policy objectives—for example in the FSR it states, "*Through support for non-mineral sectors BI can also target strategic food commodities that support food security and contribute to managing inflation*."

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Figure. 8 Indonesia: The Evolution of the Macroprudential Liquidity Incentives

Source: Bank Indonesia.

104. These incentives are now at a maximum of 4 percent which is a substantial reduction from the overall reserve requirement of 9 percent (7.5 percent for Sharia banks) and banks appear to be directing lending to these sectors. The reduction in requirements is effectively a max of: 220bps for lending to priority sectors, 100bps for lending to inclusive sectors, 30bps for lending to ultra micro sectors and 50bps for lending to green finance. Three quarters of the banks are receiving a reduction in their reserve requirement of between 1-3 percent. Most of the reduction is coming from lending to non-mining downstreaming sectors, meeting the inclusive financing ratio and the housing sector; the growth rate of credit to all of these sectors increased in H2 2023.

Interlinkages between Banks and the Insurance Sector

105. The OJK has implemented a regulation to limit exposures between the banking sector and the insurance sector. The insurance sector provides loan guarantees to the banking sector. In 2023—in response to concerns about the level of credit risk that banks were transferring to the insurance sector OJK passed a regulation to limit the amount of credit risk that banks can transfer to 75 percent from 100 percent previously. While the level of credit risk transfer is small and of limited impact to the banking sector the potential impact on the insurance sector was such that the OJK implemented this regulation as an urgent regulation which allowed them to speed up the timetable for implementation. It is the first example for OJK of a sector-to-sector regulation, previously everything has occurred at the individual institution level. At the same time the credit registry is going to be expanded to include NBFIs: pension, fintech, financing, insurance so that it is easier to track credit risk transfer.

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Nonbank Financial Institutions

106. The FSOL focuses on the banking system—which is by far the biggest source of systemic risk. As discussed earlier, the nonbank sector is small, and banks have the predominant role in the Indonesian economy and financial system. The FSOL strengthened the mandate of OJK to ensure that the risks from non-bank sectors are managed through their existing supervisory and regulatory functions as part of their overall responsibility for financial stability.

107. Recommendation: considering their increased powers as a result of the FSOL—as the authorities strengthen the framework for nonbanks policies should be developed from a microprudential and macroprudential perspective. The new powers in the FSOL and the authorities push towards financial deepening is a big opportunity. This is a long-term recommendation, given the small size that this sector plays in the financial system and current contribution to systemic risk. But it reflects the time that it takes to build a framework in this area and the fact that there is currently a big push for financial deepening and development in this area—and the fact that the FSAP is a forward-looking five-year process.

108. Establishing a solid framework for nonbanks will take many years and strengthening it now and thinking about the macroprudential and systemic risk side at the same time as further developing the microprudential framework can build a robust framework for the future. Currently these sectors are small and relatively uncomplex. It can be helpful to establish monitoring and understanding of the sector while it is still small and simple, especially as the data on nonbanks is currently of a considerably lower quality than for banks. Many countries have found themselves having to monitor and consider how to regulate extremely complex entities or having to amend consumer protection regulation for a macroprudential purpose and finding that amending existing regulation is a second-best solution.

B. Conjunctural Settings and Policy Stance

109. In discussing the conjunctural setting of policy it is important to note that macroprudential policy is part of a broader set of policies which BI uses in a coordinated manner. BI uses multiple policies as part of its policy mix to meet its multiple objectives: macroprudential is part of its combination of policy instruments, which include monetary, macroprudential, exchange rate intervention, and capital flow management, to achieve its objectives of price stability, financial stability, and external stability, while supporting sustainable economic growth.

110. During the COVID-19 pandemic, BI loosened some of its instruments whilst tightening others. LTV limits were raised to 100 percent and downpayment for vehicles was cut to 0 percent. Reserve requirements were lowered for banks with loans to SMEs and high levels of exports while general reserve requirements were decreased by 200bps. What the BI calls the "macroprudential liquidity ratio"—whereby banks have to hold a certain number of government securities, effectively as HQLA, increased to 6 percent to ensure that banks held enough liquid assets to meet any liquidity stress through the pandemic. Major changes are set out in Figure 8.

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111. In contrast to many other countries Indonesia has not yet started to revert to its pre pandemic stance and actively took action to boost credit in 2022 and 2023. The LTV ratio for houses remains at 100 percent while the required downpayment for vehicles is 0 percent. The actions to boost credit have mainly been targeted at priority sectors as discussed in paragraph 103. These policies include an inclusive financing ratio—which targets lending to inclusive sectors at 30 percent across the system, increasing liquidity incentives to a maximum of 4 percent for banks which lend to priority sectors. At a broader level BI has relaxed what it calls the "macroprudential intermediation ratio" which is effectively a loan to deposit ratio to encourage banks to do more lending and the "macroprudential liquidity ratio" was relaxed to 5 percent in 2023 as liquidity in the banking sector normalized, having been tightened in the pandemic.

112. These credit supporting policies are part of the policy mix with monetary policy and partially aimed at offsetting the effect of monetary policy on credit growth. However, as discussed in paragraph 115 it is only the instruments which are aimed at inclusion (the inclusive financing ratio and the liquidity incentives) are calibrated at a level which is close to what banks currently hold anyway and so are likely to be having an effect to increase credit. The more conventional instruments which are aimed at reducing systemic risk are not likely to have a material effect on bank behavior as banks are holding capital and liquid assets well in excess of these levels and seem unlikely to be positively affecting growth. BI has been explicit that currently monetary policy is aimed at preserving stability, while the other instruments including macroprudential policy are geared towards accelerating the economic recovery.

Table 2. Indonesia: Major Changes in Policy Stance from 2020 Onwards

Instrument	2020	2021	2022	2023
Macroprudential Intermediation Ratio	Removed the RR penalty if banks were below the bottom of the range (84 percent–94 percent).	Penalty reinstated for banks with MIR below 75 percent and gradually increased to 84 percent.		
Macroprudential Liquidity Buffer	Tightened to 6 percent from 4 percent.			Lowered to 5 percent.
Down Payment Ratio	Lowered to 0 percent for green vehicles.	0 percent for all vehicles.		
LTV		LTV of 100 percent for all properties.		
Inclusive Financing Ratio		Introduced: 30 percent at industry level by 2024.	Individual targets for banks (of lending more than the previous year) and allowed to meet by buying securities.	
Liquidity Incentives	Max 50 bps.		Maximum of 100bps in H1, 200bps in H2 and sectoral expansion.	Increased to 280bps in H1 and then 400bps in H2. Further sectoral expansion.
CCyB	0 percent.			

Source: BI and IMF.

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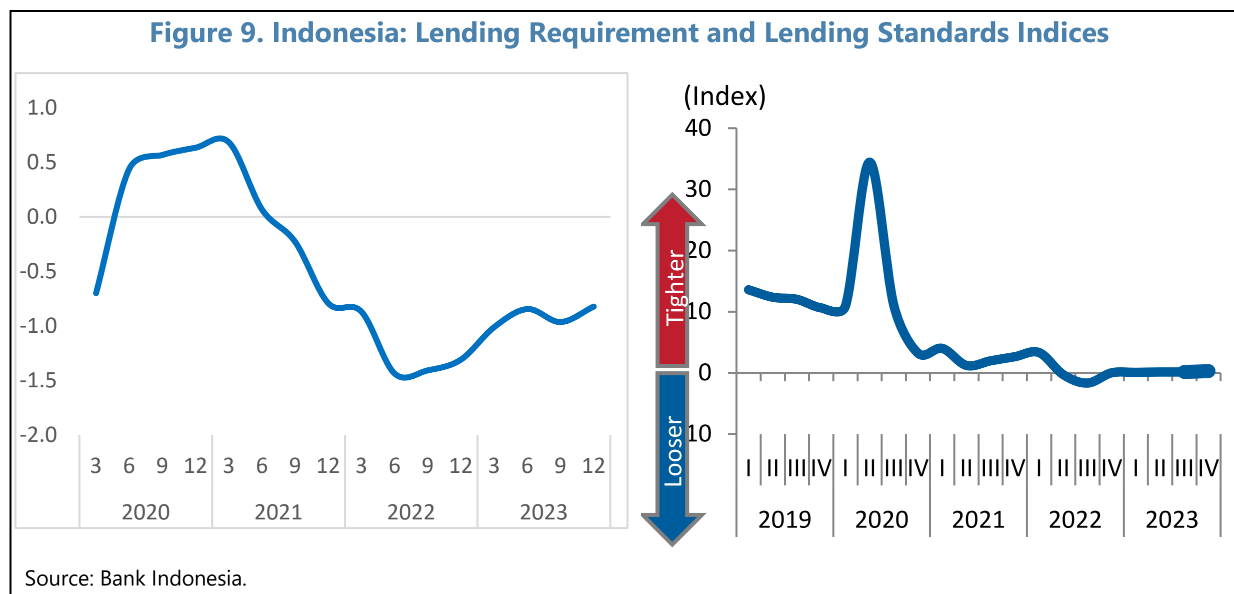
113. BI has announced that its "macroprudential" policies will remain accommodative until at least 2025, taking into account the financial cycle and level of risks. Although Indonesia has been one of the fastest growing countries in the world in 2023 some sectors of the economy have not yet recovered from the pandemic. Banks are being provided with incentives in the form of lower reserve requirements to lend to these and other sectors which are particularly important to the macroeconomy. BI has stated publicly that—given the current tightening in monetary policy in developed economies and what it calls the early stages of the recovery it has adopted a policy mix whereby monetary policy is aimed at preserving stability while its other instruments—including "macroprudential policy"—are pro-growth.

114. This forward guidance of accommodative into 2025 is at odds with the fact that a number of indicators are already showing that lending standards are loose and credit growth is strong. Giving state contingent guidance is very difficult with macroprudential policy. However, banks' lending requirements as measured by the lending standards index and the aggregate lending requirements were already looser than before the pandemic (Figure 9) at the time some of the instruments were loosened; and while the credit gap was below the average trend at the time of the last FSR it could reasonably have been expected to be above average by 2024—and in fact became positive at end 2023 (Figure 10).

Figure 9. Indonesia: Lending Requirement and Lending Standards Indices



Source: Bank Indonesia.

115. Many of the macroprudential measures are not constraining for most institutions—suggesting that there would be limited costs of tightening them and it would boost resilience against future shocks. Banks hold large levels of capital and are highly profitable: at an average of over 25 percent of Tier 1 these are well above both minimum requirements and add-ons required by Pillar 2. Banks are highly profitable as indicated by their NIMs, and so it is questionable to what extent the benefit of these policies is feeding through to the borrower. On average banks are holding around 20 percent of their assets as government securities when the required ratio is 5 percent. And banks have only extended loans close to LTV ratios of 100 percent to government employees. This average number hides a lot of heterogeneity: for a few small banks they are operating close to the limits but macroprudential policy is about the system as a whole.

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Figure 10. Indonesia: The Credit to GDP Gap

Source: Bank Indonesia.

116. Recommendation: BI should be preparing to tighten its macroprudential instruments now. This does not mean tightening policy immediately—if policies are tightened in a way that financial market participants are not expecting credit might be withdrawn in a disorderly manner. BI should be providing guidance about how it intends to tighten. As the financial cycle picks up and credit growth continues to recover, macroprudential policy should be tightened. BI should restore pre-pandemic settings for the loan-to-value limits (property and car loans), re-assess (and potentially reduce) the liquidity incentives for lending to certain sectors and review the macroprudential intermediation ratio corridor.

C. Using the Toolkit and Policy Strategy

117. It is important for macroprudential policy that the toolkit is being used effectively. Macroprudential policies can have short-term and long-term costs which can be greater when not used effectively. As noted in the section "The Toolkit," BI has a large toolkit available to it that it uses for multiple different objectives. This section covers the way in which each of these tools are used and the overall strategy of the authorities.

Inclusion Tools

118. While the "macroprudential liquidity incentives" or the "macroprudential inclusive financing ratio" could contribute to a reduction in systemic risk, it is not their principal effect. The effect of these instruments and building a more diverse economy have effects far beyond decreasing systemic risk and as noted above in paragraph 103 have an impact on other objectives of BI. This impact on other objectives is potentially considerably larger than any long-term effect that a diverse financial system has on reducing systemic risk.

119. The liquidity incentives that BI is using could lower systemic risk—by targeting sectors which are particularly important to the real economy—in certain states of the world. However, this is not their principal effect—but is a positive side effect. This is because the

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criteria of priority sectors go beyond the criteria of achieving optimal credit growth or reduction in systemic risk. Therefore, the liquidity incentives should not be considered as a strictly macroprudential instrument. Similarly with the inclusive financing ratio—the goal of this is to boost lending to certain, traditionally under-financed, sectors of the economy. There is a macroprudential effect in the sense that in the very long term a more balanced economy where all sectors have access to finance is more resilient, thereby increasing financial stability. But the effect is small on systemic risk compared to the potential effect on the economy as a whole. Both instruments are aligned to government policies.

120. Recommendation: While it is not possible under the current FSOL, these instruments have effects well beyond affecting systemic risk and BI should differentiate the inclusive financing ratio and the liquidity incentives from the macroprudential tool kit. It would be helpful to classify or differentiate these two instruments as something like "inclusion tools." It would be in line with the BI's remit and part of their policy mix where monetary, macroprudential and payment system tools work together to provide sustainable economic growth. It also highlights the other role that they are serving and the way the tools are currently being used—for example in the recent FSR the liquidity incentives are described as going from "Fostering post pandemic recovery" to "Refocusing: synergy driving economic leverage for sustainable economic growth." Whether these instruments are correctly calibrated or are the optimal solution to the under provision of finance is not in the scope of this FSAP. It would make the aims of the policies clearer and aid communication. For example, it might be the case that some of the resilience tools are tightened while at the same time the more inclusion orientated tools are loosened—which can be a communication challenge. This is particularly likely to be true as the timeframe over which these instruments might materially influence the diversity of the financial system is likely to be considerably longer than the financial cycle.

121. For both the liquidity incentives and the inclusive financing ratio the authorities have safeguards in place to ensure that bank lending to these sectors is within their capacity to lend prudently. The authorities have put a number of safeguards in place such as ensuring that the NPLs in each of the sectors included in the inclusive financing ratio tool, have NPLs below 5 percent. For the inclusive financing ratio there are a number of ways in which banks can meet the target without having to lend in areas where they do not have the expertise to lend.

122. Recommendation: The authorities should make these safeguards that it has put in place clear, and this safeguarding should be the principal input of the macroprudential department into the use of these tools. Excessively loose calibration of these instruments can increase systemic risk, and in some states of the world there may be conflicts between the negative short-term effects and longer -term positive effects on financial stability. The authorities be clear in recognizing these potential tradeoffs how they manage them. The purpose of macroprudential policy is to reduce systemic risk and the main role of the macroprudential department into any tool that BI designs should be ensuring the safe and sustainable use of these instruments. The macroprudential department has been quite innovative in some of the safeguard designs—for example the multiple ways in which firms can meet the inclusive financing ratio—and this would be valuable input. The extensive coordination within BI should mean that the relevant departments are well placed to provide technical input.

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123. Recommendation: these safeguards should be supplemented with careful analysis of the barriers to credit supply to these sectors and ensure that the targets are sustainable. Growth driven by credit and asset price booms rather than the fundamentals of the economy is not sustainable. This may lead to higher growth in the short-run, but a financial crisis will lower growth over the medium and long term—and ultimately it will be the more vulnerable sectors which are likely to be more negatively affected by a financial crisis. To the extent possible the authorities should complement their current methods to identify a bubble in these specific sectors—and be in line with the remit on sustainable and balanced growth. This has been an issue for a number of countries which have tried to push credit growth or towards certain sectors and found themselves in situations with high levels of NPLs or difficulties managing a soft landing and investors have negatively focused on this. This will involve a careful understanding of the reasons why both credit demand and credit supply to these sectors might be sub-optimal and coordination with the authorities.

Time Varying and Structural Instruments

124. BI have a very activist approach to changing macroprudential instruments. Instruments have been altered repeatedly over the last few years as outlined in the table below. To some extent this reflects the pandemic and the loosening that occurred, but it also reflects the current policy mix and promotion of growth.

125. Currently BI uses its macroprudential policy as countercyclical measures to lean against the wind. This is evident in all phases of the financial cycle. In the downturn—where some sectors are still recovering from the pandemic—BI is currently trying to support the recovery of credit growth to accelerate it returning to its long-term trend. And BI have expressed that some of their instruments are about achieving optimal credit growth through the cycle. This is one of their pillars of macroprudential policy—in achieving optimal credit intermediation. This can be effective, particularly because BI have mainly been activist in using liquidity instruments which as shown in (Macroprudential Policy Effects: Evidence and Open Questions (imf.org)) these can have a positive effect on controlling credit.

126. In order to ensure an effective macroprudential policy toolkit, it is advisable that BI provides forward guidance as to the speed of tightening and which instruments will be tightened first to allow agents to adjust. Currently, as in their communication and discussions with authorities BI has not formally created this guidance, thus it is not clear how countercyclical these tools are in practice. For example, housing instruments were loosened repeatedly even before the pandemic. Liquidity incentives have been continually loosened despite the financial cycle starting to recover. And there has been very little forward guidance on how instruments might return to their pre-pandemic stance or be tightened as the economy recovers beyond advising that the accommodative stance will remain until the financial cycle is above its long-term trend—guidance as to the speed of tightening and which instruments will be tightened first would be helpful to allow agents to adjust.

127. Indonesia—has a very different financial cycle to AEs—and this should be taken into account when considering countercyclical policies. Figure 10 shows the credit cycle since 2005—it is very shallow with no crashes. It is also substantially shorter than a typical AE credit cycle—at a

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similar frequency to the business cycle; although estimating the length of credit cycles is heavily influenced by the global financial crisis, where Indonesia was much less affected than many other countries.

128. Formal guidance on these countercyclical toolkits can give a clear stance on how often BI wishes to change their instruments and the extent to which they wish to fine-tune the financial cycle. While there are some long-term costs, the cost of tightening macroprudential policies is mainly in the transition and building of resilience, not in the cost of keeping the resilience once it has been built. It is an open question of how often authorities should change instruments, in particular the extent to which fine tuning the cycle is effective and depends on the individual circumstances of the country.

129. Recommendation: Given the large toolkit, BI should think strategically and holistically about how frequently it wishes to adjust the calibration of the toolkit and the merits of a preemptive strategy. While BI's current policy is applied to the financial cycle in all its stages frequent adjustments to manage time-varying risk can be costly and less effective if they are seen as temporary. Currently BI is researching the merits of a positive cycle neutral rate for the CCyB. While BI does this review it should consider the overall strategy for its instruments at the same time—considering the costs and benefits of building resilience at different points in the financial cycle and the circumstances in which it would wish to loosen the resilience instruments. For the CCyB, given the 6 to12-month lag in implementation, the speed at which the cycle can change will be an important consideration. However, liquidity requirements such as the macroprudential liquidity ratio will not require such an implementation lag. For borrower-based measures (for example LTV and DTI limits) that can only by applied to the flow of lending—preemptive policies are a considerably less distortionary way to build the required resilience. A more strategic and pre-emptive use of the instruments will increase their effectiveness, lower the potential economic cost—in terms of inclusion and growth—of building a resilient financial system. This is very timely with the plan to develop macroprudential policies with the FSOL mandate.

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